

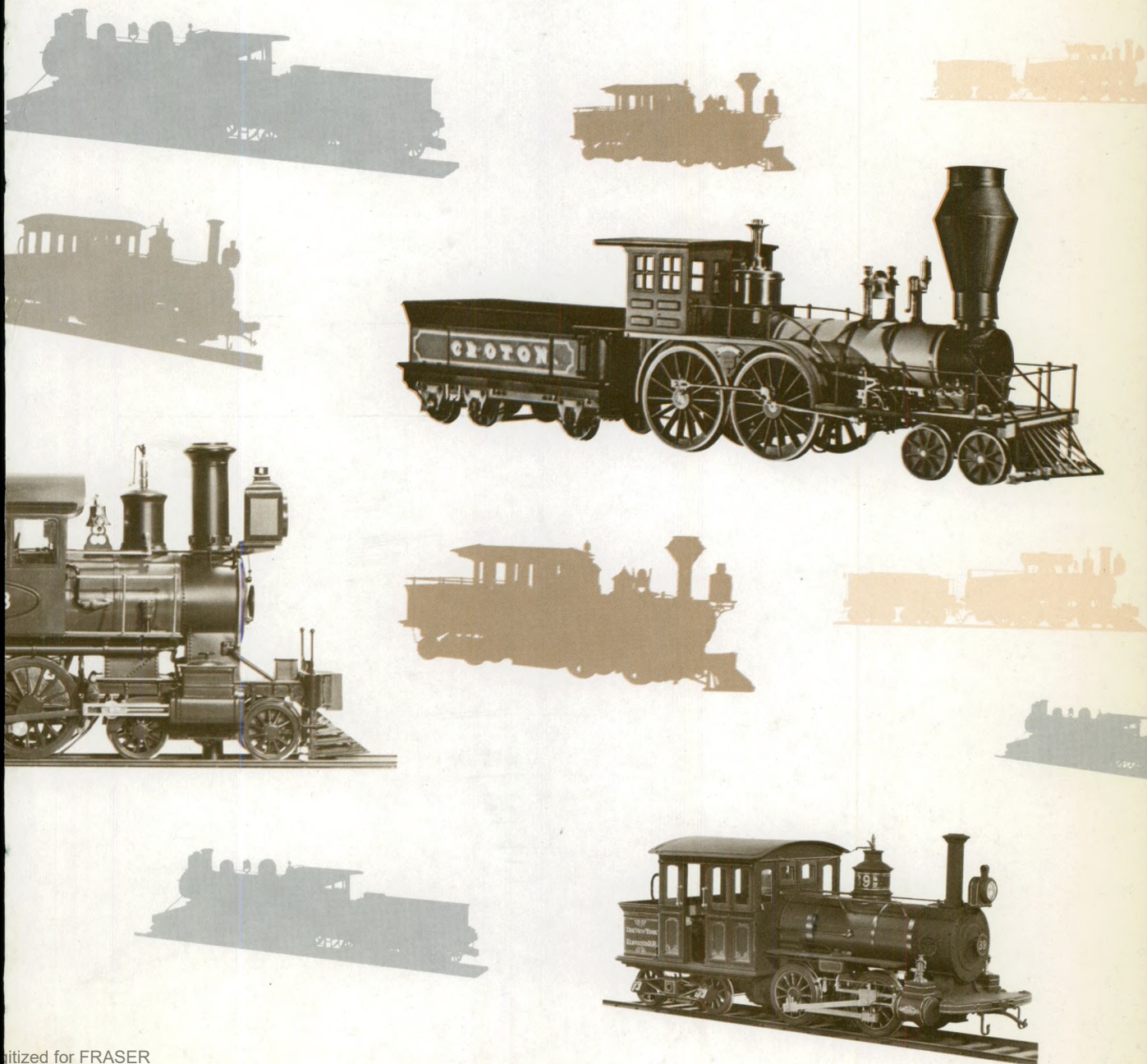


**MONTHLY LABOR REVIEW**  
**October 1974**

U.S. DEPARTMENT OF LABOR  
Bureau of Labor Statistics

*In this issue:*

Measuring productivity on the railroads  
Women in labor organizations  
Multiemployer pension plans







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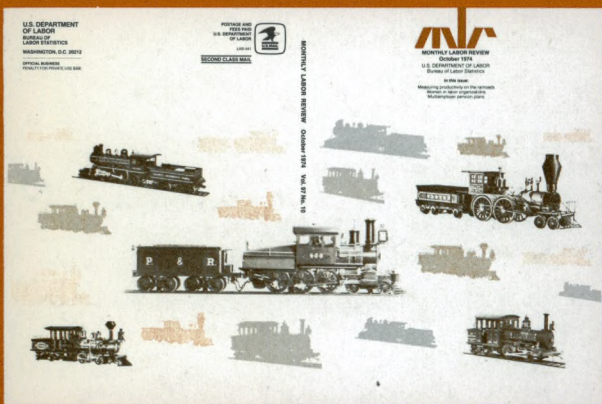
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### October cover:

Model locomotives from the collection of the Museum of History and Technology, Smithsonian Institution

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## Labor Month in Review



**CURRENT LABOR STATISTICS.** This issue of the *Review* inaugurates a number of changes in the Current Labor Statistics section (pages 89 to 127). New tables have been added, others expanded or replaced. Several sections of explanatory text also have been added.

The changes are designed to make the Current Labor Statistics section more useful to the general reader and to the specialist by (1) offering basic definitions of concepts and descriptions of survey methods, (2) providing more information on data sources and limitations, (3) substituting monthly for quarterly data where monthly series are available, (4) adding historical data on output per man-hour and related data, and (5) introducing both current and historical data on collective bargaining settlements.

**Table changes.** We have renumbered most of the tables in the Current Labor Statistics section, added four new tables, expanded three, and dropped two. The table of contents on page 89 lists all of the tables and shows in what order they appear.

New are two historical tables on productivity:

31. Indexes of output per man-hour and related data, selected years, 1950-73

32. Annual percent change in output per man-hour and related data, 1960-73

and two tables on collective bargaining settlements:

35. Wage and benefit changes in major collective bargaining settlements, 1968 to date

36. Wage rate changes going into effect in major collective bargaining units, 1968 to date.

In the subsection summarizing employment data from the household (Current Population) survey, we have dropped two tables of quarterly averages and expanded three other tables to include additional monthly data.

**Notes on the data.** One of our objectives in reorganizing the Current Labor Statistics section has been to eliminate table footnotes where possible and

replace them with expanded explanatory notes in clearer language and more legible type.

Each group of tables is preceded by notes on data sources and limitations, definitions, and survey methods. The notes also tell the reader where to look for more technical explanations and for additional historical, industry, and demographic detail.

A general note (on page 90) reports briefly on the availability of BLS series, identifies symbols used in the tables, and explains procedures for seasonal adjustment and adjustment to eliminate the effect of price change.

**Reader response.** Reorganization of the statistical section takes into account results of the recently completed survey of *Monthly Labor Review* subscribers. The survey (see the *Review* for July 1974, page 2) showed that, for many subscribers, the Current Labor Statistics section is the principal source of BLS data. Some of these readers called attention to problems of clarity, legibility, and gaps in the data. Many of the changes we have made are in response to specific suggestions from readers who participated in the survey

In preparing the explanatory notes, our effort has been to strike a balance between offering basic definitions addressed to the general reader and providing technical information on sources and limitations needed by the specialist. The notes were compiled by Carol Rosen of the Office of Publications and reviewed by staff members in various BLS program offices and in regional offices. A number of specialists, teachers, and students outside of the Bureau of Labor Statistics also reviewed various drafts and made helpful suggestions. Constance S. McEwen of the Office of Publications coordinated the revision project.

We invite comments on the changes and welcome further suggestions for improvement.

THE EDITORS



Expansion of women's  
participation in  
labor groups is not matched  
by an increase in  
leadership positions

VIRGINIA A. BERGQUIST

# Women's participation in labor organizations

WHILE THE GROWTH of labor unions has slackened in the past few years, a considerable spurt has appeared in the number of women members. From 1968 through 1972, a 500,000 increase in women union members in the United States equaled the overall gain in union enrollment, an especially significant gain since women make up only one-fifth of union membership. This increasing enrollment by women in labor organizations has not been reflected in the higher elective and appointive positions held by women at national levels, according to the forthcoming *Directory of National Unions and Employee Associations, 1973*.<sup>1</sup>

In the last 20 years women have become increasingly important in the civilian labor force and in most labor unions. However, labor force gains by women have far outpaced their membership in unions. In 1972, only 12.6 percent of working women were active union members compared with over 15 percent in 1952. (See table 1.) This decline paralleled the general percentage decline in all unionized workers, from 24 percent in 1952 to 22 percent 20 years later.

More women have recently joined the work force in response to the diminishing stigma against women working, increasing cost of living, higher general wage levels, increasing education levels among women, and improved technology, which allows women in the home more spare time.<sup>2</sup> Women made up almost 40 percent of the civilian labor force in 1972, compared with 31 percent 20 years earlier. In labor unions, women's proportion of total membership rose from 18.1 percent in 1952 to 21.7 percent in 1972.

## Occupation and industry

The type of industry in which women are most frequently employed may partially explain the small

proportion of women in unions. (See table 2.) Unions have organized less than 25 percent of the workers in five of the nine industries in which women constitute more than 40 percent of total employment: Textiles, finance, service, and State and local governments. In none of the industries with over 40 percent women were as many as 75 percent of the workers unionized.

According to the *Manpower Report of the President, March 1973*, "virtually all increases in female employment between 1960 and 1971 were in either the white-collar or service sectors, continuing the patterns established between 1947 and 1960."<sup>3</sup> Thus, the types of occupations women have entered most frequently in the last 10 years have been among the traditionally less organized. In 1972, over 60 percent of all women workers were in white-collar jobs. Only 40 percent of all men were employed in those occupations.

However, the rate at which women have been joining unions was more rapid from 1962 to 1972 than during the previous 10 years. Some 37 percent more women were members of unions in the United States in 1972 than in 1962, compared with a 6-percent growth during the preceding 10 years.

While only 13 unions had 50,000 women or more in their ranks in 1952 and 17 in 1962, this number rose to 24 in 1972 (table 3), about 14 percent of all unions. The concerted organizing campaigns carried on by AFL-CIO unions during the 1960's was partly responsible for this growth. The Retail Clerks, with 125,000 women in 1952 and 317,000 in 1972, and the Electrical Workers, 150,000 women in 1952 and 287,000 20 years later, showed particularly marked increases. Unionization drives during the late 1960's among all levels of government em-

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ployees, 43 percent of whom are women, also organized significant numbers of women. In 1952, three public employee unions (Teachers, Government Employees, and State, County and Municipal Employees) had a combined membership of 60,000 women. These same three groups accounted for over 420,000 women unionists in 1972. In addition, the New York Civil Service Association and the National Education Association together reported over 800,000 women in 1972.

The number of large unions with at least 50 percent women has remained virtually unchanged since 1952. These include the Clothing Workers, Communications Workers, Ladies' Garment Workers, Retail Clerks, and Teachers. The Office Employees, for which there was no 1952 membership estimate, also reported that in 1972 over half of its members were women. Estimates for the National Education Association and the Nurses Association, also first surveyed in 1970, showed that women constituted more than three-fifths of their membership in 1972.

Most (13 of 18) unions in which women were less than half of the membership in 1972 but which had more than 50,000 women on their rolls reported an increase in the proportion of women over the 20-year period. The Postal Workers, Railway Clerks, Retail, Wholesale and Department Store Union, State, County and Municipal Employees, and Teamsters showed especially marked increases.

### Concentration and earnings

Since 1952, more than one-fifth of all unions have reported that there were no women in their ranks. (See table 4.) These included unions in predominantly "male" industries such as construction, maritime, coal mining, and air transportation (pilots). Four fewer unions reported that they had no women members in 1972 than in 1952. In percentage terms, however, the proportion of all unions that have no women actually increased from 1952 due to the shrinking number of unions resulting from mergers and dissolutions.

In the same 20-year period, the proportion of unions with some women but less than 10 percent declined from 39 to 30 percent. As in 1952, only 14 percent of all trade unions had more women than male members in 1972. These 25 unions represented 37 percent of all women trade unionists in 1972, slightly less than 10 years earlier.

A number of Bureau of Labor Statistics and Census Bureau studies have shown that union women and men employed year round on a full-time basis earn more than nonunion employees. A 1970 Bureau of Labor Statistics study found that for blue-collar workers, nonunion women averaged \$4,297, \$647 less than their union counterparts.<sup>4</sup> White-collar workers (both men and women) showed a similar differential—nonunion workers earned an average of \$8,532 a year and union workers earned \$8,858.

### Problems of participation

Regardless of the financial benefit, women have faced numerous obstacles to participation in labor

**Table 1. Civilian labor force participation and union membership of women in the United States, 1952-72**

(Numbers in millions)

Year	Civilian labor force		Membership		Women as a percent of total civilian labor force	Women membership as a percent of—	
	Total	Women	Total	Women		All women in labor force	Total union membership in the United States
Unions and associations <sup>1</sup>							
1970.....	82.7	31.5	21.1	5.0	38.1	16.0	23.9
1972.....	86.5	33.3	21.5	5.3	38.5	16.0	24.9
Unions							
1952.....	62.1	19.3	16.0	2.9	31.0	15.1	18.1
1954.....	63.6	19.7	16.7	2.8	30.9	14.1	16.6
1956.....	66.6	21.5	17.2	3.2	32.2	14.9	18.5
1958.....	67.6	22.1	16.8	3.1	32.7	13.8	18.2
1960.....	69.6	23.2	16.9	3.1	33.4	13.3	18.3
1962.....	70.6	24.0	16.4	3.1	34.0	12.8	18.6
1964.....	73.1	25.4	16.7	3.2	34.8	12.5	19.1
1966.....	75.8	27.3	17.8	3.4	36.0	12.6	19.3
1968.....	78.7	29.2	18.8	3.7	37.1	12.5	19.5
1970.....	82.7	31.5	19.2	4.0	38.1	12.6	20.7
1972.....	86.5	33.3	19.3	4.2	38.5	12.6	21.7
<b>Change—unions:</b>							
1952-72							
Number....	24.4	14.0	3.3	1.3			
Percent....	39.3	72.7	20.4	44.1			
1952-62							
Number....	8.5	4.7	.4	.2			
Percent....	13.6	24.6	2.8	5.6			
1962-72							
Number....	15.9	9.3	2.8	1.1			
Percent....	22.6	38.6	17.1	36.5			

<sup>1</sup> Associations were first surveyed in 1970. That survey covered 23 associations while the 1972 study covered 35. The number of unions covered in 1952 was 215; in 1962, 181; in 1970, 185; and in 1972, 177



unions. A study by the New York State School of Industrial and Labor Relations of Cornell University grouped barriers to women's participation in labor unions into three categories: (1) Personal-cultural—including extensive home responsibilities and a lack of personal self-confidence; (2) job related—including discrimination by employers against union employees; and (3) union related—including unfamiliarity with union procedures and a need for encouragement to participate.<sup>5</sup>

The 7.6 million women who were part-time employees in 1972 probably felt less incentive to participate in the union movement due to their frequent entry into and exit from the labor market, as well as the traditionally low level of unionization in the two industries in which over 64 percent of all voluntarily part-time employees work—wholesale and retail trade, and finance and service.

### Women officials

Women have remained rare at the governing and high appointive levels of almost all of the 177 unions in the United States. Despite the progress women have achieved in the past 20 years in union membership, the number of women in the highest national union offices (both elective and appointive) increased only slightly. (See table 5.) As in 1952, women held the highest elected office, the national presidency, in two unions in 1972, the Stewards and Stewardesses Division of the Air Line Pilots and the Veterinarians. Women were more common in the office of secretary-treasurer, but seldom in unions with more than 50,000 members.

As shown in table 5, women were infrequently appointed to head a department at the national level. Women were most commonly research directors (10) and editors (6) in 1952; they were most frequently appointed editors or heads of social insurance departments in 1962, 1970, and 1972. Fewer women in all 4 years were named to head other major departments, most frequently education and research and education.

Statistical data concerning women in leadership roles below the national union level were not collected in the union directory survey because an estimated 71,000 locals would have had to be surveyed. However, fragmentary information from studies done by several unions, such as the Bakery Workers, the Auto Workers, and the Packinghouse Workers,

indicates that women more frequently held leadership roles at local than at national levels.

Women accounted for approximately 7 percent of the members of elected governing boards of unions and employee associations.<sup>6</sup> These boards, generally consisting of the union president, secretary, treasurer, and vice presidents or other comparable elected officials, serve as the decisionmaking body for unions between conventions. Among their duties are the allocation of funds, interpretation of the laws of the union, and application of the constitution to its workings. Of 4,800 positions on the governing boards of both the unions and associations,

**Table 2. Women as a percent of employment and estimated extent of organization by industry, 1972<sup>1</sup>**

Industry rank <sup>2</sup> of unionization	Industry or Industrial group	Women as a percent of employment <sup>3</sup>
	75 percent and over organized <sup>2</sup>	
1	Transportation.....	11
2	Contract construction.....	5
3	Ordnance and accessories.....	23
4	Paper and paper products.....	20
5	Electrical machinery, equipment, and supplies.....	40
6	Transportation equipment.....	10
	50 to 75 percent organized <sup>2</sup>	
7	Primary metals industries.....	7
8	Food and kindred products (beverages).....	26
9	Mining and quarrying (crude petroleum, gas).....	6
10	Apparel and finished products from fabrics.....	46
11	Tobacco manufactures.....	43
12	Petroleum refining and related industries.....	9
13	Manufacturing.....	28
14	Fabricated metal products n.e.c.....	18
15	Telephone and telegraph.....	47
16	Stone, clay, glass, and concrete products.....	17
	25 to 50 percent organized <sup>2</sup>	
17	Federal Government.....	28
18	Rubber and miscellaneous plastic products.....	33
19	Printing, publishing, and allied industries.....	33
20	Leather and leather products.....	59
21	Furniture and fixtures.....	26
22	Electric, gas, and sanitary services (water).....	15
23	Machinery, except electrical.....	15
24	Chemicals and allied products.....	21
25	Lumber and wood products, except furniture.....	11
	Less than 25 percent organized <sup>2</sup>	
26	Nonmanufacturing.....	40
27	Textile mill products.....	46
28	Government.....	43
29	Professional and scientific instruments.....	38
30	Service industries.....	54
31	Local government.....	49
32	State government.....	42
33	Wholesale and retail trade.....	33
34	Finance, insurance, and real estate.....	52
	Total (nonagricultural), less than 25 percent organized <sup>2</sup> .....	37

<sup>1</sup> Extent of unionization is based on total union membership.

<sup>2</sup> Extent of unionization and ranking from *Directory of National Unions and Employee Associations, 1973*, Bulletin 1813 (Bureau of Labor Statistics, 1974).

<sup>3</sup> Percent of women on nonagricultural payrolls from *Employment and Earnings March 1973*.

only 350 were reported held by women,<sup>7</sup> although a number of the organizations failed to provide complete information on this subject.

Women were better represented at the higher appointive and elective levels of the 35 professional and State employee associations. The high proportion of women (60 percent) in the associations explains their comparative prominence in association governance.

The 737,000 women in the National Education Association—63 percent of total NEA membership—accounted for the largest proportion of all association women.

Only 13 of 35 associations had no women officers or officials, compared with 149 of the 177 trade unions. The Connecticut, Illinois, Maine, Massachusetts, North Carolina, Vermont, and Washington

**Table 3. Women in unions and associations with 50,000 women members or more, 1952, 1962, 1970, and 1972**

[Numbers in thousands]

Union	Women membership							
	1952		1962		1970		1972	
	Number of women members	Percent of total membership	Number of women members	Percent of total membership	Number of women members	Percent of total membership	Number of women members	Percent of total membership
Total, all unions.....	3,000	17.9	3,272	18.6	4,282	20.7	4,524	21.7
Total, selected unions.....	1,862	21.0	2,582	26.1	3,475	27.7	3,674	28.9
Total, all unions and associations.....					5,398	23.9	5,736	24.9
Total, selected unions and associations.....					4,457	31.8	4,646	32.6
<b>AFL-CIO:</b>								
Bakery Workers <sup>1</sup> .....	60.2	35.0	( <sup>2</sup> )	( <sup>2</sup> )	60.7	40.0	51.0	35.0
Clothing Workers.....	261.8	68.0	282.0	75.0	289.5	75.0	273.8	75.0
Communications Workers.....	( <sup>2</sup> )	( <sup>2</sup> )	139.3	50.0	231.9	55.0	230.5	52.0
Electrical Workers (IUE).....	( <sup>2</sup> )	( <sup>2</sup> )	98.2	33.3	105.0	35.0	116.0	40.0
Electrical Workers (IBEW).....	150.0	30.0	237.9	30.0	276.5	30.0	287.0	30.0
Government Employees (AFGE).....	( <sup>2</sup> )	( <sup>2</sup> )	26.5	25.0	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Hotel and Restaurant Employees.....	( <sup>2</sup> )	( <sup>2</sup> )	200.3	45.0	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Ladies' Garment Workers.....	292.5	75.0	330.8	75.0	353.9	80.0	342.4	80.0
Machinists.....	( <sup>2</sup> )	( <sup>2</sup> )	86.8	10.0	100.4	11.6	106.1	14.0
Meat Cutters <sup>3</sup> .....	59.3	18.1	64.2	14.9	61.7	12.5	92.5	17.5
Office Employees.....	( <sup>2</sup> )	( <sup>2</sup> )	40.0	66.7	57.8	70.0	52.8	64.0
Paperworkers <sup>4</sup> .....	35.7	13.6	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Postal Workers <sup>5</sup> .....	( <sup>2</sup> )	( <sup>2</sup> )	15.8	7.8	59.0	20.0	107.4	45.0
Railway Clerks.....	36.0	12.0	48.0	16.0	110.0	40.0	( <sup>2</sup> )	( <sup>2</sup> )
Retail Clerks.....	125.0	50.0	182.0	50.0	( <sup>2</sup> )	( <sup>2</sup> )	316.6	50.0
Retail, Wholesale and Department Store Union.....	14.6	15.1	63.7	40.0	70.0	40.0	79.1	40.0
Rubber Workers.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Service Employees.....	55.5	30.0	82.4	28.0	152.3	35.0	145.2	30.0
State, County and Municipal Employees.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	146.7	33.0	195.7	37.0
Steelworkers.....	80.0	7.3	( <sup>2</sup> )	( <sup>2</sup> )	120.0	10.0	175.0	12.5
Teachers.....	37.5	75.0	42.5	60.0	88.3	43.0	129.2	52.0
Textile Workers Union of America.....	( <sup>2</sup> )	( <sup>2</sup> )	73.2	40.0	71.2	40.0	69.6	40.0
<b>Unaffiliated:</b>								
Auto Workers <sup>6</sup> .....	118.4	10.0	139.6	13.0	193.1	13.0	195.1	14.0
Teamsters.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	255.0	13.9	( <sup>2</sup> )	( <sup>2</sup> )
<b>Employee Associations:</b>								
Civil Service (NYS).....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	76.0	40.0	( <sup>2</sup> )	( <sup>2</sup> )
Education Association.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	726.1	66.0	736.7	63.2
Nurses Association.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> Includes the Bakery and Confectionery Workers' International Union of America (Ind.) and the American Bakery and Confectionery Workers' International Union (AFL-CIO).

<sup>2</sup> Figure not reported to the Bureau or not available.

<sup>3</sup> Includes Packinghouse Workers (AFL-CIO) in 1952 and 1962.

<sup>4</sup> Includes Papermakers (AFL), Paperworkers (CIO) and Pulp, Sulphite Workers (AFL) in 1952; the Papermakers and Paperworkers (AFL-CIO) and Pulp, Sulphite Workers (AFL-CIO) in 1962 and 1970; and the United Paperworkers (AFL-CIO) in 1972.

<sup>5</sup> Includes the National Postal Union (Ind.), Postal Clerks (AFL-CIO), Special Delivery Messengers (AFL-CIO), General Services Maintenance Employees (AFL-CIO), Motor Vehicle Employees (AFL-CIO), and Postal Workers Union (AFL-CIO). On July 1, 1971, these five unions merged to form the American Postal Workers Union (AFL-CIO).

<sup>6</sup> Affiliated with the CIO in 1952 and with the AFL-CIO in 1962.

NOTE: Unlike table 1, figures include members in areas outside the United States, primarily in Canada.



Table 4. Proportion of women in national and international unions and associations, 1952, 1962, 1970 and 1972

Union	Number of unions								Women members (in thousands)							
	1952		1962		1970		1972		1952 <sup>2</sup>		1962		1970		1972	
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent
All unions.....	213	100.0	181	100.0	185	100.0	177	100.0	-----	-----	3,272	100.0	4,272	100.0	4,254	100.0
No women members.....	43	20.2	48	26.5	45	24.3	39	22.0	-----	-----	168	5.1	91	2.1	98	2.2
Under 10 percent.....	82	38.5	58	32.0	54	29.2	53	29.9	-----	-----	620	18.9	820	19.2	971	21.5
10 and under 20 percent.....	25	11.7	21	11.6	26	14.1	27	15.3	-----	-----	303	9.3	163	3.8	98	2.2
20 and under 30 percent.....	16	7.5	12	6.6	7	3.8	6	3.4	-----	-----	438	13.4	1,117	26.1	1,143	25.3
30 and under 40 percent.....	10	4.7	8	4.4	15	8.1	18	10.2	-----	-----	423	12.9	513	12.0	529	11.7
40 and under 50 percent.....	9	4.2	12	6.6	12	6.5	9	5.1	-----	-----	439	13.4	679	15.8	789	17.5
50 and under 60 percent.....	13	6.1	8	4.4	12	6.5	10	5.6	-----	-----	193	5.9	93	2.2	141	3.1
60 and under 70 percent.....	10	4.7	7	3.9	6	3.2	6	3.4	-----	-----	639	19.5	404	9.4	324	7.2
70 and under 80 percent.....	3	1.4	4	2.2	4	2.2	4	2.3	-----	-----	50	1.5	356	8.3	388	8.6
80 and under 90 percent.....	1	.5	3	1.7	2	1.1	3	1.7	-----	-----	-----	-----	46	1.1	43	.9
90 percent and over.....	1	.5	-----	-----	2	1.1	2	1.1	-----	-----	-----	-----	-----	-----	-----	-----
					Number of unions and associations						Women members (in thousands)					
All unions and associations.....					208	100.0	212	100.0	-----	-----			5,398	100.0	5,736	100.0
No women members.....					45	21.6	40	18.9	-----	-----			97	1.8	99	1.7
Under 10 percent.....					55	26.4	55	25.9	-----	-----			820	15.2	971	16.9
10 and under 20 percent.....					27	13.0	28	13.2	-----	-----			183	3.4	119	2.1
20 and under 30 percent.....					15	7.2	8	3.8	-----	-----			1,124	20.8	1,148	20.0
30 and under 40 percent.....					18	8.7	20	9.4	-----	-----			651	12.1	724	12.6
40 and under 50 percent.....					17	8.2	25	11.8	-----	-----			681	12.6	861	15.0
50 and under 60 percent.....					13	6.3	17	8.0	-----	-----			826	15.3	880	15.3
60 and under 70 percent.....					8	3.8	8	3.8	-----	-----			404	7.5	324	5.6
70 and under 80 percent.....					4	1.9	4	1.9	-----	-----			356	6.6	388	6.8
80 and under 90 percent.....					2	1.0	3	1.4	-----	-----			254	4.7	224	3.9
90 percent and over.....					4	1.9	4	1.9	-----	-----			-----	-----	-----	-----

<sup>1</sup> Includes members outside the United States, primarily in Canada.

<sup>2</sup> Not available.

<sup>3</sup> Membership figures of the Laundry, Dry Cleaning and Dye House Workers International Union (IBT-LWIU-Ind.) are included.

national Union (IBT-LWIU-Ind.) are included.

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

State Associations had two women officers. Two organizations understandably had a larger than usual number of women officers—5 officers of 6 in the Licensed Practical Nurses Association and 8 of 11 in the Nurses Association. Six associations were headed by women in 1972—Alaska State Employees, Classified School Employees, National Education Association, Licensed Practical Nurses, American Nurses, and Washington State Employee Association. Association presidents and secretary-treasurers made up more than half of the 44 elective and appointive positions surveyed which were held by association women in 1972.

The number of women holding appointive positions in associations increased markedly from 1970 to 1972, the only 2 years for which data are available. Compared with 1970, when a total of only 11 women occupied 3 top appointive categories (editor, public relations activities, and other), some 21 women held 7 top appointive positions in associations

in 1972. This increase is partly the consequence of the 12 additional associations (to a total of 35) which fell within the scope of the 1972 survey.

Women were similarly better represented on the governing boards of associations than on those of unions. Only 4 of 35 associations reporting stated that women were not represented on their boards. Nine associations included more than five women as board members. Of the 187 selected national officers and appointed officials reported by the 24 unions with at least 50,000 women members, 6 were women. The Clothing Workers, Electrical Workers, Ladies' Garment Workers, and Railway Clerks all reported one woman official; the Textile Workers Union had two. Of the 556 members of executive boards in these unions, 18 were women.

This low level of women representation was evident throughout the entire labor movement. In the remaining 153 unions with less than 50,000 women in 1972, 27 women were reported as elected officers

or appointed officials at the national level. In more of these unions did women constitute as much as 50 percent of the total number of officers and appointed officials. Only five unions had two women officers or officials and none had more than two.

The AFL-CIO has established organizations at the State level made up of locals of affiliated national unions. Functioning as lobbyists and coordinators for AFL-CIO programs, the State labor councils are headed by an elected governing board and several officers. Of the 173 officers and officials elected by these organizations in 1972, 8 were women.

### Aids to union women

In June 1963 the Equal Pay Act went into effect, erasing wage discrepancies between employees based on sex. A year later, Title VII of the Civil Rights Act invalidated all laws which were supposedly protective of women but which in practice often provided a legal foundation for discrimination between the sexes. The Equal Rights Amendment, now awaiting ratification by three-fourths of the States, would invalidate all State and Federal laws making any distinction between the sexes. Labor organizations such

as the AFL-CIO (reversing its previous opposition to the ERA), Auto Workers, Teamsters, Steelworkers, Communications Workers, and Electrical Workers (IUE) have endorsed the Equal Rights Amendment.

A Bureau of Labor Statistics study of 1,300 labor agreements in effect on July 1, 1972, and covering at least 1,000 workers noted the prevalence of several contract clauses particularly significant for women.<sup>8</sup> Slightly less than two-thirds of the 1,300 agreements, covering more than three-fourths of these workers, prohibited discrimination due to sex. Contract clauses insuring equal pay for equal work were included in 145 of the contracts and maternity leaves in 503 agreements (39 percent).

Since March of 1970 when the Wisconsin State Federation hosted the first AFL-CIO women's conference, other State organizations, including Illinois, Arkansas, California, and Iowa, have held such meetings.<sup>9</sup> International unions, such as the Auto Workers, Communications Workers, Electrical Workers (IUE), Teachers (AFT), and the Newspaper Guild, have also held conferences directed at women's needs and problems.<sup>10</sup>

The Coalition of Labor Union Women (CLUW), convening in Chicago in March 1974 with 3,200 CLUW delegates coming from over 58 labor unions, resolved to work within the labor movement. The trade union women (nonunion women are ineligible to join) defined several goals: (1) To encourage the 30 million nonunion working women to take advantage of the tangible economic benefits of unionists by joining unions; (2) to increase women's participation within unions; (3) to seek "affirmative action" on the part of unions against employers' discriminatory practices; and (4) to press for legislative action which would further women's interests, such as child care assistance and passage of the Equal Rights Amendment. CLUW's first official convention is planned for early or mid-1975.

### Potential growth in government

Employment at all levels of government exceeded 13 million in 1972. At the State and local government levels, employment more than doubled over the last two decades—from 4.2 million in 1952 to over 10.6 million in 1972. Though historically poorly organized, all levels of government are now feeling the impact of concerted organizing drives by

**Table 5. Selected union and association offices held by women, 1952, 1962, 1970, 1972<sup>1</sup>**

Position	Unions				Associations <sup>2</sup>	
	1952	1962	1970	1972	1970	1972
Total positions held by women.....	31	28	37	37	31	44
Total women.....	30	24	34	33	30	41
<b>ELECTIVE OFFICES</b>						
President.....	2	0	1	2	2	6
Secretary-treasurer.....	9	7	10	13	18	17
<b>APPOINTEE POSITIONS</b>						
Director of organizing activities.....	( <sup>3</sup> )	1	1	0	0	2
Research director.....	10	3	7	3	0	3
Research and education director.....	1	3	0	0	0	0
Education director.....	2	2	2	3	0	0
Director of social insurance.....	( <sup>3</sup> )	5	7	6	0	1
Editor.....	6	6	4	3	5	5
Legal activities.....	( <sup>3</sup> )	1	1	1	0	1
Legislative activities.....	( <sup>3</sup> )	( <sup>3</sup> )	2	3	0	0
Public relations activities.....	( <sup>3</sup> )	( <sup>3</sup> )	2	3	1	1
Other.....	1	0	0	0	5	8

<sup>1</sup> In 1952, 215 unions were surveyed; in 1962, 181; in 1970, 185; and in 1972, 177. In 1970, 23 associations were surveyed; in 1972, 35.

<sup>2</sup> Associations were first surveyed in 1970.

<sup>3</sup> Not surveyed.

<sup>4</sup> Appointive positions surveyed for unions and associations varied somewhat. Appointive positions included in the category "other" for associations are: executive director, collective bargaining director, and government relations director. In 1952, the union position included in the category "other" is executive secretary.



unions and associations, such as the State, County and Municipal Employees, Teachers, National Education Association, and Government Employees. Less than 25 percent of all government personnel are now estimated to be union members (not includ-

ing associations). With women constituting 43 percent of the 13.7 million government workers in 1972, the number and proportion of organized women will probably grow along with government unions and associations. □

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—FOOTNOTES—

<sup>1</sup> *Directory of National Unions and Employee Associations, 1973*, Bulletin 1813 (Bureau of Labor Statistics, 1974).

<sup>2</sup> *Manpower Report of the President, March 1973*, U.S. Department of Labor, pp. 64–65.

<sup>3</sup> *Manpower Report*, p. 65.

<sup>4</sup> *Selected Earnings and Demographic Characteristics of Union Members, 1970*, Report 417 (Bureau of Labor Statistics, 1972).

<sup>5</sup> Barbara Wertheimer and Anne Nelson, "The American Woman at Work," *Personnel Management*, March 1974, p. 22.

<sup>6</sup> The number of women on governing boards may reflect double counting, since officers are members of unions' executive boards.

<sup>7</sup> In addition, 26 women are members of the governing boards of the Stewardesses Division and the Air Line Employees Association of the Air Line Pilots. These 26 are not included in the total.

<sup>8</sup> *Characteristics of Agreements Covering 1,000 Workers or More, July 1, 1972*, Bulletin 1784 (Bureau of Labor Statistics, 1973).

<sup>9</sup> "Women workers, gaining powers, seeking more," *U.S. News and World Report*, Nov. 13, 1972, pp. 104–107.

<sup>10</sup> Edna E. Raphael, "Working women and their membership in labor unions," *Monthly Labor Review*, May 1974, pp. 27–33.

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### Publication of poverty area employment data resumed

Publication of data on employment and unemployment in urban poverty areas, discontinued in 1972, were resumed with a recent press release of 1973 data covering poverty areas across the Nation. Some significant findings were: (1) About 29 million people 16 years and over lived in metropolitan and nonmetropolitan poverty areas in 1973. (2) The unemployment rate in poverty areas averaged 6.5 percent in 1973 compared with 4.6 percent in other areas. (3) The unemployment rate in nonmetropolitan poverty areas was much lower than in metropolitan poverty areas. (4) The unemployment rate for whites was almost identical in poverty and other areas but the rate for blacks was much higher in poverty than in other areas. (5) Labor force participation by poverty area workers was substantially below that of workers in other areas. (6) Blacks accounted for nearly a third of the population in poverty areas but about half of the unemployed and discouraged workers in those areas. (Poverty areas

are those Census geographical divisions in which 20 percent or more of the residents were poor according to the 1970 Decennial Census.)

The statistical series on poverty areas formerly covered the 100 largest metropolitan areas and used different criteria for defining poverty areas. It was discontinued in 1972 because of changes in the Current Population Survey from which the poverty data were derived. The new series incorporates several changes which include the introduction of 1970 population controls, current definitions of metropolitan areas, new criteria for delineating poverty areas, and increased geographic coverage.

The new series will be published quarterly in a press release and in the BLS periodical *Employment and Earnings* beginning in October. A *Monthly Labor Review* article analyzing the 1973 data is in preparation. □

# Multiemployer pension plan provisions in 1973

Multiemployer pension plan coverage increased sevenfold in the last two decades; the prevalence of early retirement, vesting, and reciprocity provisions also rose significantly

HARRY E. DAVIS

MULTIEMPLOYER PENSION plan coverage has increased sevenfold over the last two decades, rising from about 1 million participants in 1950 to 3.3 million in 1959 and 7.5 million in 1973. These plans have covered a progressively larger proportion of private pension plan participants. In 1950 they covered about 9 percent of all covered workers; by 1959 this proportion had risen to 16 percent, and in 1970 accounted for 33 percent of the active and retired workers under the Welfare and Pension Plans Disclosure Act.<sup>1</sup> (Roughly twice as many employees were covered by single-employer plans as were covered by multiemployer plans in 1973.)

This growth was primarily due to the development of jointly administered negotiated plans in industries with a high concentration of multiemployer collective bargaining agreements. These agreements usually require employers to make specified payments into a central fund from which benefits are provided for eligible workers of all contributing employers. These plans are particularly important in construction, mining, apparel, motor and water transportation, wholesale and retail trade, and service industries, all of which are characterized by seasonal or irregular employment, small establishments, and frequent job changes. Few workers in these industries remain with the same employer long enough to qualify for a benefit under a single-employer plan. However, they are often able to qualify under a multiemployer plan.

Multiemployer plans differ from single-employer plans in both administrative procedures and benefit provisions. These differences are due chiefly to the contrast in the collective bargaining relationship between a union and a single employer and the relationship between a union and a group of employers or a multiemployer association. They also stem from the characteristics of the industries in which the plans operate.

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The responsibility of an employer in a multi-employer plan is usually limited to the contribution of a specified percent of payroll or cents-per-hour-worked to a fund. The types and amounts of the benefits to be provided are left to the discretion of a joint employer-union board of trustees, and may be changed at the option of the board. In a single-employer plan, however, the types and levels of benefits are specified in the agreement, and the employer is obligated to provide them for at least the duration of the agreement, regardless of cost.

While different methods are used to determine the benefits to be provided under the plans, the basic benefits of multiemployer plans are the same as those found in single-employer plans. Vesting provisions, for example, are more frequently found in single-employer than in multiemployer plans, but this difference is offset by the portability of credited service among participating employers that is inherent in a multiemployer plan. The worker remains covered and builds up service credit as long as he is employed by any one of the employers who participates in the plan. In addition, reciprocity agreements among a significant number of multiemployer plans allow workers to move between plans with such agreements and retain their credited service.

Multiemployer and single-employer plans also

## New pension law

On September 2, 1974, President Gerald R. Ford signed into law the Employee Retirement Income Security Act of 1974. The new law seeks to make sure that employees covered by private pension plans receive benefits from those plans in accord with their credited service with an employer. A discussion of the background and provisions of the law is in preparation and is scheduled for publication in a future issue of the *Review*.



differ markedly in their administration. A joint board of trustees is almost invariably responsible for managing a multiemployer plan, while single-employer plans are generally managed solely by the employer.

This article examines the 1,900 multiemployer pension plans reported under the Welfare and Pension Plans Disclosure Act of 1959. It studies the characteristics and benefit structure of multiemployer pension plans in 1973, including their size, prevalence by industry, and financial and administrative features.

### The plans

In 1973, multiemployer pension plans ranged in coverage from less than 100 to over 500,000 active and retired workers (table 1). Most of the workers, however, were concentrated in a few relatively large plans. More than half were in the 44 plans covering 25,000 participants or more. The 10 largest plans, each with over 100,000 participants, covered a third of all multiemployer-plan participants. On the other hand, plans with less than 1,000 participants accounted for 58 percent of the plans but only 6 percent of the workers.

Although some of the largest plans were in the apparel industry, almost four-fifths of the plans, with about 5.5 million workers, were in nonmanufacturing. These plans were concentrated in the construction, motor transportation, wholesale and retail trade, and service industries. A few large national plans, such as those in the construction industry, and regional plans, such as the Western Conference of Teamsters plan, account for the bulk of the worker coverage.

**Table 1. Multiemployer pension plans, by number of workers covered, 1973**

Size of plan <sup>1</sup>	Workers <sup>1</sup>		Plans	
	Number	Percent	Number	Percent
Total.....	7,522,906	100.0	1,889	100.0
26 and under 100.....	6,696	.1	108	6.0
100 and under 250.....	43,866	.6	306	16.2
250 and under 500.....	126,124	1.7	325	17.2
500 and under 750.....	125,284	1.7	212	11.2
750 and under 1,000.....	126,593	1.7	143	7.6
1,000 and under 5,000.....	1,214,196	16.1	552	29.2
5,000 and under 10,000.....	869,454	11.6	124	6.6
10,000 and under 25,000.....	1,160,746	15.4	75	4.0
25,000 and under 50,000.....	946,770	12.6	28	1.5
50,000 and under 100,000.....	402,809	5.3	6	.3
100,000 and over.....	2,500,368	33.2	10	.5

<sup>1</sup> Size of plan and worker coverage include both active and retired workers in 1970.

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

Members of 67 unions participated in these plans. Three of the unions, the Teamsters, Laborers, and Clothing Workers, each had over 500,000 members covered by multiemployer plans, and 15 other unions, over 100,000.

In plans covering over half of the workers in the study, all of the participating employers were located in a single State. They were concentrated in the Middle Atlantic, East North Central, and Pacific regions. Most intrastate plans were limited to employers in a particular metropolitan area.

About 46 percent of the covered workers participated in interregional plans. Some of these plans were national in scope, but most of them covered large numbers of workers in a more limited geographic area.

### Participation requirements

In virtually all multiemployer plans, newly hired workers participate in the plan immediately upon employment by a contributing employer. Unlike most single-employer plans, relatively few multiemployer plans require the attainment of a specified age or period of service or both before a new employee is covered by the plan. The following tabulation shows the prevalence of participation requirements in multiemployer plans:

	Plans	Workers (in thousands)
All plans .....	1,889	7,523
No age or service requirements .....	1,690	7,037
With requirements .....	43	180
Age only .....	17	92
Service only .....	14	81
Age and service .....	12	7
Information not available ...	156	306

Service requirements ranged from 1 to 5 years, with 1 year as the most common requirement. Age requirements ranged from 21 to 40 years.

### Benefit provisions

The types and levels of benefits to be provided under multiemployer pension plans are generally determined by the joint board of trustees. Changes in the range of benefits provided or in benefit amounts and conditions are made by the board when it feels they are warranted.

The significant differences between the benefit structure of multiemployer and single-employer plans, as noted above, reflect differences in labor markets, industries, and collective bargaining struc-

tures. For example, single-employer plans frequently relate benefit amounts to both earnings and service, but multiemployer plans usually gear them solely to credited service partly because the range of earnings is usually narrower and partly to avoid the necessity of keeping records of earnings. Also, as previously mentioned, vesting provisions are less prevalent than in single-employer plans because of the portability inherent in multiemployer plans.

### Normal retirement provisions

Normal retirement provisions stipulate the earliest age at which a worker, having otherwise qualified, may retire and receive immediately the full amount of benefits he has accrued. They also specify the formula to be used to compute benefit amounts and the conditions and duration of benefit payments.

*Age and service requirements.* About 98 percent of those already covered by multiemployer plans had to meet an age requirement to qualify for a normal retirement benefit (table 2). Almost three-fourths of them were in plans that provided for normal retirement at age 65 and almost one-fifth were in plans that provided for normal retirement before then. Approximately 11 percent of the workers could retire

under the normal retirement provisions at age 60 or 62, 7 percent at age 57, and a relatively few could at age 50 or 55. A few workers were in plans that provided for normal retirement after age 65, and 2 percent were in plans that had no age requirement—workers with enough service (generally 30 years or more) could retire at any age.

Five out of 8 of the participants were in plans that allowed workers to retire after 15 years of service provided they also met the age requirement, usually age 65. Slightly less than 60 percent of these workers could retire with 10 years of service, and 22 percent could with 5 years of service. Workers had to satisfy service requirements of up to 30 years in other plans.

*Benefit formulas.* Pension benefit formulas are used to determine both the monthly benefit to be paid plan members who retire under the normal retirement provisions of their plan and the early and disability retirement benefits. Two basic types of benefit formulas are predominant in multiemployer plans: benefit amounts vary solely on the basis of service or they are uniform for all eligible retirees, regardless of years of service.

Formulas in which benefits varied by length of service were found in 75 percent of the plans, with

**Table 2. Earliest age and associated service at which workers can acquire a nonforfeitable benefit right under the normal, early, or vesting provisions of multiemployer pension plans, 1973**

Plan provision and minimum service requirement <sup>1</sup>	Percent distribution of workers	Total	No age requirement	Percent of active workers in plans with—									
				Age requirement									
				Total	40 or less	Over 40 and under 50	50 and under 55	55 and under 60	60 and under 62	62 and under 65	65 and over	Not determinable	
All workers.....	100	100											
Normal retirement.....	100	100	2	98									
Less than 5 years.....	9	100		100			( <sup>2</sup> )	9	4	7	75	3	
5 to 10.....	29	100		100					5	3	92		
11 to 15.....	24	100		100					7	9	85		
16 to 20.....	29	100		100			( <sup>2</sup> )	2	6	11	82		
More than 20 years.....	4	100	3	97				30	1	2	64		
Not determinable.....	5	100	18	82					4	20	57		
				100							27	73	
Early retirement.....	<sup>3</sup> 82	100	1	<sup>4</sup> 99									
10 and under.....	27	100	1	99			11	48	14	26	( <sup>2</sup> )		
11 to 15.....	38	100	( <sup>2</sup> )	100			6	54	25	14	( <sup>2</sup> )		
16 to 20.....	26	100	( <sup>2</sup> )	100			4	71	12	12			
More than 20 years.....	2	100		100			27	8	2	62			
Not determinable.....	6	100		100				66	30	5			
				100			9	7	13	4		67	
Vesting.....	<sup>3</sup> 57	100	44	56	2	7	17	16					
10 and under.....	29	100	63	37	5	12	11	9					14
11 to 15.....	38	100	54	46	2	7	34	4					
16 to 20.....	15	100	12	88	1	4	7	76					
More than 20 years.....	3	100	84	16				16					
Not determinable.....	15	100	5	95									95

<sup>1</sup> The term service as used in this table is defined to include preparticipation service.

<sup>2</sup> Less than 0.5 percent.

<sup>3</sup> Percentage of all workers with the specified benefit.

<sup>4</sup> Refers to the percentage of the 82 percent.



65 percent of the workers. This type of formula was most common in the food, printing, metalworking, construction, trade, motor transportation, and service industries. Over 91 percent of the workers covered by insured plans and almost 61 percent of those covered by the self-insured plans were subject to this type of formula (table 3).

One out of 6 multiemployer plans specified a flat or uniform benefit for all qualified workers. Because they were mostly large plans, they accounted for a third of the multiemployer plan coverage. Uniform benefit formulas were found chiefly in plans in the apparel, mining, and transportation industries. Close to 9 out of 10 of these plans were self-insured.<sup>2</sup>

In contrast with single-employer plans, where benefits usually depend on both earnings and service, less than 1 percent of the multiemployer plans had formulas of this type.

Although most multiemployer benefit formulas were readily classifiable into the major types discussed above, unusual benefit or coverage problems created a need for significant variations. For example, some plans negotiated by the Teamsters with a normal retirement age of 57 had a built-in partial social security adjustment designed to even out total retirement income over the entire retirement period. These plans provided for the payment of higher benefits in the first 5 years of retirement (usually to at least age 62, when social security is first payable) and then a lower benefit for the remaining retirement period. Under one plan, for example, a worker retiring before age 60 receives \$300 a month for the

first 5 years of retirement; thereafter the benefit is \$200 a month.

Few multiemployer pension plans had provisions establishing a minimum benefit amount. Rather, a minimum benefit was usually established by the minimum requirements for receiving any benefit. Thus, where benefits varied by service (the most prevalent approach in multiemployer plans), the minimum benefit was determined by multiplying the minimum years of service required to qualify for benefits by the benefit payable for each year of service. Where a flat benefit was provided, however, the benefit itself was, of course, both a minimum and a maximum.

**Level of normal retirement benefits**

To indicate the level of normal pension benefits illustrative benefits were computed for each type of plan under the following assumed conditions:

1. The worker will retire at age 65 after 30 years of service.
2. Average annual earnings of \$4,800. For simplicity of calculation this earnings level was assumed to be constant throughout the worker's career.<sup>3</sup>

No benefit amount could be computed for plans covering 2 million workers, either because benefit amounts varied by geographic area, amount of employer contribution, the worker's occupation, or because sufficient information was not available.

Monthly benefit amounts thus computed ranged from \$15 to over \$400. Almost 30 percent of the plans covering over 45 percent of the workers provided benefits of less than \$100 a month as shown in table 4. The average benefit of \$158 was chiefly the result of large numbers of workers in plans paying \$200 or more.

If the primary social security benefit of \$194 payable to the worker with average career earnings of \$4,800 is added to plan benefits, total monthly retirement income ranges from \$209 to over \$1,094. The average for all workers increases to \$352 (\$158 plus \$194), representing almost 88 percent of the assumed monthly preretirement earnings of \$400. About 55 percent of the workers belonged to plans providing benefits which, when added to primary social security benefits, equaled at least three-fourths of the worker's preretirement income (that is, \$300 or more a month). Such plans were most common in food, metalworking, construction, motor transportation, trade, and motion pictures and recreation (table 5).

**Table 3. Multiemployer pension plans by type of normal retirement benefit formula, by medium of funding, 1973**

[Numbers in thousands]

Type of normal retirement benefit formula	Total participants <sup>1</sup>		Medium of funding currently in use					
			Insured workers <sup>1</sup>		Self-insured workers <sup>1</sup>		Other workers <sup>1</sup>	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Total.....	7,523	100.0	1,204	100.0	5,851	100.0	21	100.0
Flat (uniform) benefit.....	2,137	28.4	25	2.1	2,042	34.9	-----	-----
Benefit based on service.....	4,900	65.1	1,098	91.2	3,553	60.7	21	100.0
Benefit based on earnings.....	128	1.7	26	2.2	102	1.8	-----	-----
Benefit based on service and earnings.....	61	.8	7	.6	54	.9	-----	-----
Other.....	18	.2	-----	-----	18	.3	-----	-----
Not determinable.....	278	3.7	47	3.9	82	1.4	-----	-----

<sup>1</sup> Worker coverage includes both active and retired workers in 1970.

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

## Early retirement

Early retirement provisions give workers the option of retiring before the normal retirement age and receiving an immediate reduced lifetime pension benefit. Frequently the worker may elect to defer receipt of his benefit until he reaches the normal retirement age when an unreduced benefit is payable. Under virtually all multiemployer plans early retirement is at the option of the worker. Special early retirement provisions which either enable an employer to force a worker to retire or enable a worker to retire in special circumstances even before he qualifies for regular early retirement, were not found in these plans.

*Minimum requirements for early retirement.* As in the case of normal retirement and other plan benefits, a worker must meet an age requirement, a service requirement, or both, to retire under an early retirement provision. In a few plans, however, early retirement, unlike other benefit provisions, is subject to the employer's approval. While the employer's consent to retire early is required in many single-employer plans, most multiemployer plans permit the employee to retire whenever he pleases provided

**Table 4. Multiemployer pension plans by normal monthly retirement benefit (excluding social security benefits) for workers earning \$4,800 per year for 30 years of credited service based on current benefit formula, 1973**

Monthly normal retirement benefit <sup>2</sup>	Total participants <sup>1</sup>		Total plans	
	Number (in thousands)	Percent	Number	Percent
Total with determinable benefits <sup>3</sup>	5,090	100.0	1,474	100.0
Less than \$30	47	.9	45	3.1
\$30 but less than \$40	70	1.4	20	1.4
\$40 but less than \$50	132	2.6	59	4.0
\$50 but less than \$60	117	2.3	71	4.8
\$60 but less than \$70	266	5.2	86	5.8
\$70 but less than \$80	1,138	22.4	67	4.5
\$80 but less than \$90	138	2.7	10	.7
\$90 but less than \$100	400	7.9	75	5.1
\$100 but less than \$150	691	13.6	316	21.4
\$150 but less than \$200	814	16.0	362	24.6
\$200 but less than \$250	353	6.9	148	10.0
\$250 but less than \$300	384	7.5	45	3.1
\$300 but less than \$350	141	2.8	48	3.3
\$350 but less than \$400	98	1.9	29	2.0
\$400 and over	301	6.0	93	6.3

<sup>1</sup> Worker coverage includes both active and retired workers in 1970.

<sup>2</sup> Average monthly benefit, arithmetic mean, weighted by workers covered, is \$158.21.

<sup>3</sup> Excludes 1,287,391 workers whose benefit varies according to geographical area, employers contribution or occupation, and 482,863 workers who do not receive the same benefit during their entire retirement period.

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

that he satisfies the requirements for age and years of service.

In general, the minimum length of service for early retirement was not significantly longer than for normal retirement. Over a fourth of the workers covered by plans with an early retirement provision could retire with 10 years of service; two-thirds of them could after 15 years.

In addition to service requirements, all but a few plans had minimum age requirements. Almost three-fifths of the workers were in plans permitting retirement prior to age 59, while about 3 out of 4 were in plans permitting retirement before age 62.

*Social security adjustment option.* In most plans, early retirement may occur before age 62 at which time workers first become eligible for social security benefits. Under the social security adjustment option, workers may elect to receive a larger-than-computed benefit before social security benefits are payable, which they pay for by electing a smaller benefit afterwards. The private plan benefits are in such amounts that, when added to the social security benefit, a uniform combined benefit is received by the retiree throughout his life. Such an option was available to about 16 percent of the participants in multiemployer plans with an early retirement provision, meaning it was about half as prevalent as in single-employer plans.

## Vesting provisions

A qualified worker who is covered by a plan with a vesting provision acquires nonforfeitable right to a benefit should his employment or coverage by the plan be terminated before he is eligible for regular (normal) retirement benefits. This benefit is usually payable at normal retirement age and is computed by the normal retirement benefit formula in effect at the time his plan coverage terminated; vested benefits are rarely adjusted upward to reflect changes made in benefit formulas in the period between the acquiring and the exercising of the right.

Vesting was provided by about 3 out of 5 multi-employer pension plans covering about the same proportion of workers. It was somewhat more common in manufacturing—62 percent—than in other industries—55 percent.

In the manufacturing sector, vesting provisions were most prevalent in plans in the furniture and lumber industries where all of the covered workers



**Table 5. Distribution of participants in multiemployer pension plans, by provisions for early retirement, vesting, and reciprocity, 1973**

Industry and size	Participants <sup>1</sup>		Early retirement			Vesting provisions			Reciprocity provisions		
	Number (in thousands)	Percent	Total with early retirement	By worker's choice <sup>2</sup>	By worker's or employer's choice <sup>2</sup>	Total	Deferred full	Deferred graded	Total	In effect	Permitted
All industries.....	7,523	100	<sup>a</sup> 100	<sup>a</sup> 100	<sup>a</sup> 100	<sup>a</sup> 100	<sup>a</sup> 100	<sup>a</sup> 100	<sup>a</sup> 100	<sup>a</sup> 100	<sup>a</sup> 100
Manufacturing.....	2,047	27	30	30	31	30	36	13	33	31	35
Food and kindred products.....	180	2	3	3		2	3		1	1	1
Apparel and other finished textile products.....	1,036	14	16	16		12	16		26	26	25
Printing, publishing, and allied industries.....	189	3	2	2		3	5		3	1	4
Leather and leather products.....	36	1	1	1		( <sup>4</sup> )	( <sup>4</sup> )				
Lumber and wood products except furniture.....	37	1	1	1		1	1		1	1	1
Furniture and fixtures.....	75	1	1	1	31	2	1	4			
Metalworking.....	355	5	5	5		7	6	8	2	2	2
Other manufacturing industries.....	139	2	2	2		3	3	1	1		3
Nonmanufacturing.....	5,476	73	70	70	69	70	64	87	67	69	64
Mining.....	200	3	( <sup>4</sup> )	( <sup>4</sup> )		( <sup>4</sup> )	( <sup>4</sup> )		( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )
Construction.....	2,417	32	31	31	25	37	36	37	26	25	27
Motor transportation.....	1,220	16	19	19		13	3	45	27	25	28
Water transportation.....	240	3	3	3		2	2		3	6	
Wholesale and retail trade.....	660	9	10	10	45	11	13	5	7	7	7
Services.....	736	10	8	8		8	10	1	4	6	3
Communication and public utilities.....	3	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )		( <sup>4</sup> )	( <sup>4</sup> )		( <sup>4</sup> )		( <sup>4</sup> )

<sup>1</sup> Worker coverage includes both active and retired workers in 1970.<sup>2</sup> In some plans employer must approve worker's decision to retire early.<sup>a</sup> Each of the 100's refers to the total covered by each benefit, rather than the

7,523,000 workers covered by multiemployer pension plans.

<sup>4</sup> Less than 0.5 percent.

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

are in plans with vesting provisions. Over three-fourths of the covered workers in the printing and publishing and metalworking industries were in such plans. In the nonmanufacturing sector, 9 out of 10 of the covered workers in the communications and public utilities and 2 out of 3 in motor transportation and wholesale and trade were also in such plans.

*Types of vesting.* Two types of vesting provisions were found in multiemployer plans: deferred full vesting and deferred graded vesting. Under deferred full vesting, workers acquire a right to all accrued benefits after meeting the requirements of age and years of service specified in the plan. Under deferred graded vesting, workers initially acquire a right to a certain percentage of accrued benefits upon meeting the specified requirements; the percentage increases as additional requirements are met, until the worker becomes fully vested. Deferred full vesting was provided by 58 percent of the plans with vesting provisions, covering 74 percent of the participants in such plans. The other 26 percent of the workers were in plans with deferred graded vesting.

*Requirements for vesting.* About 30 percent of those participating in plans with vesting provisions were provided with full vesting after 10 years of service. Two out of three workers, in plans with such provisions, would qualify for a vested benefit after 15 years of service. More than 8 out of 10 would qualify after 20 years of service.

In plans accounting for slightly less than half the workers covered by vesting provisions, there was no age requirement. Under these plans accrued benefits were vested when the worker met the service requirements, usually 15 years or less.

Minimum age requirements ranging from 40 to over 50 years were specified in over half of the plans with vesting provisions. A minimum age of 50 with 15 years of service, was the requirement most frequently stipulated. An age requirement of over 50, stipulated in some plans, was rarely significant because these high-age plans usually also provided for early retirement with the employee's consent at about the same age and service.

In addition to age and service requirements, vesting may be conditioned on the type of termination—whether the worker was discharged, laid off, or quit.

Overall, involuntary termination of employment is requisite to the attainment of a vested benefit right under the vesting provisions in plans with 14 percent of the covered workers.

### Portability and reciprocity arrangements

Portable pension credits, one of the distinguishing characteristics of multiemployer plans, enable the individual worker to remain covered by the plan and build up pension credits as long as he is employed by one of the employers that participate in the plan. Additional portability may be provided by reciprocity arrangements between plans.

Workers belonging to multiemployer plans have an advantage not enjoyed by workers covered by single-employer plans: they may change jobs and employers as frequently as they wish and get full credit for all their service, regardless of age, length of service, or type of separation, as long as their employment is with an employer participating in the plan. The scope of the plan (that is, the employers participating) and its reciprocity provisions thus establishes the boundaries of its portability features.

The possibility of moving from the coverage of one multiemployer plan to another through reciprocal arrangements provides additional pension credit protection. However, only 7 percent of the plans covering about a fourth of the workers had reciprocity arrangements; and these rarely covered pension plans established by different unions.

Reciprocity arrangements often provide that the

worker who does not qualify for a benefit under the program of one fund can use service accumulated in other plans to attain eligibility for retirement benefits. In other plans the worker may actually transfer the monies accumulated in his account under one plan to another fund which will pay him, on retirement, a monthly benefit based in part on the amount transferred.

The joint boards of trustees of a fourth of the plans without reciprocity agreements were specifically empowered to work out reciprocity arrangements with plans of their own union, and in some cases, other unions as well. At the time of this study, however, they had not done so.

### Employment after retirement

Once a worker retires, single-employer plans rarely restrict his choice of employment, should he wish to continue working, except that he is precluded from taking a job clearly injurious to the firm from which he retired. On the other hand, multiemployer plans frequently do not allow the worker to remain in his trade or industry and still receive his pension. The employers as a group assume the role of single employers who, typically, do not provide both employment and pension benefit to workers at the same time. Moreover, the interest of national unions would not be protected if retired members were to compete with active members for jobs or were to take their skills into the nonunion sectors of the industry. □

#### — FOOTNOTES —

<sup>1</sup> Under the Welfare and Pension Plans Disclosure Act, administrators of all private pension plans covering 26 participants or more must file certain reports with the U.S. Department of Labor. This study is based on the reports of all multiemployer pension plans on file in 1973. A systematically stratified, probability sample was drawn, and data for each of the plans in the sample was appropriately weighted in accordance with the plan's probability of selection. The data presented are, therefore, estimates for all multiemployer pension plans on file. While the information on plan provisions was current when analyzed in 1973, the data on plan coverage were obtained from the 1970 financial reports—the most recent available in mid-1973 when the file was examined.

<sup>2</sup> In general, insured workers refers to workers whose benefit will be paid thru an insurance company; uninsured workers refers to those whose benefit will be paid by the fund.

<sup>3</sup> Final monthly earnings for a worker with average annual earnings of \$4,800 and 30 years of service, assuming that earnings increased at an annual rate of 4 percent. The method used to determine terminal earnings is described in Arnold Strasser, "Pension Formula Summarization: An Emerging Research Technique," *Monthly Labor Review*, April 1971, pp. 49-56.



# Trends in Federal employment, 1958-72

The U.S. Government work force expanded from 2.2 million in 1958 to 2.6 million in 1972, with white-collar employees rising to nearly 2 million

ARTHUR J. GARTAGANIS

FEDERAL civilian employment<sup>1</sup> (full time and part time) increased from 2.2 million to 2.6 million between 1958 and 1972 (table 1). This total grew steadily from 1958 to almost 2.4 million in 1965. Thereafter, primarily because of a surge in Department of Defense employment stemming from the Vietnam conflict, employment increased rapidly, peaking at 2.7 million in 1967.<sup>2</sup>

The drop (almost 6 percent) in the Federal work force after 1967 was primarily due to decreasing defense requirements resulting from phasing out of the Vietnam conflict and cutbacks in the U.S. Postal Service—the Post Office prior to 1972 (table 2).

## White-collar workers gain

The 1958-72 period is characterized by important and contrasting changes among white-collar workers and blue-collar workers. The number of white-collar workers rose 34 percent, from almost 1.5 million to nearly 2 million, and accounted for more than three-fourths of the Federal work force in 1972. In comparison, less than half of all workers in the Nation fell in the white-collar category in 1972.

Although almost all Federal agencies increased their white-collar work force, over half of the growth occurred in three agencies—the Department of Defense (up 117,400 workers), the Postal Service (up 113,100 workers), and the Department of Health, Education, and Welfare (HEW) (up 57,200 workers). The fastest growing agency was the National Aeronautics and Space Administration (NASA); its white-collar work force increased to 25,900, or 476 percent between 1958 and 1972. Other agencies

adding significantly to their white-collar work force were the Departments of Treasury, Transportation, the Interior, Agriculture, and Commerce.

While white-collar employment was rising between 1958 and 1972, Federal blue-collar<sup>3</sup> employment was at a lower level in 1972 than it was in 1958.

The declining Federal blue-collar work force levels were dominated by requirements of the Defense Department, whose blue-collar work force dropped 21 percent to 386,500 in 1972 but still accounted for more than two-thirds of all these workers. Its influence was partially offset by the sharp increase in blue-collar postal employment (up 54 percent to 37,900). Other agencies adding significantly to their blue-collar work force were the Tennessee Valley Authority, the General Services Administration, and the Department of the Interior.

Changes in full-time employment paralleled those in national employment. However, this was not true of part-time employment, which in 1972 was well below its 1958 level. The unusual changes in part-time workers after 1965 merit comment. These changes are due to substantial changes in Defense Department needs to support its varying military requirements and to the expanding needs of the Postal Service. However, in the case of the Postal Service, the primary employer of part-time workers, the drop in its part-time work force after 1967 was accompanied by an increase in its full-time work force. Many part timers were working during the premium rate or overtime shifts. For purposes of economy, they were converted to regular full-time shifts and paid the normal rate.

## Professional, technical, and kindred workers

While all the major white-collar occupational groups experienced strong employment gains between 1958 and 1972, professional, technical, and kindred

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workers showed the largest increase—up 210,000 to 537,600 workers (table 3).

In this category, computer specialists increased the most dramatically, more than elevenfold, from 1,800 to almost 22,600. Almost two-thirds were employed by the Defense Department, which uses computers for such purposes as scientific research, the national radar defense system, and for data to facilitate the flow of materials. Other significant employers of computer specialists were HEW and the Veterans Administration (VA), both of which use computers for data storage and for processing benefits and pension payments. The Treasury Department also uses significant numbers for data processing.

Employment in all engineering occupations rose during 1958–72. Aeronautical engineers increased most rapidly, more than 190 percent, to 9,400. Almost all were in NASA and Defense. Electrical and electronic engineers more than doubled to a level of about 25,000. The majority (69 percent) were in Defense.

Engineering technicians, who furnish support to professional scientists and engineers, increased more than 1½ times, to more than 64,000. Added demand for electronic technicians came from the Department of Transportation, which services the growing amounts of complex radar and other electronic equip-

ment needed to handle air traffic. Air traffic expansion also resulted in almost a 100-percent increase in air traffic controllers. In 1972, the Transportation Department employed 98 percent of the 24,000 air traffic controllers.

A sharp drop in drafting technicians occurred (down one-third to 8,600 workers), primarily because of the contracting out of these services by Defense.

The rapid growth in the employment of life and physical scientists was related to the expanding programs of the few agencies in which they are concentrated—Defense, Commerce, Interior, NASA, Agriculture, and HEW. For example, the sharp increase in “life and physical scientists, n.e.c.” (not elsewhere classified) was due to increased use by NASA and Defense of personnel with a professional scientific background to staff positions of an administrative or general technical nature in space and research programs. Marine scientists, comprised of oceanographers and hydrologists, increased sharply during this period; hydrologists are concentrated (97 percent) in Interior, Commerce, and Agriculture.

Most of the increased demand for “physicists and astronomers” came from Defense, which accounted for three-quarters of these scientists in 1972. Health physicists who study the effects of radiation upon human physiology are employed primarily in HEW and the Atomic Energy Commission. Biological scientists are concentrated primarily in HEW, Agriculture, and Interior. Within HEW, biologists are employed in the Food and Drug Administration to test the growing number of new drugs and food products and in the Public Health Service’s National Institute of Health, which conducts medical research. The expansion in health and health research programs is also reflected in increased employment of health technologists and technicians. At Agriculture, they are concerned with problems such as crop disease and insect control and at Interior with the problems of water pollution and the ecological implications of environmental disruption. Agricultural scientists, more than 90 percent of whom are in Agriculture and Interior, study the problems of improving agricultural practices and products.

The increase in employment of accountants was primarily in the Defense and Treasury Departments. Social scientists concerned with manpower and welfare problems increased strongly in most agencies. Additional gains occurred in agencies dealing with

**Table 1. Federal employment, full time and part time**

Year	Total <sup>1</sup>	Full time	Part time	Full time as a percent of total
1958 <sup>2</sup>	2,172.5	2,042.0	130.4	94.0
1959	2,204.1	2,069.1	135.0	93.9
1960	2,216.2	2,086.6	129.6	94.2
1961	2,283.1	2,160.1	123.0	94.6
1962	2,333.3	2,212.8	120.4	94.8
1963	2,333.0	2,212.2	120.8	94.8
1964	2,329.1	2,208.2	120.9	94.8
1965	2,383.7	2,261.8	121.9	94.9
1966	2,611.6	2,428.6	183.0	93.0
1967	2,707.3	2,542.3	165.1	93.9
1968	2,693.7	2,549.1	144.5	94.6
1969 <sup>3</sup>	2,717.3	2,566.6	150.7	94.5
1970	2,643.4	2,514.0	129.4	95.1
1971	2,631.6	2,509.0	122.6	95.3
1972	2,596.0	2,493.7	102.3	96.1

<sup>1</sup> Employment in the United States as of October 31 each year. Excludes the Central Intelligence Agency, the National Security Agency, and Department of Defense non-appropriated funds programs.

<sup>2</sup> Excludes almost 36,000 employees in Alaska and Hawaii.

<sup>3</sup> Army National Guard and Air Force National Guard employees (about 42,000—almost exclusively full time) included for the first time.

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

**SOURCE:** 1958–66: Federal Employment Statistics Bulletin (U.S. Civil Service Commission). Tables 2, 3, and 4 in selected monthly issues. 1967–72: Federal Civilian Manpower Statistics (U.S. Civil Service Commission). Table 5 in selected monthly issues.



**Table 2. Federal employment in selected agencies, 1958, 1967, and 1972**

[Numbers in thousands]

Agency	All workers <sup>1</sup>			White-collar			Blue-collar		
	1958 <sup>2</sup>	1967 <sup>3</sup>	1972	1958 <sup>2</sup>	1967	1972	1958 <sup>2</sup>	1967 <sup>3</sup>	1972
All agencies <sup>4</sup> .....	2,112.2	2,614.1	2,534.8	1,490.6	1,968.0	1,995.6	621.6	646.1	539.3
Defense.....	952.7	1,091.3	968.9	465.0	603.9	582.4	487.7	487.4	386.5
Postal Service.....	538.3	704.0	644.7	513.7	671.3	626.8	24.6	32.6	37.9
Veterans Administration.....	152.4	150.7	166.9	115.7	115.6	133.2	36.7	35.1	33.7
Health, Education, Welfare.....	52.9	102.9	111.3	47.8	96.2	105.0	5.1	6.8	6.3
Treasury <sup>5</sup> .....	72.7	85.3	102.5	66.2	80.2	97.0	6.5	5.1	5.5
Agriculture.....	70.2	91.7	90.3	65.8	84.3	86.1	4.5	7.4	4.2
Transportation <sup>6</sup> .....	(36.8)	55.3	66.3	(31.9)	49.0	60.5	(4.9)	6.3	5.8
Interior <sup>5</sup> .....	44.4	67.3	66.3	34.7	52.9	55.0	9.7	14.4	11.2
General Services Administration.....	27.6	38.3	37.4	12.7	18.4	20.5	15.0	19.9	16.9
Commerce <sup>5</sup> .....	16.9	26.9	31.0	14.1	24.6	28.5	2.9	2.4	2.5
National Aeronautics and Space Administration.....	8.1	34.3	27.8	4.5	29.1	25.9	3.6	5.1	1.9
Tennessee Valley Authority.....	15.9	18.8	24.6	5.5	6.7	9.0	10.3	12.2	15.5

<sup>1</sup> Employment in the United States as of October 31 each year. Includes all full-time workers and most part-time workers in the Post Office. The excluded part-time workers primarily account for the differences from the respective totals in table 1.

<sup>2</sup> Data exclude Alaska and Hawaii. The white-collar data are unrevised. Thus their total and the all-workers total differ slightly from their counterparts in table 3.

<sup>3</sup> Estimated.

<sup>4</sup> Excludes the Central Intelligence Agency, the National Security Agency, the Federal Reserve System's Board of Governors, and most employees of the Congress.

<sup>5</sup> The 1958 datum excludes a component later transferred to Transportation. See footnote 6.

<sup>6</sup> The 1958 datum is estimated and is comprised of transfers from: Treasury (Coast Guard); Interior (Alaska Railroad); Commerce (Federal Aviation Administration and the Bureau of Public Roads); Interstate Commerce Commission (Bureau of Railroad Safety and Service); and the Saint Lawrence Seaway Development Corporation.

NOTE: Because of rounding sums of individual items may not add to totals.

SOURCE: Unpublished data on file at the U.S. Civil Service Commission and selected agencies.

particular programs—for example, Agriculture to implement the food assistance program.

“Teachers, except college and university,” almost doubled between 1958 and 1972. Most were employed by the military. Substantial numbers were also employed by Interior, whose Bureau of Indian Affairs expanded the educational services furnished to Indians. Greater numbers of writers and related personnel were hired by Defense and the U.S. Information Agency.

### Managers and administrators

The strong increase in the numbers of managers, administrators, officials, and related personnel is a reflection of the expansion of government programs and services. For example, the extension of financial advice and help to small businessmen by the Small Business Administration resulted in increased employment of “bank officers and financial managers.” The expansion of HEW health service activities more than doubled the number of health administrators.

The increase in purchasing agents and buyers, in inspectors, except construction, public administration, and in officials and administrators resulted primarily from the expansion of defense-related activities. However, a sharp increase in demand by other agencies also occurred. For example, the De-

partment of Transportation, which now includes the Federal Aviation Administration, quadrupled its employment of aviation safety officers, and Agriculture more than doubled its number of food inspectors.

The drop in the numbers of “postmasters and mail superintendents” was in sharp contrast to the constantly expanding workload of the Postal Service. As a result of the decline of the farm population, this agency had been closing out the smaller or less active post offices in rural areas and building or enlarging facilities in urban regions.

### Clerical and kindred workers

Although the “clerical and kindred workers” group increased by almost one-fifth between 1958 and 1972, the majority of the individual clerical occupations declined in size. The contrasting occupational trends within the cluster “office machine operators” are illustrative. Several of its occupations decreased in size—and one, calculating machine operators, dropped 93 percent, but “keypunch operators” increased by one-fourth. Whereas, 9,700 fewer tabulating machine operators were employed in 1972, there were 10,000 more computer and peripheral equipment operators. This reflects both the greater use of computers in functions formerly performed by tabu-

lating machines and the greater amounts of computers and peripheral equipment.

Almost half of all clerical and related workers were postal clerks and mail carriers. They increased more than 22 percent. Secretaries more than doubled, to almost 61,000. In part, this reflects the drop in stenographers and typists, and an increased demand for personnel with multiple skills.

The strong increase in estimators and investigators reflects greater demand, primarily by HEW and the VA, to process applicants for retirement, old age, and medical benefits. The more than doubling of library assistants helped meet the need for librarians, whose number grew only slightly.

### Blue-collar changes

Changes in the employment levels of blue-collar workers are dominated by the requirements of the Defense Department, which in 1972 accounted for almost three-fourths of these employees. Variations in blue-collar occupational levels are especially sensitive to changes in contracting out of workloads and in personnel substitution policies by the military.

By 1972, most craftworkers and operatives occupations were below their 1958 levels. For example, carpenters declined 39 percent; painters 23 percent; and crane operators 59 percent. These decreases accompanied the sharp drop in the number of active bases and depots and the increase in contracting out of maintenance services. Modest drops in VA employment occurred as some hospitals were closed, despite Vietnam. The sharp drop in the number of Navy ships reduced the demand for painters. Declining use of carpenters came from the decreasing use of wood as a structural material in ships.

Metalworking occupations declined even more strongly. Machinists dropped 50 percent; tool and die makers, 55 percent; shipfitters, 60 percent; and welders, 39 percent, primarily as a result of decreased industrial activity in the Navy and Air Force. Their industrial plants dropped by one-fourth.

Mechanics and maintenance workers increased as a group from 98,800 in 1958 to 120,100 in 1972. However, there were divergent trends among these workers. Aircraft mechanics and maintenance workers decreased, as the military air fleet declined and jets replaced propeller craft, which generally require more maintenance. However, servicing requirements appear to be borne primarily by changing military

worker levels.<sup>4</sup> The increase in automobile repairmen rose moderately, despite the fact that the Government's fleet of motor vehicles almost doubled. This was largely because complicated repair jobs were being contracted out to private garages. Also, the vehicles of many Government agencies are serviced by the prime contractors working with the agency. For example, the Atomic Energy Commission, which owns more than 10,000 vehicles, employs no vehicle repairmen or maintenance men.

Other mechanics and repair workers increased 58 percent during 1958 to 38,400. These employees serviced a wide variety of scientific equipment, as well as increasingly complex aircraft instrumentation and equipment. Reflecting the dynamic growth of the computer industry, data processing machine repairmen increased from 5 in 1958 to more than 1,100 in 1972, even though most maintenance functions were contracted out.

### Service workers

Service workers, as a group, increased moderately—about 9 percent, to 153,000—between 1958 and 1972.

Protective service personnel rose from 43,000 to 51,900, primarily because of the sharp increase in police and detectives. Criminal investigators increased more than 90 percent, to 18,700, as the Department of Justice stepped up its efforts against income tax evasion. Police increased more than ninefold, to 7,200, owing primarily to a reclassification of, or reassignment of, some workers who had been guards and whose jobs were upgraded. As a result, the number of guards decreased from 16,900 to 11,500. Another factor was a sharp increase in the contracting out of these services. For example, whereas the floor space of buildings managed by the General Services Administration increased about 85 percent, the number of guards employed by this agency hardly changed.

The drop in personal service workers was primarily due to the decrease (71 percent) in elevator operators who have been displaced by automatic self-service elevators.

Demand for health service workers rose substantially between 1958 and 1972, as the number of servicemen and veterans requiring medical care increased. Another factor was the expansion of public health activities. The larger number of nursing

*(Text continued on p. 25)*



Table 3. Federal employment by occupation, 1958, 1967, and 1972<sup>1</sup>

[Numbers in thousands]

Occupation	1958 Employment <sup>2</sup>	1967 Employment <sup>3</sup>	1972 Employment	1958-72 change <sup>4</sup>	
				Number	Percent
All occupations <sup>5</sup>	2,104.6	2,614.1	2,534.8	430.2	20.4
Professional, technical and kindred workers	327.7	481.1	537.6	210.0	64.0
Engineers, technical	61.4	88.5	94.3	33.0	53.7
Aeronautical and astronautical	3.2	9.4	9.4	6.2	194.7
Chemical engineers	1.0	1.6	1.6	.6	55.1
Civil engineers	14.2	18.2	16.9	2.8	19.4
Electrical and electronic	11.9	20.1	25.0	13.1	109.9
Industrial engineers	9.4	11.1	11.9	2.4	25.7
Mechanical engineers	9.8	11.8	11.4	1.6	15.8
Metallurgical and materials	1.5	1.6	1.6	.1	5.8
Mining engineers	.4	.5	.6	.2	55.1
Petroleum engineers	.2	.3	.3	.1	32.7
Other engineers, n.e.c.	9.7	14.0	15.7	6.0	62.1
Life and physical scientists	24.3	40.8	41.4	17.1	70.5
Agricultural scientists	6.3	7.3	8.3	2.0	33.1
Atmospheric and space scientists	1.8	2.3	2.2	.4	22.1
Biological scientists	3.1	5.6	6.4	3.3	108.2
Chemists	5.5	8.4	8.6	3.1	55.4
Geologists	1.7	2.5	2.4	.7	40.5
Marine scientists	.6	1.6	2.2	1.7	297.1
Physicists and astronomers	3.5	6.6	6.8	3.3	92.9
Life and physical scientists, n.e.c.	1.8	6.5	4.5	2.7	144.8
Mathematical specialists	4.5	7.1	7.7	3.2	72.1
Actuaries	.1	.1	.1	( <sup>6</sup> )	92.2
Mathematicians	2.2	4.3	4.5	2.3	102.4
Statisticians	2.2	2.8	3.1	.9	41.4
Engineering and science technicians	50.4	83.1	88.6	38.2	75.8
Agricultural and biological technicians, except health	5.1	7.6	8.1	3.0	59.1
Chemical technicians	.7	1.1	1.1	.4	55.0
Draftsmen <sup>7</sup>	12.9	10.3	8.6	-4.3	-33.1
Electrical and electronic engineering technicians	14.1	32.3	38.6	24.5	173.5
Industrial engineering technicians		1.9	2.6	2.6	
Mechanical engineering technicians	3.4	6.8	6.7	3.2	92.8
Mathematical technicians	.5	.6	.3	-.1	-30.4
Surveyors	3.3	4.2	3.2	-.1	-3.0
Engineering and science technicians, n.e.c.	10.4	18.5	19.4	9.0	87.3
Medical workers, except medical technicians	36.0	39.6	43.2	7.2	20.1
Dentists	1.1	1.3	1.4	.3	23.8
Pharmacists	.7	1.2	1.4	.7	95.3
Physicians, medical and osteopathic	9.7	9.7	9.6	( <sup>6</sup> )	-.5
Veterinarians	1.2	1.6	1.6	.4	29.4
Dietitians	1.1	1.1	1.0	-.1	-12.2
Registered nurses	19.8	22.3	25.9	6.0	30.3
Therapists	2.3	2.4	2.4	.1	4.7
Other medical workers	.1	.1	.1	( <sup>6</sup> )	14.3
Health technologists and technicians	6.6	9.3	12.3	5.8	88.5
Clinical laboratory	3.0	4.6	5.9	2.8	93.7
Dental hygienists	.2	.3	.3	( <sup>6</sup> )	22.4
Health record	.1	.2	.7	.6	428.6
Radiologic	1.4	1.7	2.0	.6	43.2
Therapy assistants	1.0	1.1	1.0	( <sup>6</sup> )	.8
Health technologists and technicians, n.e.c.	1.2	1.4	2.5	1.3	104.4
Technicians, except health and engineering	16.4	27.2	35.3	19.0	115.9
Airplane pilots	.9	1.1	2.6	1.7	195.3
Air traffic controllers	12.3	17.7	24.0	11.8	96.0
Flight engineers	.1	.4	.2	.1	244.0
Radio operators	1.0	.8	.7	-.4	-39.2
Other technicians	2.1	7.3	7.8	5.8	280.1
Computer specialists	1.8	14.6	22.6	20.8	1,152.8
Computer programmers	1.7	8.8	13.5	11.8	695.9
Computer systems analysts	.1	4.4	6.8	6.7	6,672.0
Other computer specialists		1.5	2.3	2.3	
Social scientists	9.4	14.8	17.8	8.4	88.6
Economists	2.9	4.2	4.7	1.9	64.9
Political scientists	1.7	2.7	1.8	.1	6.7
Psychologists	1.7	1.9	2.5	.8	48.2
Urban and regional planners	.1	.2	.3	.2	257.8
Other social scientists	3.2	5.7	8.5	5.4	169.6
Teachers, except college and university	9.3	16.5	19.3	9.4	95.6
Adult education teachers	4.0	7.3	8.2	4.2	104.1
Other teachers, except college and university	5.9	9.3	11.1	5.3	89.7
Writers, artists, and entertainers	10.5	15.7	16.3	5.8	55.2
Authors	2.6	3.7	3.6	1.0	40.7

See footnotes at end of table.

Table 3. Continued—Federal employment by occupation, 1958, 1967, and 1972<sup>1</sup>

Occupation	1958 Employment <sup>2</sup>	1967 Employment <sup>3</sup>	1972 Employment	1958-72 change <sup>4</sup>	
				Number	Percent
Painters and sculptors.....	2.0	2.7	2.5	.5	22.6
Photographers.....	2.4	3.2	3.1	.8	32.3
Public relations men and publicity writers.....	2.3	3.4	3.3	.9	39.9
Other writers, artists, and entertainers.....	1.2	2.7	3.8	2.6	213.9
Other professional, technical, and kindred.....	96.0	124.0	138.7	42.5	44.1
Accountants.....	40.6	57.3	62.1	21.5	52.9
Architects.....	2.8	3.2	3.1	.3	10.9
Foresters and conservationists.....	16.5	19.7	23.7	7.2	43.9
Home management advisors.....	.2	.2	.1	-.1	-34.1
Judges.....	.3	.4	.5	.2	60.6
Lawyers.....	12.4	13.1	15.2	2.8	22.2
Librarians.....	2.9	3.3	3.1	.2	6.8
Archivists and curators.....	.5	.5	.5	( <sup>6</sup> )	-5.2
Operations and systems researchers and analysts.....	.6	2.8	4.0	3.3	522.0
Personnel and labor relations workers.....	14.2	18.1	19.5	5.3	37.3
Clergymen.....	.4	.4	.4	.1	23.4
Social workers.....	2.1	2.5	3.2	1.1	53.3
Recreation workers.....	1.5	2.0	1.9	.5	32.8
Vocational and educational counselors.....	.1	.1	.3	.2	182.9
Research workers, not specified.....	1.2	.3	1.0	-.1	-11.3
Managers and administrators, except farm.....	187.1	264.9	276.5	89.4	47.8
Bank officers and financial managers.....	1.5	2.6	2.9	1.3	87.2
Health administrators.....	.8	2.6	2.1	1.3	148.2
Construction inspectors, public administration.....	4.1	3.5	4.4	.2	6.7
Inspectors, except construction, public administration.....	27.4	40.7	48.0	20.6	75.1
Managers and superintendents, building.....	.7	1.0	1.1	.4	53.4
Office managers, n.e.c.....	1.4	1.9	2.0	.7	51.3
Officers, pilots and pursers, ship.....	1.2	1.3	1.0	-.2	-15.4
Officials and administrators; public administration, n.e.c.....	93.9	140.9	152.8	58.9	62.6
Postmasters and mail superintendents.....	39.4	39.1	35.0	-4.4	-11.2
Purchasing agents and buyers, n.e.c.....	12.8	24.1	19.9	7.2	56.3
Other managers and administrators.....	3.8	7.3	7.2	3.4	88.4
Salesworkers.....	3.9	6.2	7.1	3.3	84.3
Real estate agents and brokers.....	1.9	2.8	2.9	1.1	56.9
Salesmen and sales clerks, n.e.c.....	2.0	3.4	4.2	2.2	109.9
Clerical workers.....	881.7	1,108.3	1,052.0	170.3	19.3
Office machine operators.....	26.9	32.2	26.8	-.1	-.2
Bookkeeping and billing machine operators.....	1.2	.2	.1	-1.1	-94.1
Calculating machine operators.....	1.1	.1	.1	-1.0	-92.5
Computer and peripheral equipment operators.....	1.0	7.5	11.4	10.4	1,097.5
Duplicating machine operators.....	1.3	.7	.5	.7	-57.6
Keypunch operators.....	8.5	16.9	10.8	2.3	27.5
Tabulating machine operators.....	11.8	4.4	2.2	-9.7	-81.8
Office machine operators n.e.c.....	2.1	2.3	1.7	-.4	-17.5
Postal clerical.....	426.1	564.1	520.5	94.5	22.2
Mail carriers, post office.....	190.8	250.1	247.8	57.0	29.9
Postal clerks.....	235.2	314.0	272.7	37.5	15.9
Secretaries, stenographers, and typists.....	160.0	206.5	179.4	19.4	12.1
Secretaries.....	28.0	55.4	60.5	32.5	116.1
Stenographers.....	49.0	50.8	38.9	-10.1	-20.7
Typists.....	83.0	100.4	80.0	-3.0	-3.6
Other clerical workers.....	268.7	305.6	325.2	56.5	21.0
Bookkeepers.....	31.7	26.7	23.6	-8.1	-25.6
Cashiers.....	3.6	2.8	2.5	-1.1	-30.2
Clerical assistants, social welfare.....			4	.4	
Dispatchers and starters, vehicle.....	1.1	1.0	1.0	( <sup>6</sup> )	-5.4
Estimators and investigators, n.e.c.....	17.0	26.5	30.0	12.9	75.8
Expeditors, and production controllers.....	4.0	3.5	1.8	-2.2	-54.2
Insurance adjusters, examiners, and investigators.....	.1	( <sup>6</sup> )	( <sup>6</sup> )	-.1	-70.4
Library attendants and assistants.....	1.6	2.9	3.3	1.8	110.5
Mail handlers, except post office.....	27.9	26.6	23.5	-4.4	-15.6
Messengers and office boys.....	2.9	1.9	1.1	-1.9	-63.1
Payroll and timekeeping clerks.....	12.0	11.9	10.6	-1.4	-11.9
Real estate appraisers.....	1.8	2.6	2.5	.6	34.0
Receptionists.....	.6	1.1	1.0	.4	63.8
Shipping and receiving clerks.....	1.4	3.3	3.6	2.3	164.6
Statistical clerks.....	19.2	26.5	25.6	6.5	33.7
Stock clerks and storekeepers.....	36.2	40.4	40.5	4.3	11.8
Telephone operators.....	6.8	6.4	4.9	-1.9	-27.9
Other clerical workers.....	100.6	121.5	149.1	48.5	48.2

See footnotes at end of table.

Table 3. Continued—Federal employment by occupation, 1958, 1967, and 1972<sup>1</sup>

Occupation	1958 Employment <sup>2</sup>	1967 Employment <sup>3</sup>	1972 Employment	1958-72 change <sup>4</sup>	
				Number	Percent
Craftsmen and kindred workers.....	300.8	303.6	276.7	-24.1	-8.0
Construction craftsmen.....	78.9	72.4	64.5	-14.4	-18.3
Brickmasons and stonemasons.....	.9	.9	.9	( <sup>5</sup> )	-.5
Carpenters.....	14.9	12.5	8.8	-5.7	-39.1
Bulldozer operators.....	1.0	1.3	1.9	1.0	96.9
Cement and concrete finishers.....	.6	.4	.4	-.2	-34.7
Electricians.....	28.8	27.1	23.3	-5.5	-19.2
Excavating, grading, and road machine operators, except bulldozer.....	4.2	4.3	3.9	-.3	-7.4
Painters, construction and maintenance.....	12.4	8.8	9.6	-2.8	-22.8
Plasterers.....	.3	.4	.3	( <sup>5</sup> )	-6.4
Plumbers and pipefitters.....	15.3	15.8	14.4	-.9	-6.1
Roofers and slaters.....	.4	.3	.3	-.1	-18.3
Structural metal craftsmen.....	.6	.6	.8	.2	33.2
Foremen, n.e.c.....	5.5	5.7	4.7	-.8	-15.0
Metalworking craftsmen.....	52.9	42.8	33.3	-19.6	-37.0
Blacksmiths.....	.7	.4	.3	-.4	-59.4
Boilermakers.....	2.3	1.5	2.2	-.1	-4.4
Heat treaters, annealers, and temperers.....	.3	.4	.2	( <sup>5</sup> )	-12.6
Forgemen and hammermen.....	.1	( <sup>5</sup> )	( <sup>5</sup> )	-.1	-73.9
Job and die setters, metal.....		.1	.1	.1	
Machinists.....	24.7	16.5	12.5	-12.2	-49.5
Millwrights.....	2.2	2.1	1.9	-.3	-14.9
Molders, metal.....	.5	.4	.2	-.3	-64.8
Pattern and model makers.....	1.7	1.8	1.3	-.5	-27.9
Sheetmetal workers and tinsmiths.....	17.6	17.8	13.4	-4.2	-23.7
Tool and die makers.....	2.8	1.8	1.3	-1.5	-54.6
Mechanics and repairmen.....	98.8	115.6	120.1	21.4	21.6
Air conditioning, heating and refrigeration.....	5.4	7.1	6.8	1.4	26.0
Aircraft mechanics.....	26.6	26.9	24.7	-1.9	-7.2
Automobile body repairmen.....	1.2	1.2	1.0	-.2	-16.0
Automobile mechanics.....	14.0	14.5	18.8	4.8	34.5
Data processing machine repairmen.....	( <sup>5</sup> )	.7	1.1	1.1	22,600.0
Heavy equipment mechanics including diesel.....	13.5	12.6	13.3	-.2	-1.7
Household appliance and accessories, installers and mechanics.....	.2	.2	.2	( <sup>5</sup> )	11.5
Office machine.....	.7	.6	.5	-.2	-32.9
Radio and television.....	12.7	15.4	15.2	2.4	19.1
Railroad and car shop.....	.2	.2	.2	( <sup>5</sup> )	-1.1
Other mechanics and repairmen.....	24.3	36.3	38.4	14.1	58.2
Printing trades craftsmen.....	8.3	11.6	8.8	.5	6.5
Bookbinders.....	.3	.4	.4	.1	24.2
Compositors and typesetters.....	1.6	1.8	1.0	-.1	3.9
Electrotypers and stereotypers.....	.1	( <sup>5</sup> )	.1	( <sup>5</sup> )	-36.2
Engravers, except photoengravers.....	.8	1.0	.6	-.2	-20.7
Photoengravers and lithographers.....	1.7	4.1	2.4	.7	41.8
Pressmen and plate printers.....	3.8	4.3	3.7	-.1	-3.2
Transportation and public utility craftsmen.....	4.6	4.2	3.3	-1.3	-28.5
Electric power linemen and cablemen.....	.5	.5	.4	-.1	-26.8
Locomotive engineers.....	.3	.4	.3	( <sup>5</sup> )	-11.0
Locomotive firemen.....	.1	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	-66.7
Power station operators.....	.7	.6	.6	-.2	-21.1
Telephone installers and repairmen.....	2.6	2.3	1.7	-.9	-33.3
Telephone linemen and spicers.....	.4	.5	.3	-.1	-20.9
Other craftsmen and kindred workers.....	51.8	51.3	42.0	-9.8	-19.0
Bakers.....	.8	.9	.6	-.2	-27.1
Cabinetmakers.....	2.1	1.9	2.0	-.1	-6.4
Cranemen, derrickmen, and hoistmen.....	3.5	2.8	1.4	-2.0	-58.5
Dental laboratory technicians.....	.6	.7	.7	.1	25.0
Glaziers.....	.1	.1	.1	-.1	-42.3
Inspectors, n.e.c.....	.6	1.2	1.1	.5	93.7
Jewelers and watchmakers.....	.1	.1	( <sup>5</sup> )	-.1	-62.6
Motion picture projectionists.....	.2	.3	.2	( <sup>5</sup> )	-9.9
Opticians, and lens grinders and polishers.....	.1	.1	( <sup>5</sup> )	( <sup>5</sup> )	-37.4
Shipfitters.....	6.1	4.2	2.4	-3.7	-60.3
Sign painters and letterers.....	.6	.6	.5	-.1	-23.3
Stationary engineers.....	23.5	20.7	16.8	-6.7	-28.6
Tailors.....	.5	.5	.3	-.2	-32.1
Upholsterers.....	1.2	1.0	.7	-.5	-42.3
Other craftsmen and kindred workers.....	11.8	16.2	15.1	-3.3	27.6
Operatives, except transport operatives.....	104.2	117.2	81.5	-22.7	-21.8
Metalworking operatives.....	16.0	15.8	10.8	-5.2	-32.3
Drill press operatives.....	.6	.5	.6	( <sup>5</sup> )	-2.4
Metal platers.....	1.2	1.6	1.3	.1	8.8
Furnacemen, smeltermen, and pourers.....	.2	.3	.2	-.1	-26.9

See footnotes at end of table.



Table 3. Continued—Federal employment by occupation, 1958, 1967, and 1972<sup>1</sup>

Occupation	1958 Employment <sup>2</sup>	1967 Employment <sup>3</sup>	1972 Employment	1958-72 change	
				Number	Percent
Grinding machine operatives.....	.7	1.2	1.0	.3	40.0
Lathe and milling machine operatives.....	.9	.8	.2	-.7	-79.8
Other precision machine operatives.....	.9	1.8	1.5	( <sup>4</sup> )	1.4
Punch and stamping press operatives.....	.2	.1	( <sup>4</sup> )	-.2	-77.3
Welders and flame cutters.....	10.7	9.4	6.5	-4.1	-38.8
Inspecting and packing.....	16.6	14.5	11.5	-5.1	-30.5
Checkers, examiners and inspectors, manufacturing.....	8.0	6.5	5.3	-2.8	-34.4
Packers and wrappers, except meat and produce.....	8.6	8.0	6.3	-2.3	-26.9
Other operatives, except transport.....	71.6	86.9	58.6	-13.0	-18.1
Asbestos and insulation workers.....	.9	.8	.8	-.1	-11.4
Assemblers.....	4.3	2.0	2.0	-2.3	-53.7
Clothing ironers and pressers.....	3.5	3.6	1.6	-1.9	-54.0
Cutting operatives, n.e.c.....	.3	.2	.1	-.1	-53.6
Dressmakers and seamstresses, except factory.....	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	-42.9
Drillers, earth.....	.4	.6	.5	.1	13.2
Fillers, polishers, sanders, and buffers.....	.3	.2	.1	-.2	-59.0
Garage workers and gas station attendants.....	1.3	2.7	1.4	( <sup>4</sup> )	1.6
Laundry and dry cleaning operatives, n.e.c.....	6.2	6.5	4.4	-1.8	-28.4
Meat cutters and butchers, except manufacturing.....	1.6	3.2	3.4	1.8	109.4
Oilers and greasers, except auto.....	3.0	3.7	1.5	-1.4	-48.4
Painters, manufactured articles.....	1.1	1.8	.4	-.7	-64.7
Photographic process workers.....	1.0	.7	.4	-.6	-57.4
Riveters and fasteners.....	.1	( <sup>4</sup> )	( <sup>4</sup> )	-.1	-96.7
Sailors and deckhands.....	3.0	3.3	2.1	-.9	-31.2
Sewers and stitchers.....	3.4	5.0	2.5	-1.0	-28.0
Stationary firemen.....	.6	.6	.3	-.3	-47.0
Textile operatives, n.e.c.....	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	-50.0
Winding operatives n.e.c.....	.2	.1	.1	-.1	-46.5
Machine operatives miscellaneous, specified.....	7.4	9.9	6.6	-.9	-11.7
Other operatives.....	32.7	41.9	33.3	-2.4	-7.3
Transport equipment operatives.....	35.4	36.2	33.6	-1.9	-4.3
Boatmen and canalmen.....	.4	.5	.4	( <sup>4</sup> )	-4.0
Busdrivers.....	1.6	1.7	1.8	.2	12.0
Fork lift and tow motor operatives.....	9.3	9.5	7.3	-.2	-21.8
Railroad brakemen.....	.4	.4	.2	-.1	-36.7
Taxicab drivers and chauffeurs.....	2.8	3.1	3.2	.4	16.0
Truck drivers.....	20.9	21.1	20.6	-.3	-1.5
Other transport equipment operatives.....	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	80.0
Service workers.....	141.0	148.6	153.0	12.0	8.5
Cleaning service workers.....	28.3	27.3	28.6	.2	.9
Food service workers.....	25.7	30.7	24.4	-1.3	-4.9
Cooks, except private household.....	8.1	9.0	6.8	-1.3	-16.3
Dishwashers.....	.1	.1	.....	-.1	-100.0
Food counter and fountain workers.....	.3	.2	( <sup>4</sup> )	-.2	-86.2
Waiters.....	.7	1.4	.3	-.4	-57.4
Food service workers, n.e.c., except private household.....	16.6	21.1	17.3	.8	4.6
Health service workers.....	37.9	43.8	45.3	7.4	19.6
Dental assistants.....	1.2	1.9	2.0	.8	68.8
Health aides, except nursing.....	1.7	3.3	4.4	2.7	160.9
Health trainees.....	.2	.....	.....	-.2	-100.0
Nursing aides, orderlies, and attendants.....	34.9	38.6	39.0	4.1	11.7
Personal service workers.....	6.0	3.8	2.7	-3.3	-54.7
Attendants, personal service, n.e.c.....	.4	.5	.2	-.2	-51.9
Barbers, hairdressers, and cosmetologists.....	.2	.4	.1	-.2	-76.0
Elevator operators.....	4.1	1.6	1.2	-3.0	-71.3
Housekeepers, except private household.....	1.3	1.3	.9	-.4	-30.9
Other personal service workers.....	( <sup>4</sup> )	( <sup>4</sup> )	.4	.4	20,950.0
Protective service workers.....	43.0	43.1	51.9	8.9	20.7
Crossing guards and bridge tenders.....	2.5	2.0	2.0	-.5	-20.2
Firemen, fire protection.....	12.6	11.9	11.0	-1.6	-12.6
Guards and watchmen.....	16.9	13.8	11.5	-5.4	-31.9
Marshals and constables.....	.6	.8	1.6	.9	148.3
Policemen and detectives.....	10.5	14.5	25.9	15.4	147.4
Laborers, except farm.....	119.1	143.9	115.8	-3.3	-2.7
Farm laborers and farm foremen.....	.8	2.1	.8	( <sup>4</sup> )	4.9
Workers not classifiable by occupation.....	3.1	2.0	.3	-2.7	-88.7

<sup>1</sup> As of October 31 in the United States.<sup>2</sup> Data excludes Alaska and Hawaii.<sup>3</sup> Blue-collar occupational employment estimated.<sup>4</sup> Changes obtained from unrounded data and then rounded.<sup>5</sup> Data include all full-time workers and about 70,000 part-time postal employees.

Data exclude the Central Intelligence Agency, the National Security Agency, the Federal Reserve System's Board of Governors, and most employees of the Congress.

<sup>6</sup> Less than .50.

Subsequent to this survey, the Civil Service Commission has changed occupational titles such as this to avoid any suggestion of sex stereotyping.

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

SOURCES: Occupations of Federal White-Collar Workers October 31, 1958. (U.S. Civil Service Commission, 1960). Pamphlet 56-2  
Occupations of Federal Blue-Collar Workers, October 31, 1958. (U.S. Civil Service Commission, 1960). Pamphlet 59-1  
Occupations of Federal White-Collar Workers, October 31, 1959. (U.S. Civil Service Commission, 1961). Pamphlet 56-3  
Occupations of Federal Blue-Collar Workers, October 31, 1960. (U.S. Civil Service Commission). Pamphlet 59-2  
Unpublished data on file at the U.S. Civil Service Commission and at various Federal agencies.

assistants in the military partially compensated for the shortage of professional nurses.

The number of laborers in the Federal Government decreased slightly, from 119,100 to 115,800 in 1972. Substantial decreases in laborers' occupations such as warehousemen more than offset the sharp

increase—from 24,300 to 43,100—in the employment of freight and material handlers. The bulk of material handlers (about 95 percent) were employed by the Postal Service, which in 1972 handled more than 87 billion pieces of mail, 40 percent more mail than in 1958. □

#### FOOTNOTES

<sup>1</sup> In this study, the Federal work force comprises all civilian employees in the United States—defined as the 50 States and the District of Columbia—but excludes, in all cases, the Central Intelligence Agency, the National Security Agency, and about 127,000 civilian employees in the Department of Defense's nonappropriated funds programs. Also excluded are all military personnel whether or not employed in civilian tasks.

<sup>2</sup> This is the peak year if the Army and Air Force National Guard are added. (See table 1, footnote 3.) Federal em-

ployment was about the same in 1973 as in 1972.

<sup>3</sup> This category is comprised of craftworkers, operatives, service workers, and laborers. Service workers are not generally included in the blue-collar group. However, for this report, they can be better identified in this category.

<sup>4</sup> In 1958, more than 200,000 military personnel were employed as aircraft mechanics and repairmen. In 1967, at the peak of the Vietnam buildup activities, there were approximately 236,000; by 1972, only 159,000.

### The usefulness of evaluations

Evaluations of major Federal programs have increased substantially during the past 5 years, but dramatic improvements in their performance have not materialized. What has gone wrong?

In the past, I have argued for reform of evaluation methods and processes. Separate studies of the same program are often performed so differently that they offer no valid basis for comparison. Findings are presented too late to affect decisions. Results are not adequately communicated to decisionmakers. Such shortcomings remain important, but judging from numerous evaluations performed or reviewed, I have come to feel that another issue over which evaluators have little control is even more critical, namely the *evaluability* of programs. . . .

. . . The strategy I favor for evaluators is adoption of a system to determine, before evaluations are actually undertaken, whether they are feasible and warranted. The evaluator should

make a "preassessment of evaluability" to determine whether the program satisfies the prerequisites for useful evaluation, namely, that (1) objectives and planned activities have been defined in measurable terms, (2) plausible assumptions have been made linking expenditures, program activities, and expected outcomes, and (3) policymakers or program managers are willing and able to identify specific needs for evaluation information.

. . . Realistically, this seemingly logical approach could be risky. The evaluator would have to tell high agency officials that their programs are unevaluable and that it is management's function to correct the failings—because these are essentially policy matters. The more defective an agency's programs are in these terms, the less an administrator might appreciate hearing such a story.

Yet I think the risk is worth taking. . . .

—JOSEPH S. WHOLEY,

*Search: A Report from the Urban Institute,*  
May–August 1974, pp. 2–3.

# Problems of measuring railroad productivity

Task force on rail productivity asserts BLS output per man-hour series overstates industry gains, but the evidence suggests this is not the case

HORST BRAND

AMERICAN RAILROADS, once the carriers of virtually all intercity freight and a key to the country's economic growth, have been declining steadily in relative importance, as rival modes of freight transportation have expanded. This expansion has resulted not merely from the failure of railroads to compete more successfully, but also from fundamental changes in the economy.

There has been a shift toward higher value manufactures and away from bulk commodities, for which the rails have been particularly suitable. Moreover, shippers of such manufactures demand speedier, more reliable service than the rails have been able to render. Furthermore, the urbanization of American life and the decline of the rural population have made large portions of the rural network obsolete, depriving the railroads of the backhaul of manufactured goods from cities to countryside.

Metropolitan areas have, moreover, tended to become more self-sufficient in the production of goods so that, relative to the Nation's total output, the need for shipping finished goods between urban centers has been declining. Finally, suburbanization has tended to carry consumers, warehouses, and factories away from efficient rail service, once focused on the central business district of the cities, which the railroads helped to create.<sup>1</sup>

The decline of railroading has presented increasingly difficult financial problems, causing bankruptcies and compelling mergers. While the measurement of the rate of return on investments in railroads is not without controversial aspects, few observers of the industry doubt that earnings of railroads, particularly those in the Northeast, have been deteriorating, and that the rate has run well below the average for manufacturing and other industries. In part, however, this deterioration and the unfavorable effect it has had upon the performance of the railroads as

freight carriers has been ascribed to outdated rate-making and management practices, reflecting an inability, if not unwillingness, to adapt railroading to changing economic conditions.

## Task force created in 1972

To deal with this problem of adaptation in the context of deepening crisis in which the rails evidently find themselves, and to make pertinent recommendations, a Task Force on Railroad Productivity was established in June 1972. It was jointly sponsored by the Council of Economic Advisers, the Office of Science and Technology, and the National Commission on Productivity. A number of outstanding economists and other experts served on the task force, among them John R. Meyer of Harvard University and the National Bureau of Economic Research. He served as chairman of the panel and Alexander L. Morton, also of Harvard and the NBER, served as the executive director. The final report of the task force was issued in November 1973. It is, and will undoubtedly remain for a long time to come, the definitive statement and analysis of the contemporary problems of American railroads.

While the task force presents a masterful analysis of the changing economic environment within which the railroads have been operating, its emphasis in analyzing their problems is on institutional factors—archaic regulatory controls, a fragmented corporate structure, work rule restrictions, and failure to innovate needed organizational and managerial reforms.

These and related subjects are discussed in depth; the financial position of the industry, manifesting the mounting difficulties which it has encountered, is analyzed at length. There is a chapter sharply taking issue with existing measures of railroad productivity as overstating actual gains. The panel also advances proposals to eliminate the impediments to improving railroad productivity. It urges that light-density lines

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be abandoned or their use be rationalized; regulation of freight rates be greatly relaxed so as to spur competition with other modes of transport; resolution of work rule problems be pressed; corporate mergers be oriented toward the creation of continental railroad networks; a much greater commitment than now exists be made to containerization; and far-reaching organizational changes, including computerized freight car management, be adopted.

Furthermore, the report urges extensive deregulation of the railroads (as well as of other common carriers), arguing that "detailed regulatory controls, including, especially, certain forms of ratemaking, have . . . constrained railroad managements from adopting to changing markets and, over time, have dulled initiative and incentive to innovate within the industry."

### Regional mergers assailed

It extensively discusses, and is highly critical of, the form which the numerous mergers of railroad companies have taken—"they have not produced any notable improvement in the profitability of the industry as a whole"—and there appears to be no evidence "that rail service has generally improved as a result of merger."

Mergers have tended to consolidate railroad companies serving the same region, rather than different but contiguous regional markets. They have failed to overcome the "Balkanization" of the industry, which has adversely affected the efficient handling of interline shipments, as well as investment and planning decisions. Hence, the report proposes that the industry be restructured so as to form four or five continental railroad systems.

The report also devotes long chapters to the obstacles to the rationalization or abandonment of light-density lines, and the difficulties facing more extensive containerization of freight and intermodal cooperation. It offers detailed recommendations designed to deal with these problems. In sum, the report, going well beyond description and analysis, presents a well-documented argument in favor of a defined pattern of change toward a viable railroad transportation system.

Reasons of space preclude a detailed critique of the report. The emphasis of this review will be on aspects with which the Bureau of Labor Statistics has traditionally been concerned—the measurement of labor

productivity change and the study of technological trends and their impact on employment.

### Has technology lagged?

The study's treatment of technological change in railroading is at best cursory. A few examples are scattered here and there, but no chapter or section is fully devoted to it, nor is it explicitly treated as part of the discussion of the measurement of productivity or of the capital investment practices of the industry. The authors evidently regard technological improvements in railroading as resulting from economic pressures, particularly rising labor costs, rather than as an at least partially autonomous factor, as a type of innovational opportunity which may be grasped or missed.

Thus, they state, "The inflation of labor costs caused by work rules encourages management to substitute capital and purchased services for labor wherever possible . . ." and, "To some extent the high rate of growth in rail labor productivity . . . merely measures the success of the railroads in avoiding the use of labor." Substitution of capital for labor, which characterizes the development of industries in general, has been particularly pronounced in railroading, where the average annual rate of substitution, at 5.2 percent between 1948 and 1966, has run at twice the national average.<sup>2</sup> Yet, as the report notes, the average annual increase in the compensation of railroad labor (5.9 percent) has run but slightly higher than the private sector average (5.5 percent). Opportunities to *save* capital per unit of output are likely to have provided as strong an incentive to adopt new technologies in railroading as did labor costs.<sup>3</sup>

A problem implicit in the argument presented by the report is whether institutional impediments to technological change have been greater in railroading than in U.S. industry generally. The evidence on this point is ambiguous, but there is little reason to assume that railroading technology has been lagging, or that lagging technology has been a factor in the deteriorating performance of the railroads.

Even the relatively conservative measure of labor productivity change calculated by the authors, indicating an average annual increase of 3.7 percent between 1947 and 1970, would rank in the middle range of the 39 industries for which the BLS has published measures. Since, according to the report's

figures, employment and man-hours in railroads have been declining more than six times as rapidly as output, very large substitutions of capital for labor occurred. These substitutions must as a rule have taken the form of new technology embodied in new equipment and (probably to a lesser extent) in new or improved structures.

Although the evidence for this development is ample (see below), the report fails to discuss its significance and in fact tends to underrate it. Thus, presenting capital stock data drawn from John M. Kendrick<sup>4</sup> and the *Survey of Current Business*,<sup>5</sup> the authors write that "the capital stock owned and employed by the rail industry has changed negligibly during the postwar period," adding that "[the] steadiness of the capital stock . . . implies that in real terms, gross capital expenditures in the rail industry have just offset depreciation and retirements. . . . [The] excess of gross capital expenditures above depreciation in the financial accounts of the railroads does not reflect physical additions to the capital stock so much as it reflects the rise in the cost of replacing assets over their original cost." In other words, the constant-dollar value of the capital stock (estimated at \$51.7 billion in 1947 and \$51.8 billion in 1970) and the capital services it is assumed to render have not changed over time.

As Melville J. Ulmer has written, however, ". . . the work capacity of capital is almost constantly improved, replacement investments are nearly always something more than the name implies. A capital unit purchased today, even if it sells at the same price, is likely to have a substantially greater productivity capacity than one obtained 20 years ago."<sup>6</sup>

### The clash over work rules

The railroad plant reflected in the most recent capital stock figures yields a substantially larger bundle of services per unit of capital than in earlier post-World War II years. For example, today's diesel locomotive is far more efficient than the steam locomotive, which still accounted for well over three-fifths of all locomotives in class I service in 1950. The diesel locomotive delivers 35–40 percent of the fuel it consumes to the track, compared with at most 5 percent for its steam-driven predecessor.

Diesels themselves have been considerably improved, such that "second generation" engines require only about two-fifths of the annual man-hours

per unit required for maintenance—reduction in maintenance requirements of diesels having been one of the key advantages over steam locomotives, to begin with. Furthermore, a diesel is capable of pulling a load of freight roughly half again as heavy as a steam locomotive. The ratio of freight cars to locomotives rose by 20 percent between 1950 and 1971 and average capacity per freight car by 30 percent.<sup>7</sup> The interested reader should refer to the BLS study cited for a discussion of other major changes in rail technology during the post-World War II period—not only in motive power and freight car improvements, but in the use of piggyback and unit trains, automated classification yards, computerized signaling and communications, maintenance-of-way innovations, and in other areas.<sup>8</sup>

Recurrent conflicts over work rules also underline the importance of technological change in railroading. As the report states, these conflicts have taken place in an environment in which "innovations . . . have tended to be uncommonly labor-saving," at the same time that growth of output "has not been available to attenuate the adjustment problems of the industry." Jobs have been time and again threatened by "inventions, mergers, abandonments, and reorganization of work." Work rules, therefore, have frequently been used by the railway unions to protect jobs.

The emergence of work rule issues, the authors say, largely reflects an inability on the part of both labor and management to agree on appropriate ways to share gains in productivity. But they also state that many successful agreements have been struck, "as the 61-percent overall reduction in railroad employment during the past 25 years strongly attests." This fact would appear to diminish the importance of the impediments to higher productivity posed by work rules.

### An end-of-the-line image

The task force, although optimistic about what can be done to improve the performance of railroading, nevertheless portrays an industry unable to adapt to changing economic conditions; prevented by regulatory practices and sluggish management from effectively competing for business; enmeshed in unproductive and counterproductive clerical and other bureaucratic procedures; and fragmented by an outdated corporate structure—all conspiring to generate an increasingly precarious financial situation,

evidenced *inter alia* by a low rate of return on investment.

The report is highly skeptical of the productivity measure published by BLS, for this measure shows substantial postwar increases—a datum which, like the technological improvements in railroading discussed above, is sharply at variance with the report's overall findings.

For the 1947–72 period, the BLS measure for output per man-hour in railroading shows an average annual rate of increase of 5.2 percent, output being defined in terms of the weighted aggregate of revenue freight ton-miles and passenger-miles. The task force finds that “ton-miles per man-hour is in many ways a poor measure of rail productivity,” one of these ways being that it tends “to understate the change in total factor inputs needed to produce rail service.” It adds: “To the extent that the rail industry, like most other industries, has substituted capital for labor in the production process, indexes of actual output per man-hour may tend to overstate the growth of total factor productivity” (that is, the combined productivity of labor and of other factors, including capital).

The task force has no quarrel with the validity of the BLS measure of output per man-hour per se. Rather, it suggests that the publication of a single series gives a misleading impression of railroad productivity. But analysts in general are aware that other input factors are at work, so this seems to be a baseless concern.

BLS productivity measures are explicitly *partial*; they relate output to but one input, that is, labor.<sup>9</sup> These measures represent ratios, in the form of an index, of output to man-hours, also expressed in index form. This is, of course, a statistical convenience, but a man-hour index used conjointly with an output index to measure labor productivity has a broader meaning: It symbolizes changes in the technical processes with which it is correlated.<sup>10</sup> Thus, the improvement in rail labor productivity largely reflects the substitution of capital (including capital-embodied new technology) for labor.

Before a capital-labor measure of productivity can be constructed, one for capital productivity must be derived. Here, the report voices even greater skepticism towards existing measures (none of them calculated by the BLS) than in the case of labor productivity. Primarily, it takes issue with Kendrick's results and computational methods. Kendrick found capital productivity in railroading to have risen at

an average annual rate of 0.6 percent between 1948 and 1966, and total factor productivity, that is the ratio of output per combined unit of labor and capital, 5.2 percent.<sup>11</sup> The report, after including materials and supplies in calculated inputs, arrives at an average annual rate of between 0.8 and 1.8 percent.

### Approaches differ sharply

In arriving at their respective results, the authors of the report on the one hand, and Kendrick on the other, differ widely in the concepts, methods, and data sources they use. A brief discussion of these differences must suffice. They arise in connection with the estimation of capital inputs, and the relative weight assigned to them when combining them with labor inputs. The issue of what constitutes the appropriate weight looms particularly large, with the report asserting that it should be three to five times greater than Kendrick's.

Kendrick assigns a relative importance of 10 percent to capital inputs in railroading, and 90 percent to labor inputs. Kendrick's weights for capital inputs are derived from estimates of capital compensation (interest, net rents and royalties, and profits before taxes) in a selected base period—that is, on the basis of the relative shares of property and labor, as recorded in the national income accounts.<sup>12</sup> The task force asserts that “inasmuch as the rate of profit in the highly regulated railroad industry is inordinately low, the relative level of capital inputs is understated” (by Kendrick). It points out that the rate of return on net investments in railroading has averaged only about 3 percent during the postwar period, one-third of the average rate of return in nonregulated industries. The likelihood that the reported 3 percent understates actual returns is independently confirmed by a report to the Senate Committee on Commerce, according to which the railroads' ability to raise large amounts of capital stems from relatively high *incremental* investment returns. “On an intensively used freight car, for example, the anticipated discounted return may be as high as 20 percent.”<sup>13</sup>

Although the report does not accept this finding (it argues that high marginal returns have had no evident impact on the overall average rate of return), it may well be correct in finding Kendrick's capital inputs to be relatively underweighted. But this does not mean that its own findings of capital input



weights being three to five times those of Kendrick's can be unquestioningly accepted.

The problem of the relative weights used in arriving at two-factor productivity is of course subordinate to the more basic issues involved in the measurement of the capital stock itself. There are problems such as the relative importance to be assigned to such diverse inputs as structures, equipment, and working capital; how to combine different vintages of capital, having different production capabilities; how capital actually used relates to total capital on hand (that is, capacity utilization).<sup>14</sup> In addition, there are problems of commensurability of the services of labor and of capital, the one being rented in the marketplace, the other being by and large internally priced.<sup>15</sup> All this means that, however worthwhile the efforts of researchers to measure the productivity of all input factors, the results yielded so far are not unambiguous; the report's findings, although carefully built, cannot be regarded as definitive.

Pursuing its argument that productivity in railroad-ing is low, and that the published indexes of labor productivity overstate it, the task force also sharply criticizes the BLS measure of railroad output. Were it to be corrected along lines suggested by the report, the measured rate of growth in labor productivity would be reduced "by a full percentage point."

As indicated already, the BLS measures railroad output in terms of revenue freight ton-miles and passenger miles over time. A passenger mile is assumed to be equivalent to 2.5 freight ton-miles, based on relative revenue weights pertaining to the most recent base year. Freight ton-miles are not adjusted for changes either in the mix of shipments or in the relative importance of the distance over which they travel. The panel takes issue with the supposed crudeness of this procedure. Also, it observes that the revenues from passenger operations, which have been deficit-ridden, do not reflect true costs, and that "passenger operating expenses per passenger mile have been five to six times as great as freight operating expenses per ton-miles" over the past decade. The higher proportionate weight it would assign to passenger miles, a rapidly declining part of railroad output, would substantially reduce the trend in total rail output.

#### Based on ICC data

The task force proposes a higher proportionate weight for passenger miles based on Interstate Com-

merce Commission data showing that railroad expenses "solely attributable" to passenger service are far in excess of passenger revenues. To the extent of the passenger service deficit, these expenses are cross-subsidized from freight revenues,<sup>16</sup> or directly subsidized by States, localities, or regional authorities. Based as it is on official data, the argument in favor of a substantially higher relative weight for passenger miles than the BLS currently assigns appears at first sight persuasive.

Be it noted that in computing a labor productivity measure, the BLS chooses weights for outputs of an industry which are assumed to be roughly proportional with labor inputs. It seems doubtful that the high ratio implicit in the ICC statistics on which the report draws is in even large part related to labor inputs. The unit costs of such capital items as terminals and trackage have risen as the base upon which they are calculated—that is passenger miles—has shrunk. At the same time, railroad employment related to passenger service has tended to *decline*, not only in absolute terms but relative to total railroad employment as well.<sup>17</sup> Employment related to passenger service dropped from 6.2 percent of total railroad employment in 1957 to 5.0 percent in 1967. The drop in passenger-related employment, 50 percent between 1957 and 1967 (latest conveniently available data), was greater than that in passenger miles over the same period (41 percent). Passenger miles per employee thus rose 17 percent (from 425,000 in 1957 to 500,000 in 1967)—the same percent increase over the decade as for the number of freight ton-miles per employee (other than passenger service). This similarity in the productivity of passenger service and freight service employees suggests similarity in unit labor cost trends. It also suggests that revenue weights for passenger miles, far from needing to be raised, may not be called for at all in the computation of a labor productivity measure. Further research is required to settle the question.

Of greater import is the question whether failure to adjust for changes in the mix of freight tonnage and for the relative increase in the average length of haul tends to bias the measured output of railroads upward. The task force argues that freight tonnage has tended to shift towards lower value bulk commodities over the postwar period. Also, it has been the average length of haul rather than freight tonnage that has been increasing, and, states the report, costs rise proportionately less with length of haul than they

do with tonnage. To prove the point, the study cites the ICC's RI-1 freight rate index, which is based on a representative sample of waybills and which, when applied as a deflator to total freight revenues, produces an output index that rises significantly less between 1947 and 1970 than does the BLS measure.

### Refining the output measure

Adjusting for changes in the commodity mix of tonnage shipped would indisputably result in a superior output measure, since different classes of commodities may require different labor inputs in the base year for which the relative weights are computed. It is also likely that labor inputs are less sensitive to changes in average length of haul than to changes in the commodity mix of tonnage shipped, and that, hence, the output associated with "miles" should not be equally weighted with "tons." Appropriate adjustments should therefore be attempted and are being reviewed by BLS.

While the adjusted measure would be conceptually superior to the unadjusted one, significant differences in results should not be expected. This is indicated by certain findings of independent researchers. Thus, citing studies by Harold Barger,<sup>18</sup> Kendrick has noted "A weighted aggregate of tons originated by types of commodities shows only a slightly larger increase from 1899 to 1940 than an unweighted aggregate; so the absence of internal weights for ton-miles may not be significant."<sup>19</sup> Jack Faucett Associates write in a study prepared for the U.S. Department of Transportation that ". . . the movement of rail output indexes . . . is little affected by the use of commodity detail . . . or by the use of the ton unit of service as opposed to the ton-mile of service."<sup>20</sup>

The task force's use of the ICC's RI-1 freight rate index is inconclusive, inasmuch as the index applies validly only to the 1955-63 period; it has not been published for more recent, nor for earlier, years.<sup>21</sup> It should also be noted that, according to data presented by Jack Faucett Associates,<sup>22</sup> a crude

index of average revenue per ton-mile—that is, a price index of freight rates unadjusted for changes in commodity mix or in distances shipped—deviates little from the ICC's RI-1 adjusted index: The average deviation for 1955-63 is 1.3 percentage points; after excluding 1955, for which the deviation is relatively large, the average deviation reduces to less than 1 percentage point.

Considering, then, evidence from independent analysis, it appears unlikely that the error in the present BLS output measure owing to lack of appropriate adjustment is as large as the panel contends.

This conclusion is modified to the extent that quality of service rendered by the railroads to shippers and passengers has tended to deteriorate. The report makes some telling points on the subject. Output measured in ton-miles, according to the report, overstates actual output since it fails to take into account such declines in service as the lengthening turnaround time of freight cars; diminishing reliability in meeting schedules; increasing loss and damage claims; as well as other kinds of service deterioration. An output measure should indeed reflect changes in quality, but this desideratum cannot always be translated into practice; often the translation, when made, is not very satisfactory. The feasibility of allowing for quality changes in computing the output of railroads clearly bears further examination.

This article has centered on relatively narrow issues raised in an otherwise broadly focused report. It has not done full justice to the arguments presented in the study. Yet, the persuasiveness of these arguments hinges to some extent on whether railroad productivity as measured by the BLS is overstated. The evidence for that certainly is not as conclusive as the task force asserts. Taking into account the far-reaching changes in railroad technology that have been instituted over the past two decades, it seems unlikely that an appropriately revised measure of labor productivity for the industry would differ significantly from the one that has been published. □

### FOOTNOTES

<sup>1</sup> See chapter 1 of *Improving Railroad Productivity*. Final Report of the Task Force on Railroad Productivity. To the National Commission on Productivity and the Council of Economic Advisers (Washington, D.C.), November 1973.

<sup>2</sup> John W. Kendrick, *Postwar Productivity Trends in the*

*United States, 1948-1969* (New York, National Bureau of Economic Research, 1973), table 5-4, p. 92. See also p. 54 of the task force report.

<sup>3</sup> "The dominating, pervading factor among utilities in the long run . . . was the steady flow of capital-saving devices and the persevering drop in the capital-product

ratio." Melville J. Ulmer, *Capital in Transportation, Communications, and Public Utilities: Its Formation and Financing*. A study by the National Bureau of Economic Research (Princeton, N.J., Princeton University Press, 1960), p. 185. Emphasis in the original. Ulmer also writes that "the influence of wage and interest rates upon the long-run trend of capital-product ratios in the regulated industries appears to have been secondary. . . . [The] stimulus to economies in the use of labor provided by rising wage rates could—and did—find satisfactory outlets in both capital-saving and capital-using innovations." *Ibid.*, p. 186.

<sup>4</sup> Kendrick, *Productivity Trends in U.S. Transportation Industries*, prepared for the Office of the Undersecretary for Transportation, U.S. Department of Commerce, January 1966; cited on p. 70 of the report.

<sup>5</sup> *Survey of Current Business*, March 1958 and subsequent years.

<sup>6</sup> Ulmer, *Capital in Transportation, Communication, and Public Utilities*, p. 97.

<sup>7</sup> *Railroad Technology and Manpower in the 1970's*, Bulletin 1717 (Bureau of Labor Statistics, 1972), p. 13.

<sup>8</sup> See also Fred Cottrell, *Technological Change and Labor in the Railroad Industry* (Lexington, Mass., D. C. Heath and Co., 1970), especially p. 112 ff.

<sup>9</sup> "There are two broad classes into which productivity concepts and in turn measures can be grouped. One includes those measures which relate output of a producing enterprise, industry, or economy to one type of input such as labor, capital, energy, etc.; the other includes those which relate output to a combination of inputs extending to a weighted aggregate of all associate inputs.

"Although the former measures relate output to one input, they do not measure the specific contribution of that factor to production. Rather, they express the joint effect of a number of interrelated influences on the use of the factor in the production process—such as changes in technology, substitution of one factor for another, utilization of capacity, layout and flow of material, the skill levels and the efforts of the work force, and managerial and organizational skills." Jerome A. Mark, "Concepts and Measures of Productivity," *The Meaning and Measurement of Productivity*, Bulletin 1714 (Bureau of Labor Statistics, 1971), p. 7.

<sup>10</sup> See also Philip O. Bourque, *A Survey of Productivity Measurement and Its Projection*. (A report prepared for the Pacific Northwest Forest and Range Experiment Station, Seattle, Wash., 1969.) Unpublished.

<sup>11</sup> Kendrick, *Postwar Productivity Trends in the United States, 1948–1969*, p. 101.

<sup>12</sup> Kendrick, *Productivity Trends in the United States, 1961*, p. 30. This is the predecessor volume to the one cited in footnotes 2 and 11.

<sup>13</sup> *The Penn Central and Other Railroads*. A report to the Senate Committee on Commerce, December 1972, p. 251. Both reports attempt to address the question why it is that the railroad industry is able to attract relatively large funds, despite low returns, static business, and an unencouraging long-term outlook. "The railroad industry . . . continues to make large monetary expenditures on capital equipment year after year." The report suggests various, partly speculative answers, one of which is that "regulation . . . has impeded withdrawal of funds for diversification 'out' of railroading." In contradiction to the tenor of the report, one must recognize a positive function for regulation if by preventing disinvestment it helps maintain vital transportation services.

<sup>14</sup> For a detailed discussion of these and related issues, see Jack Faucett Associates, *Use of Productivity Measures in Transportation Policy Making and Regulation*. Final Report. Prepared for the U.S. Department of Transportation, Office of the Secretary, Washington, August 1973, Ch. 4 and 5.

<sup>15</sup> See also Stanley H. Ruttenberg, "Director's Comment," in Kendrick, *Productivity in the United States*, pp. 224 ff.

<sup>16</sup> Such cross-subsidization, not unknown to other industries, has been explicitly authorized by ICC decisions. See D. Philip Locklin, *Economics of Transportation*, 6th ed. (Homewood, Ill., Richard D. Irwin, Inc.), p. 344.

<sup>17</sup> *Railroad Technology and Manpower in the 1970's*, table 38, p. 57, and table 21, p. 42.

<sup>18</sup> *The Transportation Industries, 1889–1946: A Study of Output, Employment and Productivity* (New York, National Bureau of Economic Research, 1951), table 18, pp. 76–77.

<sup>19</sup> Kendrick, *Productivity Trends in the United States*, p. 508.

<sup>20</sup> *Use of Productivity Measures in Transportation Policy Making*, pp. 5–35. See also table 5–13, pp. 5–32.

<sup>21</sup> See *Indexes of Average Freight Rates on Railroad Carload Traffic, 1955–1963*. Statement RI-1, 1963. (Washington, Interstate Commerce Commission, January 1966.)

<sup>22</sup> *Indexes of Average Freight Rates*, table 5–16, pp. 5–38.



Special Labor Force Report examines  
the job status in October 1972  
of recent college graduates,  
their job hunting methods,  
and their earnings levels

ANNE M. YOUNG

# Labor market experience of recent college graduates

UNPRECEDENTED NUMBERS of young college graduates entered the labor force in the late 1960's and early 1970's. At the same time, there was a slackening in the demand for professional workers in several sectors of the economy such as research and development, and education, which have traditionally provided employment for new degree recipients. Because of the developing imbalance between the supply of and demand for new graduates, a special survey was conducted in October 1972 to determine how successful recent graduates were in obtaining employment and the kinds of jobs they found. The study obtained information on the characteristics which influence labor force activity—age, sex, marital status, type of degree, and field of study—as well as on the occupations and industries in which recent graduates were employed and their annual rate of earnings. This article reports on the methods by which they looked for jobs, the relationship of their jobs to their major fields of study, their earnings, and their assessment of the career potential of their jobs.<sup>1</sup>

The study covers the 873,000 persons in the civilian noninstitutional population who completed the requirements for baccalaureate, first professional, and advanced degrees in the year ended June 1972 and who were not enrolled full time in a college or university in October 1972. (See table 1.) A majority of the graduates (60 percent) were under age 25, male (60 percent), and married (52 percent). Only about 4 percent (31,000) were Negroes,<sup>2</sup> a number too small to make statistically reliable comparisons with other groups.

Three-fourths of the degree recipients had just received baccalaureate degrees; most of the rest had been awarded Ph. D.'s, M.D.'s, or other professional degrees. Nearly a third of the degrees were in educa-

tion, with business, humanities, and social studies each accounting for about one-sixth of the total.

Almost all graduates (92 percent) were in the labor force, historically true for groups with high educational attainment. Overall, men had a higher labor force participation rate than women. Masters degree recipients, two-thirds of whom were men, had a higher rate of labor force participation than baccalaureates, 98 percent compared with 91 percent. There was virtually no difference in the labor force participation rates of graduates when grouped by major field of study: those in business or commerce—most of whom were men—had a slightly higher rate than those in humanities.

Almost all of the employed graduates who received their degrees during the survey period were wage and salary workers. Although most men (70 percent) were in private employment, the majority of women (57 percent) worked for government, primarily as teachers in public schools at the State and local level. The majority of professional and technical workers were government employees, again because a large proportion was in education.

Of the 750,000 graduates in the labor force, 70,000 or 9.3 percent, were unemployed in October 1972, compared with 5.1 percent unemployed in the total civilian labor force. The relatively high unemployment rate for graduates reflects their recent entrance on a permanent basis into the labor market. There was no statistically significant difference between the jobless rates for men and women graduates. Baccalaureates had higher unemployment rates than advanced degree recipients. As a group, business and education majors—graduates with job-oriented training—had lower unemployment rates than social science and humanities majors.

## Occupation and industry

The great majority of the employed recent college graduates were professional or technical work-

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ers, or managers. (See table 2.) The heavy concentration of women in the field of education shaped the occupation and industry profile of the degree recipients. For example, a higher proportion of women than of men was in professional and technical work, mainly because of the concentration of women in elementary and secondary schoolteaching and, to a much lesser extent, in the health professions. As in the past, women also clustered in the

**Table 1. Labor force status of July 1971 to June 1972 recipients of baccalaureate and advanced degrees, by selected characteristics, October 1972**

[Numbers in thousands]

Characteristic	Total degree <sup>1</sup> recipients	In labor force					Not in labor force
		Total	Labor force participation rate	Employed	Unemployed		
					Number	Rate	
All persons.....	812	751	92.5	681	70	9.3	61
<b>AGE</b>							
Under 25 years.....	485	441	90.9	383	58	13.2	44
Under 22 years.....	58	51	87.9	43	8	15.7	7
22 to 24 years.....	427	390	91.3	340	50	12.8	37
25 to 29 years.....	177	168	94.9	163	5	3.0	9
30 to 34 years.....	77	75	97.4	73	2	2.7	2
35 years and over.....	73	67	91.8	62	5	7.5	6
<b>SEX AND MARITAL STATUS</b>							
Men.....	475	451	94.9	414	37	8.2	24
Married, spouse present.....	264	260	98.5	252	8	3.1	4
Single <sup>2</sup> .....	211	191	90.5	162	29	15.2	20
Women.....	337	300	89.0	267	33	11.0	37
Married, spouse present.....	161	131	81.4	118	13	9.9	30
Single <sup>2</sup> .....	176	169	96.0	149	20	11.8	7
<b>RACE</b>							
White.....	781	722	92.4	656	66	9.1	59
Negro and other races.....	31	29	( <sup>3</sup> )	25	4	( <sup>3</sup> )	2
<b>TYPE OF DEGREE</b>							
Baccalaureate.....	600	546	91.0	482	64	11.7	54
Master's.....	160	156	97.5	152	4	2.6	4
All other degrees.....	52	49	94.2	47	2	( <sup>3</sup> )	3
<b>MAJOR FIELD OF STUDY</b>							
Business or commerce.....	120	115	95.8	109	6	5.2	5
Education.....	246	223	90.6	206	17	7.6	23
Humanities.....	103	91	88.3	77	14	15.4	12
Social sciences.....	128	119	93.0	100	19	16.0	9
All other fields.....	215	203	94.4	189	14	6.9	12

<sup>1</sup> Persons 16 years old and over who received degrees between July 1971 and June 1972, were in the civilian noninstitutional population and were not enrolled full time in a college or university as of October 1972.

<sup>2</sup> Includes some persons who were widowed, divorced, or separated, not shown separately.

<sup>3</sup> Percent not shown where base is less than 50,000.

**NOTE:** Because of rounding, sums of individual items may not add to totals.

clerical fields. Men were more likely than women to be managers and salesworkers; roughly as many men were blue-collar workers as were managers.

A much smaller proportion of baccalaureates than recipients with advanced degrees was employed in professional work, 55 percent compared with 82 percent. Although about the same proportions in both groups were elementary or secondary schoolteachers, relatively more of the advanced degree recipients were college and university teachers. On the other hand, a higher proportion of baccalaureates than of advanced degree recipients was in the health professions—presumably as nurses and laboratory technicians, and many more baccalaureates than advanced degree recipients accepted clerical and service jobs.

The heavy concentration of graduates in the service industry in October 1972 reflected the large numbers working as teachers. (See table 2.) Educational services alone accounted for half of all employed women and one-fourth of all men. A much larger proportion of men than of women was employed in manufacturing, but about equal proportions of both were in trade. Advanced degree recipients were more heavily concentrated in the service industry than were baccalaureates.

### Job and major field of study

The majority of graduates found jobs directly related to their field of study, with no significant difference in the percentages for men and women. (See table 3.) Advanced degree recipients were likely to have done their advanced study in fields where they already had experience and so were more likely than baccalaureates to be in work directly related to their field. Education majors were most likely to have found jobs in directly related work, 82 percent, followed by graduates in business majors, 61 percent. Humanities and social science majors had much lower proportions in directly related work.

Although there was no difference between the proportions of men and women in jobs directly related to their fields, relatively more women than men indicated that they were using much of their training on the job—undoubtedly because so many women were education majors with teaching jobs. Almost half of the humanities majors were using much of their training compared to only 3 out of

10 graduates with business and social science majors. On the other hand, 20 percent of the employed degree recipients were using little or none of their training.

Not surprisingly, half of the graduates who had accepted jobs not directly related to their major field of study had done so because they were the only jobs available. This proportion was much higher for women than for men, 61 percent compared with 43 percent. Among the reasons for the differences in proportions could be the heavy concentration of women in the field of education, which has become overcrowded in recent years. About 20 percent of the graduates who had taken jobs not related to their major field had done so to test out better opportunities for advancement than in their

**Table 2. Occupation and industry group of degree recipients, by sex, October 1972**

[Percent distribution]

Occupation and industry group	All persons			Baccalaureates	All other degrees
	Both sexes	Men	Women		
<b>OCCUPATION GROUP</b>					
Total: Number (thousands) .....	681	414	267	482	199
Percent .....	100.0	100.0	100.0	100.0	100.0
Professional and technical workers .....	63.2	57.3	71.5	55.1	81.9
Engineers .....	4.5	7.2	.4	4.1	5.5
Life and physical scientists .....	1.1	1.7	.....	.9	1.5
Health occupations .....	5.7	3.0	9.5	5.8	1.5
Social scientists .....	1.1	1.5	.4	.4	2.5
Teachers, college and university .....	3.8	5.4	1.1	.6	11.1
Teachers, except college .....	29.8	19.3	45.6	30.6	28.1
Engineering and science technicians .....	1.1	1.7	.....	1.3	.5
Other professional, technical, and kindred workers .....	16.2	17.5	14.4	11.5	27.1
Managers and administrators, except farm .....	10.5	13.8	5.7	10.3	11.6
Salesworkers .....	6.0	7.4	3.8	7.7	2.0
Clerical and kindred workers .....	8.6	5.4	13.7	11.8	1.5
Secretaries, stenographers, and typists .....	2.4	.7	5.3	3.6	.....
Other clerical workers .....	6.2	4.7	8.4	8.1	1.5
Service workers .....	3.5	3.7	3.4	4.5	1.0
All other workers .....	8.3	12.3	1.9	10.7	2.0
<b>INDUSTRY GROUP</b>					
Percent .....	100.0	100.0	100.0	100.0	100.0
Manufacturing .....	11.0	14.5	5.7	11.8	9.3
Durable goods .....	7.0	9.5	3.0	7.1	6.7
Nondurable goods .....	4.1	5.0	2.7	4.7	2.6
Transportation and public utilities .....	3.3	4.7	1.1	3.9	2.1
Trade .....	12.6	14.2	10.3	16.5	3.1
Finance, insurance, and real estate .....	6.5	8.0	4.6	7.7	3.6
Service .....	59.5	47.9	76.8	52.6	76.3
Educational .....	38.6	27.4	55.5	33.5	51.0
Medical and hospital .....	6.7	4.0	10.6	6.4	7.2
Welfare and religious .....	3.5	3.2	3.8	1.7	7.7
All other services .....	10.7	13.2	6.8	10.9	10.3
Public administration .....	3.0	4.0	1.5	2.6	4.1
Other .....	4.1	6.7	.....	5.2	1.5

field, to see if they liked the work, or because they didn't want to work in their major field.

### Rejection of job offers

Graduates who had looked for work and were employed in October 1972, were asked if they had turned down any job offers since obtaining their degree. About 43 percent of the employed reported that they turned down a job; this proportion was the same for men as for women. About 3 out of 5 gave such reasons as "low pay," "did not like the kind of work," or "unsatisfactory" location. Almost 1 out of 5 turned down a job offer because it was received after starting another job. Very few gave such reasons as work not related to major field of study, and unsatisfactory hours or working conditions.

Those who turned down job offers did not look any longer for work than those who did not. About 22 percent of the persons who had turned down a job offer had looked for work 15 weeks or more, the same proportion as for those who did not turn down an offer.

### Method of job search

About one-fourth of the 681,000 graduates employed in October 1972 continued at jobs held prior to completing their degree. (See table 4.) About the same proportion had arranged for their jobs before completing their degree or without looking after graduation. Employed women were more likely than men to have looked, and baccalaureates more than advanced degree recipients. More social science majors had to look for work than business and education majors, possibly because the latter's academic work led to greater opportunities for arranging employment before graduation.

The jobseekers were asked to check "all the methods you used to look for work" and "the one of the methods which was most useful in obtaining" their post-degree jobs. The job search methods used by the largest proportions of jobseekers were direct application to employers, the school placement office or professors, and friends of relatives. (See table 5.) Although similar proportions of men and women pursued most of the different methods of job search, men were somewhat more likely than women to use private employment agencies, whereas women were more likely to apply directly to employers. A



**Table 3. Relationship of work of degree recipients to major field of study, use of training, and reason for work on a job not directly related to field, by selected characteristics, October 1972**

[Percent distribution]

Item	All persons			Type of degree		Major field of study				
	Both sexes	Men	Women	Bacca-laureate	All other degrees	Business or commerce	Educa-tion	Human-ities	Social sciences	All other
<b>RELATIONSHIP OF WORK TO FIELD</b>										
Total employed: Number (thousands) .....	681	414	267	482	199	109	206	77	100	189
Percent .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Directly related .....	68.7	66.3	71.4	61.2	86.4	61.5	81.7	56.8	45.4	75.4
Used much of training .....	51.9	45.4	61.3	43.6	71.7	27.5	71.3	48.6	28.9	58.3
Used some of training .....	16.7	20.8	10.2	17.6	14.6	33.9	10.4	8.1	16.5	17.1
Not directly related .....	31.3	33.7	28.6	38.8	13.6	38.5	18.3	43.2	54.6	24.6
Used some of training .....	12.4	13.6	10.5	14.4	7.6	25.7	6.4	9.5	21.6	7.5
Used little or none of training .....	19.0	20.1	18.0	24.4	6.1	12.8	11.9	33.8	33.0	17.1
Somewhat related to field .....	12.8	13.6	12.0	15.3	7.1	23.9	6.9	12.2	25.8	6.4
Used some of training .....	9.3	9.9	8.3	10.6	6.1	19.3	5.9	6.8	17.5	3.7
Used little or none of training .....	3.6	3.7	3.8	4.7	1.0	4.6	1.0	5.4	8.2	2.7
Not related to field .....	18.5	20.1	16.5	23.5	6.6	14.7	11.4	31.1	28.9	18.2
Used some of training .....	3.1	3.7	2.3	3.8	1.5	6.4	.5	2.7	4.1	3.7
Used little or none of training .....	15.4	16.4	14.3	19.7	5.1	8.3	10.9	28.4	24.7	14.4
<b>MAIN REASON FOR WORK NOT DIRECTLY RELATED</b>										
Percent .....	100.0	100.0	100.0	100.0	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	100.0	( <sup>1</sup> )
Only job could find .....	49.8	43.0	61.1	48.4	-----	-----	-----	-----	44.4	-----
Better opportunities for advancement than in major field .....	7.7	8.9	5.6	7.1	-----	-----	-----	-----	7.4	-----
To see if liked kind of work .....	7.7	8.9	5.6	7.7	-----	-----	-----	-----	11.1	-----
Did not want to work in field .....	5.3	6.7	4.2	6.0	-----	-----	-----	-----	7.4	-----
All other .....	29.5	32.6	23.6	30.8	-----	-----	-----	-----	29.6	-----

<sup>1</sup> Percent not shown where base is less than 50,000.**Table 4. Length of time degree recipients looked for work, by sex, type of degree, major field of study, and relationship of work to major field, October 1972**

[Percent distribution]

Item	All persons			Type of degree		Major field of study				Relationship of work to major field	
	Both sexes	Men	Women	Bacca-laureate	All other degrees	Business or commerce	Educa-tion	Human-ities	Social sciences	Directly related	Not directly related
Total employed: Number (thousands) ..	681	414	267	482	199	109	206	77	100	468	213
Percent .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Looked for work <sup>1</sup> .....	47.6	43.5	53.9	56.2	25.4	46.8	46.6	57.1	63.0	40.9	60.4
Did not look for work .....	52.4	56.5	46.1	43.8	74.6	53.2	53.4	42.9	37.0	59.1	39.6
Job held before completing degree re- quirements .....	25.7	27.5	22.5	17.9	45.2	26.6	31.1	20.8	25.0	28.7	19.8
Job arranged for before completing de- gree requirements .....	19.2	21.0	16.9	18.5	21.3	18.3	14.6	13.0	7.0	23.3	11.3
Job obtained without looking .....	7.5	8.0	6.7	7.3	8.1	8.3	7.8	9.1	5.0	7.2	8.5
Looked for work <sup>1</sup> : Percent .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	( <sup>2</sup> )	100.0	100.0	100.0
Less than 5 weeks .....	36.6	40.6	30.7	33.6	52.0	35.3	25.3	-----	38.3	34.8	38.3
5 to 14 weeks .....	41.4	34.7	50.0	44.0	28.0	43.1	51.6	-----	41.7	44.6	36.8
15 weeks or more .....	22.0	24.7	19.3	22.4	20.0	21.6	23.1	-----	20.0	20.7	24.0
15 to 26 weeks .....	14.9	15.9	14.3	17.0	4.0	19.6	15.4	-----	8.3	15.2	14.4
27 weeks or more .....	7.1	8.8	5.0	5.4	16.0	2.0	7.7	-----	11.7	5.4	9.6

<sup>1</sup> Persons who looked for work after completing degree requirements.<sup>2</sup> Percent not shown where base is less than 50,000.

smaller proportion of education majors than of business or social science majors used private employment agencies and made civil service application. Twice as many graduates who became professional and technical workers used direct application and the school placement office as used any other methods of job search, but as many graduates who found white-collar jobs used friends and relatives and newspaper advertisements as used school placement offices.

Among graduates who looked for jobs, more than 2 out of 5 reported that the most useful method of job search was direct application to the employer. While both men and women favored this method, the proportion was higher for women than for men, for education majors than for business majors, and for professional workers than for other workers. School placement offices and friends or relatives were each rated as most useful by about 1 out of 5 graduates. Friends or relatives ranked higher than the school placement office for men, business and commerce majors, social science majors, and graduates in nonprofessional jobs. Women found the two methods equally useful whereas professional and technical workers preferred placement offices.

One way of determining the success of a particular job-finding method is to examine its effectiveness rate (the number reporting a given method as most useful as a percentage of the total number of persons who used that method). Direct application to employers and asking friends or relatives had the highest effectiveness rate (50 percent). School placement offices and private employment agencies were next at 27 percent. Direct application was not significantly more effective for men than for women,

nor for any particular field of study or occupation. On the other hand, asking friends or relatives was less effective for men than women, and for professional and technical workers than for all other occupations combined.

### Job assessment

At the time they accepted it, 7 out of 10 graduates assessed their October job as having definite or possible career potential. (See table 6.) Advanced degree recipients were much more likely than baccalaureates to be working in jobs with career potential. Some persons, such as teachers, seek advanced degrees as part of their job requirements and would be expected to accept only jobs with career potential. Furthermore, persons receiving professional degrees—law, medicine, and theology—would also be expected to be in jobs with career potential.

A much larger proportion of graduates with jobs directly related to their major field of study than of graduates with jobs not directly related perceived career potential. Graduates who took temporary jobs that were not directly related to their major were about equally divided between those working until better jobs could be found and those who had relatively short-term goals such as earning money for travel or just working at whatever jobs they could get until they decide on the kind of work wanted.

More than 80 percent of the graduates employed as professional and technical workers and as managers and administrators assessed their jobs as having at least some career potential; a greater proportion of those in the professional group perceived definite potential. On the other hand, only 45 per-

Table 5. Job search methods used by employed degree recipients, by sex, October 1972

Method	Percent who used each method			Most useful method			Effectiveness rate <sup>1</sup>		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
Total: Number (thousands).....	506	299	207	506	299	207			
Percent.....				100.0	100.0	100.0			
Direct application to employer.....	78.0	72.9	84.8	42.5	36.7	50.5	54.2	49.5	60.1
School placement office or professor.....	66.9	64.9	69.6	18.2	16.6	20.4	27.1	25.1	29.6
Friends or relatives.....	44.3	47.6	39.2	21.7	26.5	14.6	48.6	54.7	37.5
Newspaper advertisement.....	35.2	34.4	36.8	5.1	4.2	6.8	14.4	12.1	18.7
Professional periodicals or organizations.....	18.7	19.8	17.2	.8	1.1	.5	4.3	5.3	( <sup>2</sup> )
Private employment agency.....	18.7	22.6	13.7	5.1	7.1	2.4	27.2	30.8	( <sup>2</sup> )
Public employment service.....	18.3	16.3	20.6	.6	1.1	-----	3.3	( <sup>2</sup> )	-----
Civil Service application.....	17.5	19.8	14.7	2.0	2.1	1.9	11.6	10.5	( <sup>2</sup> )
Other.....	5.9	6.9	4.4	3.9	4.6	2.9	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> Number of persons reporting most useful method divided by total number of persons who used the method to find a job.

<sup>2</sup> Rate not shown where base is less than 50,000.

cent of the clerical and salesworkers and 28 percent of the blue-collar workers viewed their job as having career potential, the rest apparently considering their October jobs as stopgaps until more definite moves or plans could be made.

### Earnings on October 1972 job

Among full-time workers, the median annual rate of pay for persons who received bachelor's degrees was \$7,220, compared with \$9,540 for advanced degree recipients. (See table 7.) Many of those with advanced degrees had probably combined school with their regular jobs and thus earned more than baccalaureates because of both education and experience. Two-thirds of the baccalaureates were earning under \$8,000 a year, whereas two-thirds of the advanced degree holders earned \$8,000 or more.

The following discussion on earnings is limited to recipients of bachelor's degrees working full time, as

most typical of graduates new to the permanent work force. The median pay for women was about \$900 lower than that for men, reflecting, in part, the high proportion of employed women (49 percent) working as teachers, a comparatively low-paid professional occupation; only 18 percent of the employed men were teachers. Also, 30 percent of the employed men held jobs in professions other than teaching, such as engineers and life and physical scientists, but only 19 percent of the women were in such professional occupations. Even in nonprofessional occupations, women earned less, on average, than did men. Nonprofessional men and women tended to be in different occupational classifications as well; much higher proportions of men than of women were managers and craftworkers. At the top of the income scale for baccalaureates, 15 percent of the men were earning \$10,000 or more, compared with 3 percent of the women. Furthermore, about 60 percent of the men but 80 percent

**Table 6. Assessment<sup>1</sup> of job, by sex, relationship of work to major field of study, type of degree, and occupation, October 1972**

[Percent distribution]

Item	Assessment of job						
	Total	Job with definite career potential	Job with possible career potential	Temporary job			
				Until better one could be found	To earn money for school, travel or other purposes	To earn money while deciding kind of work wanted	Other
Total.....	100.0	41.3	29.7	13.3	9.6	3.7	2.4
<b>SEX</b>							
Men.....	100.0	38.2	33.3	11.8	9.6	4.7	2.5
Women.....	100.0	46.2	24.4	15.4	9.4	2.3	2.3
<b>RELATIONSHIP OF WORK TO MAJOR FIELD OF STUDY</b>							
Directly related.....	100.0	55.4	30.2	6.6	3.9	1.8	2.2
Not directly related.....	100.0	11.3	28.8	27.8	21.7	8.0	2.4
Somewhat related.....	100.0	21.8	34.5	27.6	9.2	6.9	4.0
Not related.....	100.0	4.0	24.8	28.0	30.4	8.8	4.0
<b>TYPE OF DEGREE</b>							
Baccalaureate.....	100.0	35.0	31.6	15.7	11.2	4.2	2.3
All other degrees.....	100.0	56.6	25.3	7.6	5.6	2.5	2.5
<b>OCCUPATION</b>							
Professional and technical.....	100.0	53.7	29.6	8.1	4.5	2.4	1.7
Teachers, except college.....	100.0	60.4	28.4	8.1	1.0	.5	1.5
Other professional and technical.....	100.0	47.7	30.6	8.1	7.7	4.1	1.8
Managers and administrators, except farm.....	100.0	35.3	47.1	5.9	4.4	1.5	5.9
Clerical and salesworkers.....	100.0	15.8	29.5	28.4	15.8	7.4	3.2
Blue-collar workers.....	100.0	9.0	19.2	28.2	33.3	7.7	2.6
All other occupations.....	( <sup>2</sup> )						

<sup>1</sup> Assessment at the time of accepting job.

<sup>2</sup> Percent not shown where base is less than 50,000.



of the women were earning less than \$8,000 a year.

Even among baccalaureates with jobs directly related to their major fields of study, 44 percent of the men and only 16 percent of the women made \$8,000 or more. Among those in jobs not directly related, 36 percent of the men, but only 26 percent of the women had earnings at that level. Business and finance majors enjoyed a definite financial advantage over other graduates, at least in the period soon after graduation. As shown in the following tabulation of percentages, their median income greatly exceeded that of education and social science majors:

	<i>Business and commerce</i>	<i>Education</i>	<i>Social science</i>
Total .....	100	100	100
Under \$6,000 .....	21	37	30
\$6,000-7,999 .....	26	53	42
\$8,000 and over ....	53	11	28
Median earnings ....	\$8,080	\$6,615	\$6,860

The higher earning rates of male business and commerce majors also explain, in part, the higher pay levels of men in directly related jobs; 29 percent of all employed male baccalaureates were business or commerce majors compared with 4 percent of the women. Another 23 percent of the employed men compared with 6 percent of the women had majored in subjects such as engineering, science, and mathematics, which have direct application to work in relatively highly paid occupations.

### Earnings expectations

A large proportion of the employed graduates who had only a baccalaureate degree were earning less on their full-time jobs than they expected when they received their degree and very few were receiving more, as shown in the percentage tabulation on the next page.

**Table 7. Annual rate of earnings of degree recipients employed full time, by occupation, type of degree, and sex, October 1972**

[Percent distribution]

Earnings and sex	All degrees					Baccalaureates					All other degrees
	Total	Professional and technical			All other occupations	Total	Professional and technical			All other occupations	
		Total	Teachers, except college	All other			Total	Teachers, except college	All other		
<b>BOTH SEXES</b>											
Median earnings.....	\$7,652	\$7,920	\$7,024	\$9,450	\$6,880	\$7,221	\$7,490	\$7,014	\$8,967	\$6,413	\$9,538
<b>MEN</b>											
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	( <sup>1</sup> )	100.0	100.0	100.0
Less than \$5,000.....	14.0	8.7	9.7	8.2	21.7	16.7	6.3		8.7	26.2	9.4
\$5,000 to 6,999.....	17.0	15.1	37.5	4.1	19.7	19.7	19.8		4.3	19.7	12.3
\$7,000 to 7,999.....	18.3	19.2	29.2	14.3	17.1	23.2	28.8		20.3	18.0	10.1
\$8,000 to 8,999.....	12.1	11.0	8.3	12.2	13.8	14.2	11.7		14.5	16.4	8.7
\$9,000 to 9,999.....	11.3	13.7	8.3	16.3	7.9	10.7	12.6		18.8	9.0	12.3
\$10,000 or more.....	27.2	32.4	6.9	44.9	19.7	15.4	20.7		33.3	10.7	47.1
Median earnings.....	\$8,073	\$8,642	\$7,088	\$9,688	\$7,500	\$7,574	\$7,800		\$9,115	\$7,227	\$9,765
<b>WOMEN</b>											
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	( <sup>1</sup> )	100.0	100.0
Less than \$5,000.....	22.8	15.2	19.0	8.3	44.1	26.6	16.9	20.0		47.3	9.8
\$5,000 to 6,999.....	26.8	24.8	31.4	13.3	32.2	29.5	27.1	30.6		34.5	17.6
\$7,000 to 7,999.....	18.8	23.6	29.5	13.3	5.1	22.5	30.5	36.5		5.5	5.9
\$8,000 to 8,999.....	11.6	12.1	11.4	13.3	10.2	10.4	11.0	9.4		9.1	15.7
\$9,000 to 9,999.....	10.7	13.3	5.7	26.7	3.4	8.1	11.0	3.5		1.8	19.6
\$10,000 or more.....	9.4	10.9	2.9	25.0	5.1	2.9	3.4			1.8	31.4
Median earnings.....	\$7,003	\$7,429	\$6,976	\$9,062	\$5,438	\$6,681	\$7,197	\$6,978		\$5,188	\$9,100

<sup>1</sup> Percent and median not shown where base is less than 50,000.

	<i>All persons</i>	<i>Men</i>	<i>Women</i>
Total .....	100	100	100
Lower .....	45	45	45
About same .....	44	42	46
Higher .....	11	13	9

Among graduates with relatively low earnings of under \$6,000 a year, a high proportion (60 percent) reported that their earnings were substantially lower than they expected. Even for graduates earning over \$6,000 a year, earnings were more likely to be below than above expectations.

Baccalaureates employed in jobs not directly related to their major field of study were much more likely to be earning less than expected than persons in jobs which were directly related. Close to two-thirds of those in jobs not directly related to their fields were earning less than they expected, compared with one-third of those in directly related jobs.

Jobs secured through direct application to employers or the school placement office provided earnings rates at or above expected levels for a majority of the baccalaureates who obtained their jobs by those methods. On the other hand, more than half of the baccalaureates who obtained their jobs through friends or relatives had earnings lower than expected.

### Job search of the unemployed

The graduates who were unemployed in October 1972 used an average of 3.5 methods to look for jobs, about the same, statistically, as that for graduates who were employed. However, almost twice as

many of the unemployed as of the employed used newspaper advertisements, private employment agencies, and the public employment service in their job search as shown in the following tabulation of the percentages using each method:

	<i>Unemployed</i>	<i>Employed</i>
Direct application to employer .	76	78
Newspaper advertisements . . . .	66	35
Friends and relatives . . . . .	54	44
School placement office . . . . .	43	67
Private employment agencies . .	33	19
Public employment service . . . .	39	18
All other methods . . . . .	40	42

The rate of earnings expected by unemployed baccalaureates looking for full-time work, a median of \$6,705, was not unreasonable compared with the median of \$7,220 being earned by baccalaureates working full time. □

### —FOOTNOTES—

<sup>1</sup> See an earlier study by Vera C. Perrella, "Employment of recent college graduates," *Monthly Labor Review*, February 1973, pp. 41-50, reprinted with additional tables as Special Labor Force Report 151. The current survey was conducted in October and December 1972 by the Bureau of the Census for the Bureau of Labor Statistics and was financed by the Office of Education, Department of Health, Education, and Welfare. Sampling variability of data in this survey is relatively large because the total number of degree recipients and the number of them in the sample are small; therefore, differences between estimates should be interpreted with caution.

<sup>2</sup> Data for persons other than white are used to represent data for Negroes, since the latter constitute about nine-tenths of all persons other than white in the United States.

## Communications



### ANALYZING 'PRODUCTIVITY TRENDS IN INTERCITY TRUCKING'

DARWIN W. DAICOFF

THIS IS AN ANALYSIS of "Productivity trends in intercity trucking," *Monthly Labor Review*, January 1974, and the technical rejoinder appearing in this issue of the *Review*. The analysis consists of two main components. First, the Bureau of Labor Statistics study is critically reviewed, and second, a refined measure of productivity trends in this industry is presented.

#### The BLS study

The essential characteristics of the BLS study can be seen through analysis of three aspects of that study: the method and procedure of the analysis and the data employed.

*Method.* The general method chosen by the Bureau of Labor Statistics to estimate productivity trends in intercity trucking is consistent with the standard BLS approach in the measurement of productivity trends in other industries.<sup>1</sup> However, a number of particular features of the method employed in this BLS study merit special attention.

First, the measurement of the industry output is a bit peculiar. For BLS, output is essentially the number of ton-miles of freight movements. Many would find this unacceptable; there is a need to disaggregate output into four main service components—pickup and delivery, platform, billing and collecting, and linehaul. Supportive of this position is the following:

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The output of a transportation firm is difficult to measure and characterize. A standard measure is the number of cargo ton-miles produced. However, this measure takes no account of size of shipment, commodity, or empty backhauls. Essentially, transportation output is a vector rather than a scalar. Any attempt to collapse a large number of attributes into a single variable is going to mean that some aspects will be glossed over.<sup>2</sup>

Ton-miles are only relevant to linehaul service; other measures of output are appropriate for the other three service components.

One of the consequences of this output measure is to force the Bureau of Labor Statistics to conclude that "the importance of general freight haulers relative to other components of the industry has evidently declined." Such a conclusion is the result of the use of the ton-mile output measure and is not the result of an analysis of the transport service provided.

Part of the BLS difficulty may result from a confusion of the general-freight and the other-than-general-freight portions of the motor carrier industry. Among the important differences between these two portions of the industry is that linehaul costs are a much larger portion of total transport costs for other than general freight carriers. Conversely, these carriers generally do not provide much platform service; they also tend to handle their traffic as a single-line shipment, thus avoiding joint-line handling and significant interchange costs. Finally, these carriers are primarily truckload carriers and thereby avoid the "small shipments problem" that plagues the general freight carriers. The consequence of the BLS confusion is to compound the ton-mile biased conclusions regarding the relative growth of various components of the industry.

Accepting this position would require that to estimate trucking output BLS should proceed as with any multiproduct industry. The Bureau argues that the four services are not truly independent parts of motor carrier output, but are simply four steps on the way to producing a final output of moving



some weight some distance and that this is properly measured by ton-miles.

The Bureau further argues that by making a "commodity mix" adjustment they take "account for detailed changes in the composition of commodity shipments over time." Aside from questions of the adequacy of this adjustment on grounds of practicability, the adequacy of the adjustment may be questioned on conceptual grounds. The "commodity mix" adjustment would be adequate if changes in transportation service were due to changes in the composition of output, as to commodities such as autos, drugs and medicines, and frozen foods requiring greater handling services. If a change in quality of services provided to *all* commodities has occurred, such as speed of delivery or convenience, the BLS adjustment is inadequate. A disaggregation of motor transport output into its four major components is required because very significant differences in the trends in productivity have occurred between the four service components, and particularly in the labor-intensive services compared to other services. While there have been longrun productivity gains in providing linehaul service (the gain in ton miles per hour of labor input has resulted from major changes in the capital input and major institutional changes), longrun productivity losses have occurred in platform and particularly in pickup and delivery services (this latter loss has generally been attributed to increases in congestion in urban areas and thus to increased relative costs of providing this service).

The importance of these different productivity trends is accentuated by the differences in the relative labor input used in providing the four major service components. In total, labor costs account for about two-thirds of total carrier costs; labor cost is between one-half and six-tenths of linehaul cost and over seven-tenths of all other costs combined, including more than 80 percent of platform and billing and collecting. An alternative to the approach of output disaggregation would be to restrict the time period of analysis to a period short enough to justify the required assumption that quality changes and differential cost changes are minimized.

A second major area of concern with the BLS methods relates to the rather long time period chosen for their analysis and to the changes that have occurred outside the motor freight firms over that period. The Bureau naturally wants to employ a long time period so as to avoid possible distortions

resulting from short-term economic fluctuations and uses the time period 1954-72 for their analysis, but there have been tremendous changes in motor carrier production functions over that period. Particularly in the early 1960's, width and length restrictions on motor carriers were liberalized. Most State regulations now permit two and in some areas even three trailers. These liberalizations of State restrictions have obviously changed institutional arrangements and have affected labor productivity.

Other significant changes that have affected motor carrier productivity have resulted from the continued expansion of commercial zones within which motor carriers provide free pickup and delivery service. This results from the Interstate Commerce Commission definition of commercial zones that expand as the population of a city increases and with municipal annexations. In addition, the Commission has made specific increases in the area of many commercial zones to reflect changing commercial locations in urban areas. This expanded service will not be reflected in the usual measures of output and will thus be reflected in reduced productivity.

Another change in the environment in which the motor carrier operates has resulted from the beginning and major completions of the national system of interstate highways. Starting at about the beginning of the BLS time period, the interstate highway system grew rapidly, with more than two-thirds of the miles that were open to traffic in 1972 opened before 1967. This change in the trucking industry has meant that there has been both technological changes and a deepening of the capital input. These factors again point to the inadequacies of the BLS method of estimating productivity trends.

The third feature of the BLS method which merits attention relates to the inadequacies in the method used to make a number of measurements and adjustments. The standard BLS method calls for measuring the labor input in terms of man-hours and particularly in terms of man-hours of production workers. The Bureau argues either that man-hour data are not available or that the trend in man-hours and total employment (their input measure) is quite similar. No real evidence is provided in support of the second contention. Regarding the first, there are some data from the Interstate Commerce Commission (unavailable from large general-freight carriers except for recent years) produced in connection with segregation of carrier costs that could be used as a measure of labor input.

The Bureau of Labor Statistics adjusts for differential labor requirements between full truckload (TL) and less than truckload (LTL) traffic in their output index. Their adjustment method calls for using one data series for the period 1954–66 and a different series for the 1966–71 period. In the early period, BLS employs data reporting TL and LTL freight revenue of common carriers engaged in intercity service<sup>3</sup>; in the latter period they employ data reporting TL and LTL freight revenue of class I (common and contract) motor carriers of property in intercity service.<sup>4</sup> The inconsistency of the two data sources is evident when noting that in 1966 the first source reports TL traffic at 1.57 times larger than the LTL traffic and the second source reports TL traffic at 3.53 times the LTL traffic.

The “commodity mix” adjustment referred to above also employs data from two series (BLS offers no evidence on the comparability of the two classification systems involved in the two series), and again the two series exhibit an inconsistency of the sort that causes the adjustments to be quite stable within the 1956–63 time period and within the 1966–71 time period but inconsistent between the two time periods.

A further adjustment is made in order to weight output by the labor required to produce that output. Unit-revenue or value weights are used in place of the “more conceptually desirable unit-labor weights.” While this method is standard for BLS in situations in which unit-labor weights are unavailable, the Bureau has admitted that “the extent to which error or bias may be introduced by the use of unit-value weights is not known.”<sup>5</sup>

A fourth and final peculiarity relates to the Bureau’s use of base or index years. Rather than using a base year outside the period, BLS chose base years from within each period. For example, the *BLS Handbook* uses 1958 as the base for the period 1959–63 and 1963 as the base for the period 1964–67.<sup>6</sup> For the “commodity mix” adjustment, the Bureau uses 1967 unit-revenue weights for the 1966 and beyond time period.

*Procedure.* A problem occurs in the procedure employed by the BLS in the 1957 weighting of ton miles by employment for six service groups (class I and II carriers of general freight, carriers of other than general freight, and contract carriers). For that year, the BLS procedure involves multiplying zero employment for all three groups of class II

carriers by the number of ton miles. This obviously strange procedure results from making an incomplete modification of procedure as required by the 1957 ICC change in definition of class I and II carriers. This change brings the use of *any* pre-1957 data under question. Besides the use of too long a time period, either the procedure is wrong or less than proper use is being made of the available data.

Another peculiar procedure employed by the Bureau of Labor Statistics appears in their development of 1972 output estimates. Because of the lag in ICC data, the Bureau makes rather crude estimates based on some data from the American Trucking Associations (ATA).<sup>7</sup> Note that some calculation errors must be present, and that as a result BLS slightly overstates 1972 output. More seriously, the ATA data report tons and not ton-miles. Other problems exist with these data but the simplest way to test the validity of the BLS procedure is to test what would have been the results of their procedure against their adjusted ICC-based output estimates. The extensive lack of correspondence between the two series shown in table 1 attests to the inadequacy of the BLS procedure.

The most serious procedural deficiency is in the BLS measurement of the labor input; the BLS estimates contain some inexplicable peculiarities. Their objective is quite simple—sum the average number of employees and the average number of rented power units with drivers in operation.<sup>8</sup> This procedure should produce a fairly sensible estimate of employment even if no quality adjustment is made to the labor input. Some unexplained “adjustments” must have been made by the Bureau in producing their employment estimates

*Data.* This review has already made a number of references to certain data problems in the BLS method and procedure; comment on some additional data problems remains. A serious problem is involved in using ICC data from *Transport Statistics* to measure ton-miles for common carriers of gen-

**Table 1. Percentage change in output, class I and II carriers, 1966–71**

Year	ATA-based projections	ICC-based estimates
1966-67.....	4.8	-3.2
1967-68.....	9.7	9.5
1968-69.....	6.1	5.3
1969-70.....	8.6	-6.1
1970-71.....	5.5	4.1

eral freight. The ICC classifies carriers in terms of their primary activity. If a particular carrier is mostly a common carrier of general freight, all the activity of that carrier is so classified. Even if this carrier has specialized divisions or provides specialized services, ton-miles from these divisions or services would automatically be included in the BLS estimates of output. The *Transport Statistics* data contain carrier system data rather than information on the carrier's general freight operations. What should be done to correct this is to eliminate (from the carrier annual ICC reports) specialized commodity divisions, such as bulk chemicals and bulk petroleum, in order to properly show the general freight operation of the carrier. For some carriers this adjustment would be sizable, with specialized commodities services representing as much as 20 percent of system revenues. While the magnitude of the adjustment for the industry as a whole is uncertain, the BLS failure to account for this data problem subjects their results to question.

The adjustment for "commodity mix" has been referred to a number of times. Recall that this is accomplished by calculating unit-revenue weights. Because data from *Freight Commodity Statistics* is not available, these weights cannot be calculated for 1954, 1955, 1964, and 1965. The Bureau of Labor Statistics employs regression and interpolation to estimate the weights for the missing years. This is very unfortunate; restricting the time period of analysis to periods for which data are available would probably be better.

### A refinement

The above review of the inadequacies of the BLS study of labor productivity trends should demonstrate that an alternative measurement is clearly required. While not all problems found in the BLS method, procedure, and data can be solved here, enough can be done to produce an improved measure of labor productivity. At a minimum (1) the unexplained adjustments in the measurement of the labor input must be eliminated, (2) the problems in the 1972 output estimate must be solved, and (3) the difficulties created by using "too long" a time period (caused by very serious data and conceptual problems) must be eliminated.

Table 2 presents the results of estimating labor productivity for various procedures, methods, data and time periods for class I and II carriers of gen-

**Table 2. Average annual rates of change, class I and II carriers of general freight, selected periods, 1954-72**

Time period	Output per employee	Output	Employment
BLS, 1954-72.....	2.1	4.9	2.7
1954-72.....	1.7	4.9	3.2
1954-71.....	1.6	4.8	3.2
1956-63.....	1.9	3.9	2.0
1966-72.....	-.5	2.5	3.0
1966-71.....	-1.3	2.1	3.4
BLS, 1966-72.....	0	2.5	2.5

eral freight. While the trend is similar for all inter-city trucking, this analysis is restricted to the large common carriers of general freight. The Bureau of Labor Statistics estimates that from 1954 through 1972 the productivity gain was at an average annual rate of 2.1 percent. Eliminating the "adjustments" in the calculation of the labor input reduces this estimate to 1.7 percent. A modest additional change occurs if only ICC data are used—the time period is ended at 1971, and the productivity gain becomes 1.6 percent.

Breaking the time period of analysis to one during which institutional arrangements are fairly constant, capital inputs have not changed dramatically, and fairly consistent data that are available produces interesting results. A sensible breakpoint is 1966. Structuring two time periods, 1956-63 and 1966-72, also eliminates the years for which there are very serious data gaps.

In the earlier time period, the estimated productivity gain is about the same as for the longer time period—1.9 percent for 1956-63 versus 1.7 percent for 1954-72. However, in the more recent time period, a very great difference is present, not only in absolute value but also in sign. In fact, from 1966 through 1972, labor productivity *declined* by 0.5 percent and from 1966 through 1971 (a time period for which the data are better) there was a substantial labor productivity *decline*—a 1.3-percent loss versus the BLS estimate of a 2.1-percent gain. The importance of employing a proper time period can be seen by noting that using BLS estimates of output and employment for 1966-72 produces a zero productivity gain rather than the 2.1-percent gain found by BLS in their 1954-72 time period. By comparing the BLS estimate to the results of this refined procedure, it can be concluded that the BLS estimate is a serious overstatement of the actual performance of labor productivity that has been recorded recently in this industry. □



—FOOTNOTES—

<sup>1</sup> "Output Per Man-Hour: Industries," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1711 (Bureau of Labor Statistics, 1971), ch. 26.

<sup>2</sup> Leland S. Case and Lester B. Lave, "Inland Waterway Transportation: Some Evidence on Costs," in Marvin L. Fair and James R. Nelson, eds., *Criteria for Transport Pricing* (Cambridge, Md., Cornell Maritime Press, Inc., 1973), p. 66. See also George W. Wilson, "On the Output Unit in Transportation," *Land Economics*, 1950, pp. 266-76.

<sup>3</sup> Interstate Commerce Commission, *Transport Statistics in the United States* (Washington, the Commission, yearly 1954-67), part 7.

<sup>4</sup> Interstate Commerce Commission, *Freight Commodity Statistics* (Washington, the Commission, yearly 1966-71).

<sup>5</sup> *BLS Handbook of Methods*, p. 221.

<sup>6</sup> *BLS Handbook of Methods*, p. 221.

<sup>7</sup> American Trucking Associations, Inc., *Financial and Operating Statistics Class I & II Motor Carriers of Property, Full Year 1972-1971* (Washington, the Associations, 1973), table II, and *American Trucking, Intercity Truck Tonnage, Full Year 1972* (Washington, the Associations, 1973), table II.

<sup>8</sup> Interstate Commerce Commission, *Transport Statistics*.

## PRODUCTIVITY IN INTERCITY TRUCKING: A REJOINDER

HORST BRAND AND RICHARD B. CARNES

LIKE STATISTICAL SERIES in general, productivity measures have limitations and cannot be readily interpreted without a knowledge of underlying realities—such as portrayed in the *Monthly Labor Review* article on labor productivity in the intercity trucking industry to which Dr. Daicoff refers. Dr. Daicoff does not argue these limitations as much as he takes issue with some of the procedures and methods applied by the Bureau of Labor Statistics in developing the trucking measure.<sup>1</sup> In what follows, a clarification will be attempted, although not all of the issues he raises can be addressed here.

Students of productivity used freight ton-miles as an output measure for the intercity trucking industry for many years prior to the development of the (much refined) BLS measure.<sup>2</sup> The quotation by

Dr. Daicoff from the work of Case and Lave confirms the widespread use of ton-miles as an output measure, even while emphasizing its limitations; it does not support his contention that trucking industry output needs to be disaggregated into four segments. In developing a productivity measure for an industry, we are interested in the final output—that is, the results of all the activities—of the industry. Pickup and delivery, platform work, billing and collecting, and linehaul, all represent necessary parts of the industry's final output. None is sufficient by itself to produce it; each is but an "intermediate output." Moreover, should a new technology emerge to eliminate any of these operations, its impact should be reflected in the productivity measure. It would be if the final output measure for the industry is used; if the stage of operation measure were used, it would show up as a zero output and as such be misleading.

As Dr. Daicoff notes, BLS adjusts ton-miles for changes over time in the mix of commodities moved, since such changes are frequently associated with changes in labor inputs. Separate labor input data are not available for the individual commodity groups. Nor is any breakdown available for the functional categories of employment for which Dr. Daicoff would prefer to see separate productivity measures. The commodity mix adjustment is made periodically in terms of unit revenue weights, the implicit assumption being that changes in unit revenues ultimately reflect changes in costs (and in rates charged). The assumption does not seem unreasonable, since labor costs constitute 55-60 percent of the trucking industry's total operating costs.

Freight ton-miles are also adjusted by class and type of carrier in terms of relative employment. For example, class I carriers of general freight account for about one-half of total ton-miles, but for 70 percent of total trucking industry employment. Thus, the comparatively high labor intensity of general freight carriers, arising from their greater handling requirements (as compared with "other" carriers), is accounted for in the BLS productivity measure.

The BLS measure does not, however, adequately reflect certain changes in quality of service and speed of delivery in the intercity trucking industry. Improvement in this area can come about only through greater detail in the data. We do not believe that the absence of complete adjustment for quality change vitiates the usefulness of the measure.

Institutional factors which have affected produc-

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tivity change in the industry—such as the expansion of the interstate highway network, liberalized State regulations regarding truck weight and width, and so forth—were discussed in the *Monthly Labor Review* article, with emphasis on their contribution to labor productivity gains.

The use of labor inputs as the denominator of the input-output ratio does not imply that this ratio measures the specific contribution of labor; and labor represents but one of a number of possible inputs which can be used to calculate productivity. The ratio, transformed into time series of indexes, simply indicates the relative efficiency with which one of the factors of production—that is, labor—has been used over time, and reflects a combination of many other factors of productivity change. These factors include capital investment, organizational and managerial patterns, social investments such as the interstate highway system, and changing regulatory practices.

As Dr. Daicoff notes, man-hour data are not available for the intercity trucking industry as a whole. Employment data have been used to represent total labor inputs. This use assumes that the trend in man-hours worked would not differ materially from the trend in employment, were adequate man-hour data available. The assumption is supported—and spelled out in the BLS technical note explaining the derivation of the index and the sources of data<sup>3</sup>—by the man-hour data which are available for nonsupervisory workers employed by class I carriers of general freight only, which move closely with their employment. These carriers employ a substantial majority of the industry's workers.

Dr. Daicoff notes an apparent inconsistency in data sources for freight revenue used to adjust labor inputs over time, evidenced by differences in the ratio of total truckload revenue to less-than-truckload revenue between 1954–66 and 1966–71. These ratios are not meaningful in themselves; they merely reflect the fact that, in terms of coverage, more detailed less-than-truckload data were available for the latter period. Such a change does not affect the consistency of a measure. In calculating the indexes, the more detailed data are incorporated by linking the more recent series with the earlier one.

With regard to the weight distribution of employment among class I and II carriers, Dr. Daicoff's objection is not clear. The technical note indicates that for the years prior to 1957, the class

I definition of intercity freight carriers encompasses certain trucking firms which subsequently were defined separately by the Interstate Commerce Commission as class II carriers. Procedurally, the problem is the same as the one discussed in the preceding paragraph—simply a matter of linking the more detailed data for a later period with less detailed data for an earlier one.

The "preliminary" estimate for the latest year for which the Bureau publishes its trucking industry measure are, as Dr. Daicoff notes, derived from American Trucking Association data on tonnage shipped, rather than from ton-miles. There is a high correlation in the year-to-year movements between the ATA figure and the eventually reported ICC ton-mile data.<sup>4</sup> This is not surprising in view of the comparative stability over time in the length of the average haul (that is, number of miles driven per ton).

With regard to trucking industry employment, modifications to make labor inputs consistent with industry outputs should perhaps have been made more explicit. For some years, ICC employment statistics could not be directly used. For 1965, the Commission omitted employment for 13 class I companies, and the series had to be adjusted accordingly. Beginning in 1968, the ICC included employment for some United Parcel Service carriers, but classified most of the output for these carriers under local operations. This raised a comparability problem. Employment data for the United Parcel Service were therefore adjusted and linked into the calculated employment indexes.

Dr. Daicoff also raises the problem of industry coverage. Secondary activities of the intercity trucking industry—that is, activities not related to its primary function as intercity carriers of freight—were not included in the calculation of the output indexes, as adequate data for such activities were not available. Reported employment covers all of a carrier's activities, primary and secondary. This implies that the output movements of the secondary products of the industry are the same as those of the primary products. Should this not be the case, the productivity measure might be biased where secondary activities are significant and where, at the same time, their relative importance has been changing. We doubt, however, that this constitutes a serious problem for the trucking industry. For example, strictly local movements of intercity car-

riers (which because of lack of data are not included in the output measure, even though industry employees engaged in such movements are counted in the input measure) represent a very small proportion of the industry's total services. Inclusion of such local movements in the published measure would not likely affect the trend.

Dr. Daicoff's criticism of the "long" time period over which the productivity trend of the intercity trucking industry has been calculated is not readily comprehensible. Data and conceptual problems have not prevented the measurement of business cycles over roughly the past century, nor that of a definitive measure of national output for nearly half a century.

For the reasons stated, Dr. Daicoff's proposals to "refine" the BLS measure of intercity trucking productivity would not in our view produce valid indexes. His "refinements" would, if adopted, result in a serious downward bias in the measure of the industry's labor productivity. □

#### FOOTNOTES

<sup>1</sup> For a general explanation of BLS methods and procedures in calculating industry productivity measures, see "Output per Man-Hour: Industries," ch. 26 of *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1711 (Bureau of Labor Statistics, 1971). Reprints of the chapter are available upon request. See also *The Meaning and Measurement of Productivity*, prepared for the National Commission on Productivity by the Bureau of Labor Statistics, Bulletin 1714 (Bureau of Labor Statistics, 1971).

<sup>2</sup> Harold Barger, *The Transportation Industries, 1889-1946. A Study of Output, Employment and Productivity* (New York, National Bureau of Economic Research, 1951). John W. Kendrick, *Postwar Productivity Trends in the United States, 1948-1969* (New York, National Bureau of Economic Research, 1973).

<sup>3</sup> Available upon request from authors.

<sup>4</sup> The coefficient of correlation of year-to-year percent change for 1954-71 is 0.89; for 1966-71, 0.97. The more recent year-to-year changes compare as follows:

	ATA tonnage	BLS published output
1966-67	-1.0	- 3.3
1967-68	9.0	10.3
1968-69	4.6	6.6
1969-70	-1.8	- 2.0
1970-71	6.2	5.5

## FACTFINDING IN TEACHER DISPUTES: THE WISCONSIN EXPERIENCE

LUCIAN B. GATEWOOD

IN 1959 WISCONSIN became the first State to pass legislation giving public employees the right to engage in collective bargaining. This extension of bargaining into the public sector, however, did not include the right to strike. In 1962, mediation and factfinding were incorporated into the statute as recommended procedures for the resolution of disputes.<sup>1</sup>

In 1966, after 3 years experience under the revised statute, a review of factfinding was undertaken which found that the availability and utilization of this procedure had been effective in providing Wisconsin's public employees with a viable alternative to the demonstrations, strikes, and sanctions that had occurred in some other States when collective bargaining in the public sector had become deadlocked. The factfinding procedure was being utilized by an increasing number of teacher organizations throughout the State and appeared to be both highly regarded and working well. This was largely attributed to the fact that awards by the factfinders had a high rate of acceptance by the parties.<sup>2</sup>

Analysis of data now available, however, suggests that (1) the high regard for factfinding once held by both employee organizations and educational managements in Wisconsin has begun to erode; (2) the cause of this erosion is complex—stemming in part from inherent limitations of the factfinding procedure; (3) factfinding awards which are not satisfactory to the teacher organizations—that is, they win too little for teachers—or are acceptable to teacher organizations but are rejected by the educational managements, are likely to be followed by teachers' strikes; and (4) the strike, while prohibited under Wisconsin statutes, is increasingly being employed by teacher organizations as a bargaining tactic.

These developments pose two fundamental questions: What factors, if any, account for the apparent

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decline in interest among teacher organizations in utilizing the process of factfinding? Do the facts support the suggestion that factfinding is unacceptable as an effective process for dispute resolution?

### Factfinding petitions and awards

Since 1968, teacher organizations have been the principal initiators of petitions for factfinding. From 1968 through 1970, the number of petitions for factfinding in teacher disputes increased, and thereafter declined. (See table 1.) Teacher groups initiated 152, or 85 percent, of the 178 factfinding requests and school boards 22, or 12 percent. The remaining petitions were initiated either jointly or by stipulation. After 1971, board-initiated petitions increased and teacher-initiated petitions declined, until by 1974 two-thirds of the factfinding requests were initiated by boards.

The number of teacher awards rendered under factfinding has also changed significantly since 1968. This decline in the number of awards may result from an increasing number of disputes being settled or resolved by the parties before a factfinder has been appointed; the fact that some petitions are withdrawn by the parties; and the fact that in some instances a decision to petition for factfinding came only with the intent to involve the procedure of mediation which accompanies petitions for factfinding.

### Teachers' strikes and factfinding

In contrast to the decline in the number of factfinding petitions and awards, since 1970 (with the exception of 1972) there has been a general increase in the number of strikes by municipal employees, particularly teachers.<sup>3</sup> (See table 2.) Of the 44 teachers' strikes since 1968, factfinding had been petitioned in only 11 of the negotiations, and of the 18 most recent teachers' strikes, only 2 involved the use of factfinding.

Of the 11 instances where strikes have involved factfinding, 9 of the teacher groups were affiliates of the Wisconsin Education Association, the other two of the American Federation of Teachers. WEA affiliates have accounted for 77 percent of the 44 teachers' strikes since 1968 and AFT affiliates for 23 percent. With the exception of Hortonville, no affiliate of the WEA petitioned for factfinding to

**Table 1. Factfinding petitions and teacher awards, Wisconsin, 1968-74**

Fiscal year	Factfinding petitions filed				Awards in teacher disputes	
	Total	In teacher disputes	Initiated by school boards		Number	As percent of petitions filed
			Number	Percent		
Total.....	452	178	22	-----	70	-----
1968.....	46	13	1	7.6	4	30.8
1969.....	74	22	3	13.6	12	54.5
1970.....	114	44	3	6.8	23	52.2
1971.....	82	32	0	0	18	56.5
1972.....	69	33	3	9.0	11	33.3
1973.....	35	19	2	10.5	1	5.3
1974.....	32	15	10	66.6	1	6.7

SOURCE: Compiled from data from the Wisconsin Employment Relations Commission.

achieve a resolution to any of the 18 disputes that resulted in strikes during 1974.

### Limitations of factfinding—the case against

A number of factors have consistently been cited to account for the apparent weakened desire among teacher organizations to engage factfinding in bargaining disputes. The principal limitation inherent in the process stems from the nonbinding character of the factfinder's recommendations. Under Wisconsin statute, neither party to a bargaining impasse is legally required to accept any recommendation in total or in part. The moral obligation to accept the award, however, is obviously stronger for the initiator of the request for factfinding. Teacher organizations, having in most instances acted as initiator, are left with no substantial recourse in dealing with intransigent school managements. Edward B. Krinsky noted that "in such cases, municipal employees must either accept their frustrations, strike illegally, or attempt to generate political pressure outside of factfinding to bring about change."<sup>4</sup>

Of 18 rejections for which information was available, 15 of the awards were turned down by boards and only 3 by teacher organizations. In at least 5 of the 11 instances where factfinding had been petitioned and awards made, the school board's rejection of the award was subsequently followed by a teachers' strike—in Ashwaubenon in December 1969, Wausau in February 1971, Kenosha in September 1972, DeForest in October 1972, and Wild Rose in February 1973.

A second major development that has spurred the rise in teacher militancy was a shift by school boards, beginning in 1971, from a position of full to partial acceptance of awards. This shift is highlighted by the contrast in the number of fully accepted awards during 1970, 1971, and 1972—a period during which teacher organizations critically reconsidered the benefits and costs of factfinding relative to strikes. Of 16 known awards made during 1970, boards fully accepted 50 percent. In contrast, during 1971 only 1 of 14 known awards was fully accepted, and during 1972 boards fully accepted less than 28 percent of the awards. Of 54 known awards since 1968, 28 came prior to 1971. Of these 28 awards, 46 percent were fully accepted. In contrast, only 15 percent of those made after 1971 were fully accepted.

Some boards have responded to teachers strike actions by seeking court injunctions to halt illegal work stoppages, for example, in 1970 in Superior.<sup>5</sup> A similar response occurred in 1973, in Kenosha, where an injunction to end the strike was sought after the board had elected to withdraw an earlier petition for factfinding. More recently, the school board in Hortonville responded to a strike by 84 teachers by firing the strikers and hiring new teachers.<sup>6</sup>

Many school boards are reluctant to concede to factfinders the authority to arrive at binding decisions in negotiation impasses. This stems in part from their reluctance to pass on to a third party the authority to direct and expend all moneys appro-

riated for school purposes. To do so, it is argued, would be a violation of State laws.<sup>7</sup> Nonetheless, not all school boards have remained intransigent in their opposition to the acceptance of binding awards. In at least three instances, binding recommendations came after strikes were in progress. In 1971, in Eau Claire, the strike by teachers ended after the board had agreed to accept binding arbitration over the wage issue.<sup>8</sup> The 1970 Superior strike was brought to a mutually satisfactory conclusion after the board agreed to submit to factfinding the impasse issue of lengthening the school day.<sup>9</sup>

Teacher organizations also have rejected awards though less often than boards. Hortonville was the most recent example. Having initially proposed that the deadlocked issues be submitted to binding factfinding—to which the board would not agree—the Hortonville Education Association refused to accept the factfinder's recommendations that the board's final offer be accepted.<sup>10</sup>

In order for factfinding to be effective, it is necessary that bargaining negotiators assume a posture of reasonableness, that is, a willingness to compromise. Yet, the traditional belief is that to attain one's bargaining objectives, a party must have the power to resist granting concessions.<sup>11</sup> Increased teacher militancy, as characterized by the use of extralegal means as negotiation tactics, suggests at least a partial adherence to this latter point of view.<sup>12</sup> Similarly, board resistance to teachers' demands, either by court injunctions where strikes have occurred or by the dismissal of strikers, suggests that boards have come to view the exercise of power, rather than reasonableness, as the most appropriate bargaining tactic.

Factfinding may also serve to prolong bargaining negotiations to the extent that the parties automatically incorporate it into the bargaining process. Given the availability of factfinding, serious bargaining may not ensue until after the factfinder's recommendations have been made. Where this tactic has been employed, labor organizations generally view favorable recommendations as the basis upon which their actual demands will be formulated. Likewise, boards have taken such recommendations to define the limits from which they will bargain down in negotiations. In addition, disputes have been protracted to the extent that factfinding has been petitioned solely for the purpose of stalling, thus allowing the parties to escape serious and continuous bargaining.<sup>13</sup>

**Table 2. Public employee strikes and teacher strikes, with factfinding utilized, Wisconsin, 1962–June 1974**

Fiscal year	All public employee strikes	Teacher strikes		Number of teacher strikes in which fact-finding procedure was used
		Number	As percent of all public employee strikes	
Total.....	101	44	43.6	11
1962-67.....	10	0	0	0
1968.....	4	1	25.0	0
1969.....	12	1	8.3	0
1970.....	10	4	40.0	2
1971.....	12	6	50.0	2
1972.....	5	1	20.0	0
1973.....	21	13	61.9	5
1974.....	27	18	66.6	2

SOURCE: Compiled from data from the Wisconsin Employment Relations Commission and the Commission's 34th Annual Report, July 1, 1971–June 30, 1972, strike statistics, pp. B69–72.

While not its intent, factfinding may allow the parties to defer to a third party their responsibility to aggressively attempt to resolve difficult bargaining issues.<sup>14</sup> In addition, it may have the effect of reducing the effectiveness of mediation. Commissioner Morris Slavney of the Wisconsin Employment Relations Commission contends that when alternative dispute resolution procedures (for example, factfinding) are available, some other procedures, such as mediation, are likely to be underutilized and their effectiveness reduced.

Public support for factfinder awards is believed to have an impact upon its effectiveness. Consequently, coverage by the news media of recommendations is believed to be important to the process. One observer notes that where little attention has been devoted by the media to awards, little, if any, pressure was upon the parties to accept the recommendations.<sup>15</sup>

Finally, while guaranteeing only that the outcome to an impasse may remain indeterminant, factfinding entails a direct financial cost to the bargaining organizations, although such expenditures have seldom exceeded \$500. This cost, however, is comparable to that which would be incurred by the parties were impasse issues put before binding arbitration.<sup>16</sup> Recognition of this fact, may be another factor in the decline in interest among teacher organizations in the factfinding procedure. Of greater significance may be the recognition by teacher organizations that their members may expect to suffer only a temporary loss of income because of teachers' strikes. Normally, days lost due to strikes are made up later in the school year, which apparently has reduced the cost of strikes relative to factfinding as a means for resolving bargaining disputes.<sup>17</sup>

### Factfinding's records—the case for

Given no absolute standard or criterion to judge the effectiveness of the factfinding procedure, a logical measure might be the extent to which the parties have accepted in full or in part the recommendations of factfinders. However, a criterion of effectiveness predicated upon the assumption that either full or partial acceptance of awards implies general acceptance of factfinding, while intuitively appealing, may not be the best standard. The problem stems from the assumption that partially accepted awards support the notion of acceptance

of the procedure. As we have earlier noted, the fact that some awards have only been partially accepted has been a contributing factor in the decline in interest in the procedure. On the other hand, it may be argued that only the complete rejection of awards would legitimately imply nonacceptance of the procedure. Therefore, although partial acceptance of awards has contributed to a decline in interest in the procedure, this does not connote nonacceptance of factfinding as a dispute resolution procedure. An examination of awards rendered in 54 factfinding cases showed that approximately one-third of the recommendations were fully accepted. Another third were partially accepted—that is, a compromise settlement was agreed upon by the parties—and a third were rejected. Hence, by this criterion the apparent decreased interest in factfinding may stem not from its so-called ineffectiveness, but rather from the bargaining parties' use of some different standard by which to gauge the effectiveness of the procedure. Teacher organizations may have come to view the procedure as ineffective to the extent that they now perceive awards made since 1971 as having achieved less than optimum settlements for the people they represent.

THESE FINDINGS SUGGEST that not only has the use of factfinding declined within the teacher sector of public employee bargaining, but that the decline is likely to continue. Given that factfinding awards have not the authority of law and may, therefore, leave indeterminant impasse issues, it is unlikely that the factfinding procedure will assert itself in the future as a meaningful and effective alternative to teachers' strikes. Perhaps nothing less than the availability of binding arbitration as a dispute resolution procedure will be a sufficient deterrent to increased teacher militancy. However, given the recent dramatic setback to militancy with the failure of the teachers' strike at Hortonville, one may expect that in the future teacher organizations will pick their bargaining arenas for confrontation more selectively. Finally, the increase in teachers' strikes has not been a simple function of ineffectiveness of factfinding as indexed by award acceptance. Increased teacher militancy must be understood to reflect the times—that is, a condition of the society in which individuals, as well as groups, have turned to direct action in order to apply political and social pressure to attain their desired objectives. □



FOOTNOTES

- <sup>1</sup> Wisconsin Statute 111.70 as amended in 1962.
- <sup>2</sup> James Stern, *Factfinding Under Wisconsin Law* (Madison, University of Wisconsin, University Extension, 1966).
- <sup>3</sup> Edward B. Krinsky, *An Analysis of Factfinding as a Procedure for the Settlement of Labor Disputes Involving Public Employees*. Madison, University of Wisconsin, Unpublished Ph. D. dissertation, 1969, p. 224.
- <sup>4</sup> Krinsky, p. 273.
- <sup>5</sup> *Superior Telegram*, "Teachers Fail to Show Up," Feb. 2, 1970.
- <sup>6</sup> *Wisconsin State Journal*, "Hortonville: How Did It Happen?" Apr. 28, 1974.
- <sup>7</sup> *Superior Telegram*, "Superior Schools Remain Closed," Feb. 3, 1970.
- <sup>8</sup> *The Milwaukee Journal*, "Eau Claire Ends Teacher Strike," Jan. 7, 1971.
- <sup>9</sup> *Superior Telegram*, "Superior Teachers Sign Pact," Feb. 12, 1970.
- <sup>10</sup> *Wisconsin State Journal*, "Hortonville: How Did It Happen?" Apr. 28, 1974.
- <sup>11</sup> Interview with WERC mediator, October 1973.
- <sup>12</sup> *New York Times*, "Education Group Will Aid Strike," July 8, 1967.
- <sup>13</sup> Interviews with representatives of the Wisconsin Association of School Boards and the Wisconsin Education Association, October 1973.
- <sup>14</sup> Interview with WERC mediator, October 1973.
- <sup>15</sup> Such views were commonly expressed by both WERC mediators and factfinders who were interviewed.
- <sup>16</sup> Stern, *Factfinding*, p. 9.
- <sup>17</sup> Interview with factfinder at the University of Wisconsin-Madison, November 1973.

EDUCATION AND LABOR MARKET TIGHTNESS

SONIA CONLY

A WIDELY HELD belief is that the tradeoff between inflation and unemployment has worsened because of the change in the age and sex composition of the labor force. Those who hold this view maintain that a given aggregate unemployment rate today is associated with a greater degree of labor market tightness than in the past. However, when the change in educational attainment over the past decade is con-

sidered, as well as the change in the age and sex composition of the labor force, a given unemployment rate today should be associated with a slacker, not tighter, labor market.

George Perry<sup>1</sup> and Carol Greenwald<sup>2</sup> were among the first to analyze the effect of the changing age and sex composition of the labor force on the relationship of the unemployment rate to labor market tightness. Perry used the technique of hypothetical unemployment rates to compare current and previous labor market tightness at a given unemployment rate. The Council of Economic Advisers<sup>3</sup> subsequently used the same technique with similar results. Each of the three showed that the increase in the relative importance of women and young people in the labor force implied a tightening of the labor market at a constant unemployment rate.

None of these writers took into account the increased educational attainment of the population, although Perry did acknowledge that consideration of education might alter his results; and E. L. Feige also has noted that different results would obtain when education was considered.<sup>4</sup> Publication of the 1970 Census of Population makes it possible to allow for the effect of increased educational attainment. No allowance is made for quality of education.

Table 1 shows median years of school completed for various age, race, and sex groups. There was a large increase in years completed for older males, for black males age 25 and over, and a smaller but still substantial increase for black males 18 and 19. Table 2 shows the 1960 unemployment rates by years of school completed for white men 55 to 64, and for black men 55 to 64, and 18 to 19. The strong inverse relationship between years of school completed and the unemployment rate suggests that the increase in years of school completed for these

Table 1. Median years of school completed, labor force, 1960 to 1970

Age	Men			Black men			Women			Black women		
	1960	1970	Increase	1960	1970	Increase	1960	1970	Increase	1960	1970	Increase
18-19	11.9	12.2	0.3	10.4	11.7	1.3	12.3	12.4	0.1	11.5	12.3	0.8
25 and over	11.1	12.3	1.2	8.3	10.2	1.9	12.0	12.3	.3	9.2	11.2	2.0
35-44	12.0	12.4	.4	8.7	10.7	2.0	12.1	12.3	.2	9.7	11.6	1.9
45-54	10.1	12.1	2.0	7.2	9.1	1.9	11.4	12.2	.8	8.3	10.2	1.9
55-64	8.7	10.7	2.0	6.1	7.6	1.5	9.9	11.9	2.0	7.3	8.7	1.4

SOURCE: U.S. Census of Population: 1960 and 1970, Subject Reports, Educational Attainment, Final Report PC(2)-5B (U.S. Bureau of the Census, 1963 and 1973). For 1960, the black labor force is included with members of other racial minority groups.

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groups relative to the total population should have resulted in an improvement in their disproportionately high unemployment rates. Moreover, as the low education, high unemployment groups became a smaller percentage of the population, an improvement in the overall unemployment rate might have been expected.

### Hypothetical unemployment

One way to compare labor market tightness in two periods is to compute a hypothetical unemployment rate, using the labor force composition of one period, and the unemployment rates for each labor market segment of another period. The formula for this hypothetical unemployment rate  $U'_c$  is

$$U'_c = \frac{\sum_{ij} U_{bij} \times Lf_{cij}}{\sum_{ij} Lf_{cij}}$$

where  $U'_c$  is the hypothetical unemployment rate for the current year,  $U_{bij}$  is the base year's unemployment rate for the  $i^{\text{th}}$  age,  $j^{\text{th}}$  sex group in the base year, and  $Lf_{cij}$  is the current-year labor force total for the  $ij$  group.

The assumption underlying such a technique is that if the unemployment rate remains constant in each labor market segment, then labor market tightness is constant in each segment and therefore in the labor market as a whole. If  $U'_c$  is greater than the unemployment rate for the base year, then a given labor market tightness is associated with a higher aggregate unemployment rate today than in the past,

**Table 2. Unemployment rates, 1960**

Years of school completed	White men, age 55-64	Black men age 55-64	Black teenagers age 18-19
None.....	8.0	9.2	25.2
1-4.....	7.2	8.3	9.7
5-7.....	6.3	8.1	13.2
8.....	5.0	8.7	18.4
9-11.....	4.4	8.5	16.4
12.....	3.2	5.4	11.8
13-15.....	2.8	5.6	8.5
16.....	1.9	2.4	-----
17 and over.....	1.0	1.3	-----
Total.....	4.7	7.5	14.7

SOURCE: Computed from U.S. Census of Population: 1960 and 1970, Subject Reports, Educational Attainment, Final Report PC(2)-5B (U.S. Bureau of the Census, 1963 and 1973). Rates shown for blacks include other members of racial minority groups.

NOTE: Dashes indicate no data available.

and the same unemployment rate will be associated with a tighter labor market in the present period.

There are several conditions under which the hypothetical rate for the current year will be higher than the base year aggregate unemployment rate. If some segments of the labor market have persistently high rates of unemployment, then an increase in the proportion of these segments in the labor force will raise the aggregate unemployment rate even if the unemployment rate in each segment stays the same. Moreover, if demand for labor rises proportionately in all segments, then segments with more than average rates of growth in labor force will have greater than average growth in unemployment. If the segments that grow rapidly are those with greater than average unemployment rates to begin with, then the dispersion in unemployment rates will increase.

### Education and hypothetical unemployment

The dispersion in unemployment rates for various levels of educational attainment within a given race, age, sex group as shown in table 2 suggests that shifts in educational attainment influence the degree of tightness of the labor market implied by a given aggregate unemployment rate. The appropriate formula for computing a hypothetical unemployment rate should therefore use an age, sex, race, educational attainment classification.

The formula for  $U'$  then becomes:

$$U'_c = \frac{\sum U_{bijke} \times Lf_{cijke}}{\sum Lf_{cijke}}$$

b = base year  
 c = current year  
 i = age group  
 j = sex group  
 k = race group  
 e = years of school completed group

The results of this calculation are shown in exhibit 1. When age, sex, race, and educational attainment labor market segments are considered rather than only age and sex, the hypothetical unemployment rate,  $U'_c$  for 1970 is 4.61 compared with an actual rate of 5.03 for 1960. As exhibit 1 shows, when age, sex, race, and education effects are all taken into account, the implied unemployment rate is reduced 0.42 percent. This compares with an increase of 0.19 percent, from 5.03 to 5.22 percent, when only the age-sex composition is taken into account. The age-sex effect increases the aggregate unemployment rate 0.19 percent computed from census data. This is

**Exhibit 1. Comparison of actual and hypothetical unemployment rates**

Item	Percent
Actual unemployment rate in 1960 <sup>1</sup> .....	5.03
Hypothetical unemployment rate using 1970 age-sex composition of the labor force and 1960 unemployment rates for each category <sup>1</sup> .....	5.22
Hypothetical unemployment rate using 1970 age-sex, race, composition of the labor force and 1960 unemployment rates for each category <sup>1</sup> .....	5.18
Hypothetical unemployment rate using 1970 age-sex, race, education composition of the labor force and 1960 unemployment rates for each category <sup>1</sup> .....	4.61
<b>Perry's calculation</b>	
Actual unemployment rate in 1956 <sup>2</sup> .....	3.90
Hypothetical unemployment rate using 1969 age-sex composition of the labor force and 1956 unemployment rates for each category <sup>2</sup> .....	4.13
<b>Economic Report of the President <sup>3</sup></b>	
Hypothetical unemployment rates based on the actual age-sex composition of the labor force in each year and 1956 unemployment rates for each category:	
1956.....	4.1
1961.....	4.2
1966.....	4.4
1971.....	4.5
1985.....	4.4

<sup>1</sup> U.S. Census of Population: 1960 and 1970, Subject Reports, Educational Attainment, Final Report PC(2)-5B (U.S. Bureau of the Census, 1963 and 1973). Includes military and persons age 14 and 15

<sup>2</sup> George L. Perry, "Changing Labor Markets and Inflation," *Brookings Papers on Economic Activity*, 1970, p. 434. Rates are percent of the labor force including military and persons age 14 and 15.

<sup>3</sup> Economic Report of the President, 1972, p. 115. Rates are percent of civilian labor force.

NOTE: Actual unemployment rate data reported here differ from published Bureau of Labor Statistics data for reasons as footnoted.

slightly less than the 0.23 percent age-sex increase Perry found (from 3.90 to 4.13 percent) using other data and somewhat different years, but the difference between the two estimates is not substantial.

Unemployment rates for women differ substantially depending on marital status and presence of children under age 6. However, categorization by marital status and presence of children under age 6 would probably not affect the hypothetical unemployment rates very much. This segment of the female labor force increased only slightly—from 13.45 percent to 13.76 percent. There was a dramatic increase in labor force participation of women, particularly for married women with children under age 6; however, declining birth rates in the 1960's reduced the relative importance of this group in the population.

Perry has used a weighted unemployment index in recent work as a measure of labor market tightness. Weights are wages and hours worked for each age-sex group. A further index is computed based on the dispersion of unemployment rates for various age-

sex groups. Both measures show substantially tighter labor markets in recent years than indicated by the official statistics.<sup>5</sup> The work reported here indicates that Perry's results would be considerably different if age, race, education, and sex groupings were used rather than only age-sex groupings.

To summarize these findings, if the hypothetical unemployment rate is a legitimate tool for comparing relative labor market tightness, then the segmentation attributable to differences in educational attainment should be considered as well as the segmentation due to age, race, and sex differences. When a hypothetical unemployment rate is computed with age, sex, race, and educational attainment labor market segments rather than just age and sex, a looser, rather than a tighter, labor market is indicated for the same aggregate unemployment rate. This finding contradicts the conclusion that the change in the composition of the supply side of the labor market has worsened the tradeoff between unemployment and inflation. It further suggests that changes may have taken place in the composition of demand or in individual supply schedules or in both.<sup>6</sup> □

— FOOTNOTES —

**ACKNOWLEDGMENT:** The author wishes to express her appreciation to Dr. Glyn Williams, Professor of Economics, University of South Carolina, for the suggestion that led to this research and for his comments.

<sup>1</sup> George L. Perry, "Changing Labor Markets and Inflation," *Brookings Papers on Economic Activity*, March 1970, pp. 411-41.

<sup>2</sup> Carol Greenwald, "Changing Composition of the Unemployed," *New England Economic Review*, July-August 1971, pp. 2-10.

<sup>3</sup> Office of the President, *Economic Report of the President*, (Washington, Superintendent of Documents, 1972), p. 115.

<sup>4</sup> E. L. Feige, "Inflation and Unemployment," *American Economic Review*, September 1972, p. 512.

<sup>5</sup> George Perry, "The Success of Anti-Inflation Policies in the United States," *Journal of Money, Credit and Banking*, February 1973, pp. 569-93.

<sup>6</sup> The relation between educational attainment and unemployment may be in part a relation of relative position rather than a relation between absolute levels of human capital and levels of unemployment. To the extent this is true, increased levels of educational attainment in the population could not be expected to reduce the unemployment rate. A similar issue exists as to the relation between age and sex and unemployment.



## ESCALATORS AND WAGE CHANGE: THE BUSINESS CYCLE

ARNOLD STRASSER

IN THEIR ARTICLE, "Effect of escalators on wages in major contracts expiring in 1974," Jerome M. Staller and Loren M. Solnick concluded that contracts with cost-of-living escalators provided for higher wage improvements than did contracts without such provisions (*Monthly Labor Review*, July 1974, pp. 27-32). This conclusion with regard to a single contract term running through a period of high and rapidly increasing inflation is undoubtedly correct. It does not necessarily mean, however, that contracts with escalators provide for greater rates of change over longer periods of time than do contracts without escalation. Staller and Solnick do not claim this to be the case—but neither do they disclaim it.

The Staller-Solnick findings appear to be particularly relevant to periods of rapid inflation. During such periods, escalator provisions generally provide for gradual, and therefore relatively smooth, adjustment to price changes. Contracts without such provisions, however, appear to attempt to forecast future price changes by backloading wage changes. Such forecasts made in 1971, 1972, and 1973 significantly underestimated the current inflationary rate. Accordingly, some negotiators have recently adjusted to the current uncertainties by writing 1- and 2-year contracts or by providing for wage reopeners during the contract term. These actions will permit relatively rapid catchup with price changes—though less rapidly than do most escalator provisions.

These observations are based on research conducted by Julia Clones and myself during September 1973 while we were both with the Office of Wage Stabilization of the Cost of Living Council and on the observable trend over the past 2 or so years toward 1- and 2-year contracts—some of which was undoubtedly occasioned by uncertainties relating to the stabilization program—but some of which, I am sure, was a reaction to the uncertainty regarding price increases.

The study that we conducted was limited in that it dealt with wage data from only 13 firms. The study included at least three contracts from each firm

covering the 1964-72 period. Eight of them, at one point in time or another during the study period, had an escalator provision while five did not. Each firm was in a different industry. Each had been included in the wage chronology series of the Bureau of Labor Statistics. Each was believed to be either its industry's pattern setter or the follower of a pattern established by another firm within the industry.

I do not suggest that our study or analysis is definitive. However, the findings do strongly suggest that over time, wage rates find their own level without regard to whether the particular contract does or does not have an escalator provision. Clearly, further research and analysis in this area is warranted. Nevertheless, the Staller-Solnick findings and the findings of the Strasser-Clones study provide important ramifications for economic policy and should be viewed in a consolidated light. □

## ESCALATORS AND WAGE CHANGE: MORE COMPARISONS

JEROME M. STALLER AND  
LOREN M. SOLNICK

MR. STRASSER RAISES several interesting points concerning the longrun difference between contracts with escalators and those not containing escalation. As he correctly notes, we neither claim nor disclaim that over the course of the business cycle contracts with escalators fare better than contracts without them.

Our research was limited to one period of time and one phase of the cycle. We took extreme care in making any generalizations that pertain to periods and phases beyond that observed. Our guarded conclusion that escalators are one manifestation of union bargaining strength is based on results shown in tables 3 and 4 of our July 1974 article in the *Review*. Table 3 shows wage gains exclusive of the first year. It indicates that within the manufacturing sector, 3-year contracts with guaranteed escalation (excluding the nonguaranteed escalator component), had an average annual rate of increase of 5.8 percent. Non-escalated 3-year contracts in manufacturing averaged 5.9 percent. When these same contracts are

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Arnold Strasser is with the Statistical Policy Division, Office of Management and Budget, Executive Office of the President.

examined over the entire 3 years, again excluding the nonguaranteed component, the increase in the escalated contracts was 8.8 percent, while those for the contracts not containing escalators was 6.7 percent. (See table 4 of our July article.) These results suggest that workers with guaranteed escalators are not only able to attain wage increases equal to or greater than those without escalators but are also able to negotiate a further premium to protect themselves against the possibility of rapid price advances.

One very interesting comparison is suggested by Strasser's comment. As he correctly notes, many unions during the controls period encouraged the adoption of 1- and 2-year contracts as both a hedge against controls and inflation. It would be relevant to compare the wage gains of single-year agreements over the 3-year period with the wage gains of the 3-year contracts we studied.

The construction industry, which was under economic wage controls starting in early 1971, adopted 1-year agreements on a massive scale. Data obtained from the Construction Industry Stabilization Committee indicate that the single-year agreements over the 1971-74 period averaged increases of 7.3 percent a year. If this figure is compared with those from our table 4, it can be seen that these 1-year contracts fared better than nonescalated contracts in manufacturing but not as well as those in nonmanufacturing. Combining data for nonmanufacturing and manufacturing, we found that contracts with escalators had wage gains that exceeded those of the three 1-year agreements in the construction industry. Obviously, these results are not conclusive, but this type of comparison is a reasonable one and conceivably could be made within the manufacturing and nonmanufacturing sectors.

In summary, although Strasser and Clones do raise some interesting points we strongly disagree that their findings and ours "should be viewed in a consolidated light." Their findings based on an evaluation of 13 contracts do not, in our opinion, provide a sufficient base for statistical analysis. The reliability of their sample is further weakened by the fact that two of the escalated contracts did not have an escalator provision in 7 of the 8 years under investigation. Thus the data and the analysis based upon it are far too inconclusive to support the conclusions reached. However, we do agree that a more detailed long-run analysis of escalated and nonescalated contracts is not only desirable but warranted. □

## TRANSCRIPTS AS CHASTENING RODS IN LABOR ARBITRATION

EDWARD R. LEV

R. F. LYTHGOE SUGGESTS in the June 1974 *Monthly Labor Review* that parties to labor arbitrations should avoid the use of transcripts. I am concerned that in opting for speed and economy, Mr. Lythgoe might sacrifice fairness.

In his article, Mr. Lythgoe does not distinguish between disciplinary grievances and those requiring construction of the agreement affecting work practices, management rights, seniority, overtime, and others which, if improperly decided, can be ruinous. In large units the sums of money involved may exceed by far the amounts at issue in routine civil actions in the courts where transcripts are automatic. It is these nondisciplinary grievances in which transcripts are not only useful but a necessity because of the often complicated issues involved.

My experience suggests that many nondisciplinary grievances are without substantial merit, that union officers initiate and pursue them to arbitration to convince the members that their leadership is aggressive, and to gamble on a favorable result. If they lose, they are not worse off than before.

Transcripts, more than any other single device, deter witnesses from perjury, contradiction, or exaggeration. Transcripts certainly cost money. They certainly delay. But they chasten the witnesses. And they chasten the arbitrator into reaching decisions more noticeably in line with the parties' agreement.

The talk about speed and economy is spurious. The genius of arbitration to resolve contract labor disputes is that it is much quicker than judicial proceedings, far less expensive, and is administered by neutrals who know what they are about.

Mr. Lythgoe is also annoyed with the intrusion of lawyers into the arbitration process.<sup>1</sup> Lawyers cause delay—no doubt about that—but lawyers also probe into dissembling testimony and submit arguments which may lead to a more accurate interpretation of the labor agreement. On balance—and everything has to be on balance—the arbitration process will not survive if either side feels that justice is not

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usually done. And lawyers, if the issues are important enough, contribute by keeping arbitrary results to a minimum.

Those who wish to seize or extend their power want naturally to eliminate adversaries who act to restrain them. Most international union representatives have such vast experience in handling arbitrations that they are the equal of any management lawyer. Most company representatives are not. Mr.

Lythgoe would deprive management in an arbitration of the skills which he possesses himself but does not mention.

Take away transcripts which induce truthful recitals and take away lawyers from those who need them. Arbitration decisions would then be speedier and rendered at less cost. They would also be less just, more often, and who would benefit from that?

—FOOTNOTE—

<sup>1</sup> I was mildly surprised that Mr. Lythgoe, in footnoting the wry dissatisfaction with lawyers expressed by observers over the years, did not cite the most famous of all, by Cade's associate, Dick, in Henry VI, Part II (Act IV, scene 2):

CADE: "When I am king, as king I will be . . .

ALL: "God save your majesty.

CADE: "I thank you, good people; there shall be no money; all shall eat and drink on my score; and I will

apparel all in one livery, that they may agree like brothers and worship me their Lord.

DICK: "The first thing that we do, let's kill all the lawyers."

It should not be forgotten that Mr. Cade and his colleagues were revolutionaries embarked on a conspiracy to overthrow the king and establish their own regime.

### Basing prices on fluctuating demand: the highway model

If scarce resources are to be efficiently allocated to their most valuable uses in society, prices must be used to inform consumers of the value of the resources. When road use is free and congestion results, that congestion could be reduced by an appropriate set of peak and off-peak prices.

One should not infer from the preceding analysis that a toll booth and the outstretched palm of the toll collector will be found at every intersection. Clearly, the cost of collecting a congestion tax must be considered in the design of an optimal urban road congestion tax scheme. Recent advances in technology eliminate the necessity of toll gates at which automobiles must stop (if cars must stop to pay a toll, congestion is exacerbated

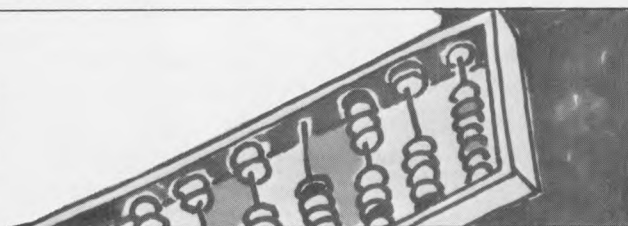
rather than reduced). Electronic devices can signal current toll rates to drivers, and can identify a particular auto and record its presence at a given time and place. The auto owner can then be billed periodically for his congestion charges. In sum, a more efficient use of resources brought about by peak and load pricing will improve consumer welfare.

—M. BRUCE JOHNSON

"Fair Pricing and the Economics of Congestion,"  
in Llad Phillips and Harold L. Votey, Jr., eds.,  
*Economic Analysis of Pressing Social Problems*  
(Chicago, Rand McNally College Publishing Co.,  
1974), p. 115.



# Family Budgets



## RETIRED COUPLE'S BUDGETS UPDATED TO AUTUMN 1973

MARK K. SHERWOOD

IN THE AUTUMN of 1973, the cost of a retired couple's budget, excluding personal income taxes, amounted to \$3,763 at the lower level of living, \$5,414 at the intermediate level, and \$8,043 at the higher level (all-U.S. urban averages), as shown in table 1.

Between autumn 1972 and 1973, consumption costs in the three budgets rose between 8.4 and 9.3 percent, primarily because of a very substantial increase in food prices over the period—about 20 percent for all three budgets. In each budget, the rise in food costs was more than triple the increases for any other component of consumption. Both the housing and medical care components increased approximately 5 percent in each budget. The percentage increases from autumn 1972 to autumn 1973 for all the components in the three budgets are shown in table 2.

### Differences in budgets among urban areas

Costs in metropolitan areas were substantially higher than in nonmetropolitan areas in each budget. The metropolitan consumption costs were higher by 12 percent in the lower budget, 19 percent in the intermediate, and 23 percent in the higher. Further details on comparative indexes are shown in tables 3, 4, and 5.

Area indexes reflect not only differences among the areas in price levels, but also regional variations in consumption patterns, adjustments in budget quantities due to climate, and types of transportation facilities. All of the indexes relate to costs for families established in each area. They do not measure differences associated with moving from one

area to another, or costs incurred by recent arrivals in the community.

### Methods of updating

The components of total family consumption were updated to 1973 by applying changes in the Consumer

**Table 1. Summary of annual budgets for a retired couple at 3 levels of living, urban United States, autumn 1973**

Component	Lower budget	Intermediate budget	Higher budget
Total budget <sup>1</sup> .....	\$3,763	\$5,414	\$8,043
Total family consumption.....	3,601	5,088	7,416
Food.....	1,182	1,599	2,007
Housing.....	1,276	1,839	2,873
Transportation.....	238	462	839
Clothing.....	178	301	463
Personal care.....	106	156	229
Medical care.....	453	456	459
Other family consumption.....	166	277	546
Other items.....	162	326	627

<sup>1</sup> For the autumn 1973 updating of the budgets for a retired couple, the total budget is defined as the sum of total family consumption and other items. Total budget costs, which included personal income taxes in the past, do not include personal income taxes for this updating. The entire tax estimation procedure for the budgets is being reviewed because several States have recently enacted laws permitting various types of tax credit refunds based on differing eligibility criteria. The income tax estimates for 1972 at the U.S. level, were \$0 for the lower budget, \$8 for the intermediate, and \$263 for the higher.

**Table 2. Percent changes in the budgets for a retired couple, autumn 1972 to autumn 1973**

Component	Budget level		
	Lower	Intermediate	Higher
Total budget <sup>1</sup> .....	9.3	9.2	8.3
Total family consumption.....	9.3	9.2	8.4
Food.....	19.5	20.4	20.1
Housing.....	5.5	5.4	5.2
Transportation.....	3.5	3.1	3.5
Clothing.....	3.5	4.2	4.0
Personal care.....	5.0	5.4	5.5
Medical care.....	4.9	5.1	5.0
Other family consumption.....	3.1	3.0	2.8
Other items.....	9.5	9.4	7.4

<sup>1</sup> Personal income taxes were deleted from the autumn 1972 estimate of the total budget in order to make the figures comparable with the autumn 1973 total budget estimates.

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Price Index to the autumn 1972 costs at various levels of disaggregation. This updating was done separately for each individual area using local price changes. The method of updating is approximate because the Consumer Price Index reflects spending patterns and prices paid for commodities and services purchased by wage earners and clerical workers in general, without regard to their family type or level of living. The last direct pricing of the com-

ponents of each budget was in the spring of 1969.

Budget costs are updated annually, reflecting autumn price levels. Because of the time required to compute the budget costs for three levels of living for each of the published areas at the required level of disaggregation, the BLS is not able to provide estimates at current price levels. During the period from autumn 1973 to July 1974, the All Items Consumer Price Index for the United States rose 8.6

**Table 3. Indexes of comparative costs based on a lower budget for a retired couple,<sup>1</sup> autumn 1973**

[U.S. urban average costs=100]

Area	Total budget <sup>2</sup>	Family consumption										
		Total consumption	Food		Housing			Transportation <sup>6</sup>	Clothing	Personal care	Medical care	Other family consumption <sup>7</sup>
			Total	Food at home	Total <sup>3</sup>	Renter costs <sup>4</sup>	Home-owner costs <sup>5</sup>					
Urban United States	100	100	100	100	100	100	100	100	100	100	100	100
Metropolitan areas <sup>8</sup>	103	103	101	101	107	106	109	91	103	99	101	108
Nonmetropolitan areas <sup>9</sup>	92	92	97	97	80	81	75	126	92	104	97	75
Northeast:												
Boston, Mass.	112	112	107	107	139	126	163	27	101	97	99	116
Buffalo, N.Y.	109	109	102	102	115	101	130	133	110	100	96	109
Hartford, Conn.	114	114	106	106	122	133	124	134	110	124	99	117
Lancaster, Pa.	98	98	101	103	92	84	93	112	105	90	99	92
New York-Northeast, N.J.	112	112	111	109	136	115	164	23	99	100	103	116
Philadelphia, Pa.-N.J.	98	98	106	105	104	95	111	26	98	94	98	111
Pittsburgh, Pa.	99	99	101	101	94	90	93	120	100	98	97	106
Portland, Maine	103	103	101	102	105	104	102	118	100	88	96	117
Nonmetropolitan areas <sup>9</sup>	101	101	105	104	97	110	95	134	94	100	98	79
North Central:												
Cedar Rapids, Iowa	99	99	94	94	101	98	103	106	111	97	99	103
Champaign-Urbana, Ill.	102	102	100	102	102	110	94	110	115	98	101	97
Chicago, Ill.-Northwestern Ind.	99	99	104	106	105	119	96	29	107	101	101	112
Cincinnati, Ohio-Ky.-Ind.	95	95	100	101	84	81	81	113	98	91	97	109
Cleveland, Ohio	103	103	99	98	104	102	107	124	104	110	96	110
Dayton, Ohio	98	98	100	101	92	103	80	111	99	90	98	108
Detroit, Mich.	101	101	104	105	93	105	85	122	103	104	99	110
Green Bay, Wis.	96	96	93	95	92	94	82	109	114	96	101	99
Indianapolis, Ind.	102	102	99	100	102	105	100	128	101	94	100	108
Kansas City, Mo.-Kans.	101	101	101	102	94	90	93	125	102	106	103	107
Milwaukee, Wis.	101	101	94	95	103	113	99	120	106	96	98	106
Mineapolis-St. Paul, Minn.	102	102	98	99	102	112	97	119	109	100	97	108
St. Louis, Mo.-Ill.	99	99	103	104	91	88	88	133	98	91	97	103
Wichita, Kans.	97	97	96	98	93	90	90	114	100	93	99	99
Nonmetropolitan areas <sup>9</sup>	95	95	99	99	85	90	81	122	102	110	96	76
South:												
Atlanta, Ga.	91	91	96	97	75	86	51	113	95	96	101	113
Austin, Tex.	90	90	90	90	79	82	64	114	100	94	101	101
Baltimore, Md.	97	97	95	94	93	103	76	120	99	102	102	102
Baton Rouge, La.	88	88	98	99	68	68	51	117	90	94	98	105
Dallas, Tex.	92	92	88	88	84	82	77	119	93	100	105	102
Durham, N.C.	96	96	94	95	92	89	86	112	96	96	103	102
Houston, Tex.	92	92	94	93	80	74	70	120	92	99	103	104
Nashville, Tenn.	96	96	93	95	90	87	83	115	110	90	99	107
Orlando, Fla.	98	98	89	90	103	138	78	113	91	89	100	104
Washington, D.C.-Md.-Va.	105	105	101	101	106	127	94	123	96	102	103	107
Nonmetropolitan areas <sup>9</sup>	87	87	95	94	72	68	65	126	83	100	96	73
West:												
Bakersfield, Calif.	95	95	96	97	86	80	82	119	98	96	106	93
Denver, Colo.	98	98	97	97	93	83	94	118	118	95	99	99
Los Angeles-Long Beach, Calif.	102	102	96	95	101	115	92	135	103	95	108	101
San Diego, Calif.	99	99	93	93	98	106	95	127	103	92	105	96
San Francisco-Oakland, Calif.	110	110	100	101	115	125	114	139	113	113	107	110
Seattle-Everett, Wash.	108	108	102	103	113	106	119	127	111	100	102	108
Honolulu	112	112	117	119	105	145	71	159	100	105	101	109
Nonmetropolitan areas <sup>9</sup>	94	94	97	97	82	84	80	131	100	114	99	77
Anchorage, Alaska	138	138	122	122	156	206	147	174	132	157	122	90

See footnotes following table 5.

Table 4. Indexes of comparative costs based on an intermediate budget for a retired couple,<sup>1</sup> autumn 1973

[U.S. urban average costs=100]

Area	Total budget <sup>2</sup>	Family consumption										
		Total consumption	Food		Housing			Transportation <sup>6</sup>	Clothing	Personal care	Medical care	Other family consumption <sup>7</sup>
			Total	Food at home	Total <sup>3</sup>	Renter costs <sup>4</sup>	Homeowner costs <sup>5</sup>					
Urban United States.....	100	100	100	100	100	100	100	100	100	100	100	100
Metropolitan areas <sup>8</sup> .....	104	104	101	101	108	107	108	102	103	98	101	108
Nonmetropolitan areas <sup>9</sup> .....	88	88	96	98	76	79	76	95	90	107	97	76
Northeast:												
Boston, Mass.....	118	118	109	110	143	135	168	94	102	95	99	115
Buffalo, N.Y.....	109	109	104	104	116	110	123	120	111	97	96	108
Hartford, Conn.....	114	114	109	108	119	131	115	122	109	122	99	117
Lancaster, Pa.....	98	98	102	105	92	86	88	105	106	91	99	98
New York-Northeast, N.J.....	117	117	114	110	139	126	162	75	100	100	102	114
Philadelphia, Pa.-N.J.....	105	105	108	107	109	104	112	88	98	92	98	111
Pittsburgh, Pa.....	101	101	103	102	96	87	96	109	104	95	97	106
Portland, Maine.....	104	104	106	108	104	101	99	109	99	88	96	112
Nonmetropolitan areas <sup>9</sup> .....	98	98	104	105	94	104	105	101	94	105	98	80
North Central:												
Cedar Rapids, Iowa.....	99	99	92	92	101	92	106	105	112	96	99	104
Champaign-Urbana, Ill.....	104	104	99	101	106	119	87	106	117	98	101	106
Chicago, Ill-Northwestern Ind.....	102	102	101	103	104	113	95	96	108	99	101	109
Cincinnati, Ohio-Ky.-Ind.....	94	94	98	99	86	82	81	104	101	88	97	107
Cleveland, Ohio.....	103	103	97	96	106	108	104	115	104	108	96	110
Dayton, Ohio.....	95	95	98	99	88	97	75	105	99	89	98	108
Detroit, Mich.....	101	101	103	103	97	105	87	111	104	102	99	108
Green Bay, Wis.....	97	97	91	93	98	94	91	104	113	92	100	101
Indianapolis, Ind.....	103	103	97	98	105	104	108	115	103	93	100	109
Kansas City, Mo.-Kans.....	100	100	99	100	95	85	93	113	104	105	103	107
Milwaukee, Wis.....	101	101	93	93	106	108	105	112	107	93	98	106
Minneapolis-St. Paul, Minn.....	101	101	96	97	100	107	92	108	109	99	97	110
St. Louis, Mo.-Ill.....	99	99	101	101	94	84	89	120	101	86	97	101
Wichita, Kans.....	96	96	93	95	94	89	91	107	100	93	99	103
Nonmetropolitan areas <sup>9</sup> .....	91	91	96	99	82	88	86	94	100	113	96	77
South:												
Atlanta, Ga.....	92	92	98	97	78	84	55	104	97	97	101	112
Austin, Tex.....	91	91	91	92	82	84	64	105	101	90	101	101
Baltimore, Md.....	98	98	97	97	92	102	68	110	102	105	102	104
Baton Rouge, La.....	88	88	99	100	70	66	51	106	90	93	98	103
Dallas, Tex.....	93	93	90	89	86	88	77	109	95	97	105	102
Durham, N.C.....	95	95	95	97	89	82	82	104	96	93	103	103
Houston, Tex.....	93	93	96	94	83	74	73	108	93	97	103	101
Nashville, Tenn.....	96	96	93	95	91	90	82	107	111	90	99	110
Orlando, Fla.....	93	93	90	90	91	110	72	104	93	89	100	106
Washington, D.C.-Md.-Va.....	104	104	104	104	102	109	91	113	98	106	103	107
Nonmetropolitan areas <sup>9</sup> .....	83	83	95	97	68	68	63	95	81	100	96	74
West:												
Bakersfield, Calif.....	95	95	93	94	92	78	91	106	95	97	105	97
Denver, Colo.....	97	97	96	96	93	84	87	106	114	97	99	98
Los Angeles-Long Beach, Calif.....	102	102	94	92	103	110	97	116	101	95	108	102
San Diego, Calif.....	98	98	92	90	98	103	98	111	101	91	105	98
San Francisco-Oakland, Calif.....	109	109	97	97	117	124	115	122	110	113	107	108
Seattle-Everett, Wash.....	106	106	101	100	110	105	112	108	107	99	102	107
Honolulu.....	112	112	115	115	109	152	75	136	98	105	101	109
Nonmetropolitan areas <sup>9</sup> .....	87	87	92	94	75	78	76	93	104	118	99	76
Anchorage, Alaska.....	127	127	115	118	142	194	146	119	136	170	121	88

See footnotes following table 5.

percent. However, the change in the total budget cost for a retired couple differs from the change in the U.S. All Items CPI for at least two important reasons: (1) the consumption weights used in the CPI are different from the consumption weights used in the budgets, and (2) treatment of homeowner costs is different.

### Description of the three budgets

The retired couple referred to in the budgets is defined as a husband, age 65 or over, and his wife. They are assumed to be self-supporting and living in an urban area; they are in reasonably good health and able to take care of themselves.



Table 5. Indexes of comparative costs based on a higher budget for a retired couple,<sup>1</sup> autumn 1973

[U.S. urban average costs=100]

Area	Total budget <sup>2</sup>	Family consumption										
		Total consumption	Food		Housing			Transportation <sup>6</sup>	Clothing	Personal care	Medical care	Other family consumption <sup>7</sup>
			Total	Food at home	Total <sup>3</sup>	Renter costs <sup>4</sup>	Homeowner costs <sup>5</sup>					
Urban United States.....	100	100	100	100	100	100	100	100	100	100	100	100
Metropolitan Areas <sup>8</sup> .....	105	105	102	101	109	111	110	102	101	99	101	108
Nonmetropolitan areas <sup>9</sup> .....	86	86	95	98	73	68	71	93	98	104	97	75
Northeast:												
Boston, Mass.....	124	125	107	108	158	144	207	97	100	95	99	111
Buffalo, N.Y.....	108	108	102	102	116	129	116	109	107	98	96	109
Hartford, Conn.....	112	112	104	106	119	119	124	112	105	122	99	116
Lancaster, Pa.....	96	96	101	103	88	79	79	97	103	91	99	105
New York-Northeastern, N.J.....	119	119	112	108	138	133	162	98	98	102	102	114
Philadelphia, Pa.-N.J.....	105	105	107	105	109	120	104	91	95	93	99	112
Pittsburgh, Pa.....	100	100	103	101	97	81	98	101	101	97	97	111
Portland, Maine.....	100	100	104	107	98	86	91	102	95	89	96	108
Nonmetropolitan Areas <sup>9</sup> .....	95	95	103	104	91	79	112	98	96	101	98	78
North Central:												
Cedar Rapids, Iowa.....	100	100	93	92	102	95	105	103	111	97	99	106
Champaign-Urbana, Ill.....	103	103	100	101	103	97	101	103	119	99	101	102
Chicago, Ill.-Northwestern Ind.....	103	103	102	103	105	121	94	95	109	100	100	108
Cincinnati, Ohio-Ky.-Ind.....	93	93	98	100	83	68	78	99	101	90	97	105
Cleveland, Ohio.....	102	102	97	96	103	96	103	103	105	110	96	110
Dayton, Ohio.....	96	96	97	100	91	97	80	97	100	90	98	107
Detroit, Mich.....	105	105	104	105	108	122	104	102	105	104	99	109
Green Bay, Wis.....	100	100	91	94	105	99	103	98	114	93	100	102
Indianapolis, Ind.....	102	102	99	99	103	81	112	103	103	94	100	105
Kansas City, Mo.-Kans.....	102	102	103	101	98	87	95	109	104	106	103	107
Milwaukee, Wis.....	101	101	95	94	105	98	110	100	107	94	98	105
Minneapolis-St. Paul, Minn.....	99	99	99	98	96	93	89	102	109	100	97	109
St. Louis, Mo.-Ill.....	98	98	103	102	88	68	81	115	101	87	97	103
Wichita, Kans.....	96	96	93	96	93	79	88	103	101	94	99	104
Nonmetropolitan areas <sup>9</sup> .....	88	88	96	100	77	71	80	91	107	109	97	76
South:												
Atlanta, Ga.....	93	93	99	98	81	79	62	101	95	98	101	109
Austin, Tex.....	92	92	93	92	83	85	66	102	98	91	101	107
Baltimore, Md.....	97	97	100	97	90	88	71	104	101	106	102	106
Baton Rouge, La.....	89	89	99	101	72	65	54	104	87	95	97	106
Dallas, Tex.....	96	96	92	89	93	112	78	105	94	98	105	106
Durham, N.C.....	92	92	95	98	83	70	73	101	93	94	103	105
Houston, Tex.....	96	96	97	94	91	104	74	103	93	98	103	104
Nashville, Tenn.....	96	96	92	95	91	95	79	103	108	90	99	108
Orlando, Fla.....	91	91	89	90	86	82	73	99	90	90	100	106
Washington, D.C.-Md.-Va.....	103	103	103	105	102	101	98	109	95	107	103	106
Nonmetropolitan areas <sup>9</sup> .....	82	82	94	96	66	64	56	94	89	98	96	74
West:												
Bakersfield, Calif.....	95	95	93	96	92	79	88	104	90	97	105	100
Denver, Colo.....	98	98	98	96	94	92	86	100	108	98	99	104
Los Angeles-Long Beach, Calif.....	105	105	99	94	111	148	99	112	95	95	107	103
San Diego, Calif.....	99	99	94	91	102	115	103	104	95	92	105	101
San Francisco-Oakland, Calif.....	109	109	99	99	113	111	114	117	104	116	107	109
Seattle-Everett, Wash.....	104	104	101	101	106	95	110	104	101	100	102	107
Honolulu.....	110	110	118	116	108	138	87	115	92	105	101	113
Nonmetropolitan areas <sup>9</sup> .....	85	85	91	96	72	72	66	89	114	116	99	74
Anchorage, Alaska.....	122	122	115	120	129	160	143	112	143	165	121	83

<sup>1</sup> The family consists of a retired husband and wife, age 65 years or over.<sup>2</sup> Total budget costs do not include personal income taxes.<sup>3</sup> Housing includes shelter, housefurnishings and household operations. The higher budget also includes an allowance for lodging away from home city.<sup>4</sup> Renter costs include average contract rent plus the cost of required amounts of heating fuel, gas, electricity, water, specified equipment and insurance on household contents.<sup>5</sup> Homeowner costs include property taxes, insurance on house and contents, water, refuse disposal, heating fuel, gas, electricity, specified equipment, and home repair and maintenance costs.<sup>6</sup> The average costs of automobile owners and nonowners in the lower budget were weighted by the following proportions of families: Boston, Chicago, New York, and Philadelphia, 100 percent for nonowners of automobiles; all other metropolitan areas,

45 percent for owners, 55 percent for nonowners; nonmetropolitan areas, 55 percent for owners, 45 percent for nonowners. The intermediate budget proportions are: New York, 25 percent for owners, 75 percent for nonowners; Boston, Chicago, Philadelphia, 40 percent for owners, 60 percent for nonowners; all other metropolitan areas, 60 percent for owners, 40 percent for nonowners; nonmetropolitan areas 68 percent for owners and 32 percent for nonowners. The higher budget proportions are: Boston, Chicago, New York and Philadelphia, 75 percent for owners, 25 percent for nonowners; all other areas, 100 percent for owners.

<sup>7</sup> Includes average costs for reading, recreation, tobacco products, alcoholic beverages; and miscellaneous expenditures.<sup>8</sup> As defined in 1960-61. For a detailed description of these geographical boundaries, see the 1967 edition of *Standard Metropolitan Statistical Areas*, prepared by the Office of Management and Budget.<sup>9</sup> Places with population of 2,500 to 50,000.

The budgets illustrate three different levels of living for this couple. The quantities and qualities of goods and services differ due to variation in the assumptions about the manner of living among the levels. The budgets are not based on actual expenditures by families. All three budgets represent an estimate of the total cost of goods and services which provide for maintenance of health, allow for normal participation in community life, and take into account conventional social and physiological needs. The lower budget is not intended to represent a minimum or subsistence level of living.

Food-at-home costs in the budgets are based on quantities in the low-, moderate-, and liberal-cost food plans developed by the U.S. Department of Agriculture in accord with nutritional standards formulated by the National Research Council of the National Academy of Sciences. A specified number of meals away from home, which varies with the budget level, is also included in the food total.

Shelter allowances at all three budget levels are based on average costs for rented and owned dwellings having specified characteristics. Rental costs include contract rent, estimated costs of fuel and utilities where these are not part of the rent, and in-

surance on household contents. Homeowner costs are based on the assumption that couples own their homes mortgage-free. The number of rooms in the dwelling units are the same at all levels: two or three rooms for renters and five or six for owners.

The medical care component provides for out-of-pocket costs for medicare and allows for items not covered by Medicare—dental care, eye examinations and eye glasses, most out-of-hospital prescription and nonprescription drugs, and a visit to a physician for a checkup by Medicare enrollees who do not use any Medicare services within 1 calendar year. Medical costs not covered by Medicare are the same in all three budgets except for very minor differences in the cost of eyeglass frames.

The sources of data, methods of calculation, and quantities of goods and services for all the components in the three budgets are described in detail in BLS Bulletin 1570-6, "Three Budgets for a Retired Couple in Urban Areas of the United States, 1967-68." Copies may be obtained for \$7 from the National Technical Information Service, U.S. Department of Commerce, Springfield, Va. 22151. Supplements, with budgets for spring 1969-70, autumn 1971 and 1972, are available free of charge from BLS Regional Offices. □

### More on the role of economic advisers

Here's some advice for Alan Greenspan as Mr. Greenspan becomes the 10th occupant of the distinguished position of chairman of the President's Council of Economic Advisors:

- Refrain from issuing statements every month on the Consumer Price Index, the Wholesale Price Index, or the employment-unemployment statistics.
- Make far fewer speeches than his immediate predecessors, though there is no need to abandon them altogether.
- Avoid White House press briefings or news conferences like the plague.
- Appear before Congressional committees on request—he has no choice—but suggest as diplomatically as he can that giving essentially the same

testimony over and over again is not very useful.

- Make no public numerical forecasts (inflation rate, unemployment rate, GNP growth) except in the annual economic report at the beginning of each year, unless there are exceptional circumstances requiring a breaking of this rule in connection with a major policy decision. . . .

In short, let the Council return not to total invisibility but to its largely confidential and entirely professional role as advisor to the President.

—EDWIN L. DALE, JR.,

"The Perils of Gab,"  
*The New York Times*  
 July 28, 1974

# Foreign Labor Developments



## COST-OF-LIVING INDEXES FOR AMERICANS LIVING ABROAD

NEW INDEXES of living costs abroad have been calculated for France, Hong Kong, Italy, Mexico, the Netherlands, Switzerland, and the United Kingdom. The indexes declined over 9 percent for France and Italy and fell slightly for the United Kingdom. The new indexes are 2 to 6 percent higher for the Netherlands, Switzerland, Hong Kong, and Mexico.

These index revisions reflect relative changes in

**Table 1. Indexes of living costs abroad, excluding housing and education, August 1974**

[Washington, D.C. = 100]

Country and city	Survey date	Monetary unit	Rate of exchange per US\$1	Local index
Argentina: Buenos Aires.....	July 1973	Peso	9.93	97
Australia: Canberra.....	Oct. 1973	Dollar	0.6711	128
Belgium: Brussels.....	July 1973	Franc	36.00	143
Brazil: Sao Paulo.....	Nov. 1973	Cruzeiro	6.12	106
Canada: Ottawa.....	Feb. 1973	Dollar	1.00	104
France: Paris.....	Mar. 1974	Franc	4.86	140
Germany: Frankfurt.....	Oct. 1973	Mark	2.60	157
Hong Kong.....	May 1974	Dollar	5.05	120
India: New Delhi.....	Aug. 1973	Rupee	7.6	105
Italy: Rome.....	Mar. 1974	Lira	630	115
Japan: Tokyo.....	Feb. 1974	Yen	680	159
Mexico: Mexico, D.F.....	Mar. 1974	Peso	12.5	94
Netherlands: The Hague.....	Mar. 1974	Guilder	2.60	136
Philippines: Manila.....	Dec. 1972	Peso	6.70	73
South Africa: Johannesburg.....	Nov. 1972	Rand	0.7800	95
Spain: Madrid.....	Mar. 1973	Peseta	58.0	105
Sweden: Stockholm.....	Apr. 1973	Krona	4.07	169
Switzerland: Geneva.....	Apr. 1974	Franc	2.90	152
United Kingdom: London.....	Mar. 1974	Pound	0.4167	107
Venezuela: Caracas.....	Mar. 1974	Bolivar	4.28	122

SOURCE: U.S. Department of State, Allowances Staff.

the cost of living in Washington, D.C., and in the foreign countries between the current and previous survey dates—a period of 23 months for Mexico and of 13 to 16 months for the other countries—and changes in the exchange rates used to calculate the indexes. In all the European countries, the cost of living for Americans increased less than in Washington, D.C. The smaller cost increases resulted in a 9-percent reduction in the relative cost of living in the Netherlands, over 6 percent in Switzerland, and from about 2 to 4 percent in France, Italy, and the United Kingdom. The indexes of living costs for France and Italy declined much more than the relative changes in prices to Americans because the dollar appreciated on exchange rate markets relative to the franc and the lira. On the other hand, the indexes of living costs for the Netherlands and Switzerland increased because the revaluation of the Dutch guilder and the strong upward float of the Swiss franc more than offset the lower cost-of-living increases for Americans in the two countries. In Hong Kong and Mexico, the cost of living for Americans rose more than in Washington, D.C., and the value of the dollar did not change.

Because of the international monetary situation, it is advisable to check the prevailing currency exchange rates whenever using the indexes of living costs. A complete list of indexes for all reporting cities and an explanation of the methods followed in constructing the indexes and their use, along with the U.S. Department of State living quarters allowances, is available upon request from the Office of Publications, Bureau of Labor Statistics. □



# Research Summaries



## WHITE-COLLAR SALARIES RISE 6.4 PERCENT

DANIEL A. BOSTON

AVERAGE SALARIES for white-collar occupations included in the Bureau of Labor Statistics survey of professional, administrative, technical, and clerical pay in private industry increased 6.4 percent during the year ending in March 1974. Preliminary data from the nationwide survey conducted annually in March show that increases averaged 6.3 percent for professional, administrative, and technical positions and 6.4 percent for clerical occupations. (See table 1.) During the same period, the Consumer Price Index advanced 10.2 percent.

### Trends, 1961-74

The latest increase in white-collar salaries is the second largest since the series began in 1961. (See table 2.) It marks the first year since 1970-71 that the rate of salary increase has shown a gain over the previous year's rate.

Table 3 compares the rates of salary change for four broad groups of surveyed jobs. The nonsupervisory clerical group, with average salaries up 6.5 percent, had the largest March 1973-March 1974 increase. Salaries of the experienced professional and administrative group and the technical support group each advanced 6.3 percent. Entry and developmental professional and administrative employees showed the lowest rate of increase for the fourth consecutive year. The increase of 5.0 percent, however, reverses a trend of declining salary increases for this group that began in 1969-70. (Work levels used for computing year-to-year increases are identified

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in the annual bulletins mentioned below.)

The 84 occupational work levels covered in the March 1974 survey represent a wide range of duties and responsibilities. Average monthly salaries ranged

**Table 1. Percent increases in average salaries, March 1973 to March 1974**

Occupation	Percent increase	Occupation	Percent increase
Professional, administrative, and technical support average <sup>1</sup> .....	6.3	Clerical and clerical supervisory average <sup>1</sup> ...	6.4
Accountants.....	6.1	Clerks, accounting.....	6.9
Auditors.....	5.2	Clerks, file.....	5.4
Chief accountants.....	7.2	Keypunch operators.....	7.3
Attorneys.....	5.8	Keypunch supervisors.....	6.2
Buyers.....	6.0	Messengers.....	5.6
Job analysts.....	6.1	Stenographers.....	6.5
Directors of personnel.....	7.2	Typists.....	6.7
Chemists.....	7.1		
Engineers.....	5.4		
Engineering technicians.....	6.0		
Drafting.....	6.7		

<sup>1</sup> Simple average of percent increases of individual occupations.

NOTE: To determine the increase for each occupation, average salaries for all reported levels of the occupation were combined, using employment in the most recent year as a constant employment weight in both years to eliminate the effects of differences in the proportion of employees at various work levels in the 2 surveys

**Table 2. Percent increases in average salaries, 1961-74**

Period	All white-collar occupations	Professional, administrative, and technical support	Clerical and clerical supervisory
1961 to 1962.....	2.9	3.0	2.8
1962 to 1963.....	3.0	3.3	2.6
1963 to 1964.....	3.1	3.4	2.7
1964 to 1965.....	3.1	3.7	2.4
1965 to 1966.....	3.3	3.6	3.0
1966 to 1967 <sup>1</sup> .....	4.5	4.2	4.8
1967 to 1968.....	5.4	5.5	5.3
1968 to 1969.....	5.7	5.8	5.5
1969 to 1970.....	6.2	6.2	6.2
1970 to 1971.....	6.6	6.7	6.5
1971 to 1972 <sup>1</sup> .....	5.8	5.5	6.1
1972 to 1973.....	5.4	5.4	5.4
1973 to 1974.....	6.4	6.3	6.4

<sup>1</sup> Survey data did not represent a 12-month period due to a change in survey timing. Data have been prorated to represent a 12-month interval.

**Table 3. Percent increases in average salaries for selected occupational groups, 1961-74**

Period	Experienced professional and administrative	Entry and developmental professional and administrative	Technical support	Clerical
1961 to 1966 <sup>1</sup>	3.8	3.5	2.8	2.7
1966 to 1967 <sup>2</sup>	4.2	5.8	3.7	4.7
1967 to 1968	4.9	6.5	5.1	5.1
1968 to 1969	5.9	7.2	5.8	5.4
1969 to 1970	6.4	6.5	6.0	6.2
1970 to 1971	6.3	5.8	6.2	6.5
1971 to 1972 <sup>2</sup>	5.6	3.5	6.2	6.2
1972 to 1973	5.6	2.8	5.3	5.1
1973 to 1974	6.3	5.0	6.3	6.5

<sup>1</sup> Average annual rate of increase.

<sup>2</sup> Survey data did not represent a 12-month period due to a change in survey timing. Data have been prorated to represent a 12-month interval.

from \$426 for file clerks I to \$3,182 for the top level in the attorney series.

The survey provides a basis for comparing Federal salaries under the General Schedule classification and pay system with salaries in private enterprise. The definitions used in the survey are graded by the U.S. Civil Service Commission in accordance with the standards established for each grade under the Federal Classification Act. The equivalent classification for each of the work levels surveyed and graded will be identified in the final survey report, to be published in the forthcoming BLS bulletin, *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1974*. □

## WAGE DIFFERENTIALS BETWEEN SKILLED AND UNSKILLED BUILDING TRADES

MARTIN E. PERSONICK

WAGE DIFFERENTIALS between skilled and unskilled union workers in the building construction industry vary by trade and geographic location with the widest spread reported in Southern cities, according to a July 1973 Bureau of Labor Statistics survey covering approximately 884,000 unionized workers in 70 cities with 100,000 inhabitants or more.<sup>1</sup> Average union wage rates<sup>2</sup> for the 24 journeymen trades studied exceeded those for the 9 classifications of

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laborers and journeymen's helpers by 32 percent. This wage advantage enjoyed by journeymen as a group over the helper-laborer category was heavily influenced by the proportion of building laborers (about 70 percent) in the latter classification. Wage differentials between four selected journeymen trades and their allied helpers illustrate the relationship of wages of skilled workers to those of unskilled workers; they varied from 12 percent for tile layers to 37 percent for plumbers, as shown in table 1.

The distribution of citywide wage spreads between skilled and unskilled workers is also shown in table 1 in order to unmask individual city variations from the national composites. Wage differences between plasterers and their laborers, for example, ranged from under 10 percent in 11 cities to over 70 percent in Richmond, Va., and Shreveport, La. Without exception, the largest differentials (70 percent or more) for the four selected crafts were found in the South. The smallest differentials (under 20 percent) were almost exclusively outside the South. Previous BLS wage studies also showed the spread in rates between skilled and unskilled occupations to be widest in the South.<sup>3</sup>

Over the year ended July 1, 1973, the average

**Table 1. Union wage relationships of journeymen to helpers and laborers in building trades, selected cities, July 1, 1973**

Item	Journeymen to helpers-laborers combined	Journeymen to building laborers	Journeymen to allied helper or laborer classification <sup>1</sup> for—			
			Bricklayers	Plasterers	Plumbers	Tile layers
Percent journeymen rate exceeds helper-laborer average, all cities <sup>2</sup>	32	35	28	21	37	12
Number of cities in which differential was—						
Less than 10 percent				11		6
10 and under 20 percent	7	7	4	10	6	19
20 and under 30 percent	18	16	18	18	4	16
30 and under 40 percent	16	15	20	10	5	1
40 and under 50 percent	10	12	8	6	6	4
50 and under 60 percent	6	7	6	6	3	2
60 and under 70 percent	4	2	4	4	3	
70 percent or more	7	9	6	2	4	1
Total comparisons	68	68	66	67	31	49
Number of cities studied	<sup>3</sup> 68	<sup>3</sup> 68	70	70	70	70

<sup>1</sup> The helper-laborer classifications used were bricklayers' tenders, plasterers' laborers, plumbers' laborers, and tile layers' helpers.

<sup>2</sup> City comparisons of the overall journeymen-helper/laborer wage relationships should be interpreted with caution because of differences in job mix and in the proportion of organized workers in the various crafts included in the broad journeymen and helper categories.

<sup>3</sup> Data for the cities of Minneapolis and St. Paul and of San Francisco and Oakland were combined for the journeymen and helpers-laborers composite averages; rates for individual trades, however, were reported separately by city.

increases in union wage rates in cities with 100,000 inhabitants or more were 4.8 percent for journeymen and 5.7 percent for helpers and laborers, narrowing somewhat the differential between the two groups. The overall rate of 5 percent, down from 6.4 percent a year earlier, was the smallest yearly increase since 1965-66. The Bureau's subsequent quarterly surveys of seven major building trades, which do not separate journeymen from helpers and laborers, showed the following average year-to-year wage increases in the industry:

Year ending	Percent increase
October 1, 1973 .....	4.9
January 2, 1974 .....	4.4
April 1, 1974 .....	4.5
July 1, 1974 .....	7.4

The large increase found in the July 1974 survey may reflect the expiration of wage controls 2 months earlier.

Union wage rates for journeymen building trades workers covered by the BLS annual survey averaged \$8.02 an hour on July 1, 1973; helpers and laborers averaged \$6.06. Among the 24 journeymen trades studied, plumbers had the highest average wage rate, \$8.44 an hour, and slate and tile roofers had the lowest, \$7.36. (See table 2.) Average hourly rates for the nine helper and laborer classifications surveyed ranged from \$4.78 for composition roofers' helpers to \$6.73 for tile layers' helpers.

Many labor-management agreements for building trades provide for employer payments to insurance

(health and welfare), pension, and vacation funds. When these payments were added to the basic wage rates, the average for all building trades workers on July 1, 1973, was \$8.83 an hour. Corresponding averages were \$9.28 for journeymen and \$7.08 for helpers and laborers.

Hourly wage rates and benefit payments for union building trades workers are subject to considerable variation by region and locality. Highest average wage rates were recorded in the heavily populated and industrialized Middle Atlantic region (\$8.36) and Great Lakes States (\$8.25), and the lowest averages were found in the Southeast (\$6.54) and Southwest (\$6.52). This regional pattern is common to the other union wage studies conducted by the Bureau.

Employer benefit payments tended to be highest in West Coast cities, where average contributions in 5 of the 8 cities studied exceeded \$1.85 an hour. In the South, 13 of 17 cities in the survey had average employer benefit contributions lower than the smallest hourly average reported among the Middle Atlantic and Great Lakes cities (66 cents in Madison, Wis.). The highest average contribution among southern cities studied was 80 cents in Houston, which was below the comparable average in 16 of the 25 cities surveyed in the Middle Atlantic and Great Lakes regions.

In the building industry, wage rate negotiations are typically conducted on a locality basis. Among the factors affecting the pay rates of building trades

**Table 2. Average union hourly wage rates in the building trades, July 1, 1973, and increases in rates, July 1, 1972, to July 1, 1973**

Trade	Average hourly wage rate	Percent increase, 1972-73	Trade	Average hourly wage rate	Percent increase, 1972-73
All building trades .....	\$7.62	5.0	Journeymen—Continued		
Journeymen .....	8.02	4.8	Rodmen .....	\$8.02	3.8
Asbestos workers .....	8.26	3.9	Roofers, composition .....	7.73	5.2
Boilermakers .....	8.02	5.4	Roofers, slate and tile .....	7.36	5.8
Bricklayers .....	8.30	4.0	Sheet metal workers .....	8.32	4.1
Carpenters .....	7.84	6.1	Stonemasons .....	8.20	4.3
Cement finishers .....	7.51	4.4	Structural ironworkers .....	8.08	4.2
Electricians (inside wiremen) .....	8.37	3.9	Tile layers .....	7.51	4.9
Elevator constructors .....	8.40	4.6	Helpers-laborers .....	6.06	5.7
Glaziers .....	7.51	5.8	Bricklayers' tenders .....	6.51	6.7
Lathers .....	8.01	6.1	Building laborers .....	5.92	5.4
Machinists .....	8.12	4.9	Elevator constructors' helpers .....	6.13	5.1
Marble setters .....	7.85	4.4	Marble setters' helpers .....	6.69	4.3
Mosaic and terrazzo workers .....	7.62	4.6	Terrazzo workers' helpers .....	6.72	3.8
Painters .....	7.48	5.6	Plasterers' helpers .....	6.37	6.6
Paperhangers .....	7.55	5.3	Plumbers' laborers .....	6.17	5.5
Pipefitters .....	8.38	3.6	Composition roofers' helpers .....	4.78	6.4
Plasterers .....	7.70	4.4	Tile layers' helpers .....	6.73	4.9
Plumbers .....	8.44	3.9			

NOTE: Basic minimum rates agreed upon through collective bargaining.



**Table 3. Pay advantages of unionized plumbers over plasterers, 5 major cities, July 1, 1973**

City	Wage only				Wage plus benefits <sup>1</sup>			
	Plumbers	Plasterers	Difference		Plumbers	Plasterers	Difference	
			Dollars	Percent			Dollars	Percent
Atlanta.....	\$7.850	\$7.320	\$0.530	7	\$8.650	\$8.020	\$0.630	8
Chicago.....	9.570	8.895	.675	8	10.570	9.545	1.025	11
Houston.....	7.120	6.460	.660	10	8.360	7.600	.760	10
New York <sup>2</sup> .....	8.750	7.900	.850	11	11.480	10.400	1.080	10
San Francisco.....	8.230	7.270	.960	13	10.760	9.350	1.410	15

<sup>1</sup> Employer contributions to employee benefit funds for health insurance, pension, and vacation pay.

<sup>2</sup> Relates to rates covering the boroughs of Bronx, Manhattan, and Richmond for plasterers and the Bronx and Manhattan for plumbers.

NOTE: Rates and benefits were those in effect (available and payable) on July 1, 1973. They do not include new rates in negotiation or pending approval by the Construction Industry Stabilization Committee at the time of the survey or wage/benefit increases that were made retroactive to July 1, 1973, or before.

workers are variations in local building activity, demand for skilled construction workers, extent of unionization, and the general level of wages in individual localities. Union wage rates for bricklayers in the 70 cities studied, for example, ranged from \$6.15 in Charlotte, N.C., to \$9.45 in Cleveland, Ohio, as of July 1, 1973. (As a measure of general pay levels in the two cities, gross hourly pay in manufacturing averaged \$3.18 in Charlotte compared with \$4.88 in Cleveland.<sup>4</sup>) These wage factors also affect craft rates within the same locality. The spread between the relatively high-paying plumber and low-paying plasterer jobs in wages alone and in wages plus employer contributions to selected funds ranged from approximately 7 to 15 percent in five major cities. (See table 3.)

Listings of union wage rates and employer payments to employee benefit funds for each of the 70 cities surveyed were issued earlier and are available upon request to the Bureau or any of its regional offices. A more detailed bulletin, providing national and regional tabulations, as well as wage trend data back to 1907, will be issued shortly. □

#### FOOTNOTES

<sup>1</sup> The survey was designed to reflect union wage rates of building trades workers in all cities with populations of 100,000 or more (except Honolulu) based on the 1970 census. Data for the cities studied were appropriately weighted to represent cities in this size category not surveyed.

<sup>2</sup> Union wage rates are the basic minimum rates (exclud-

ing holiday, vacation, or other payments made or credited regularly to the worker) agreed upon through collective bargaining between employers and unions. They do not reflect premium rates for overtime or other purposes; thus, they do not represent total hourly earnings of workers studied.

<sup>3</sup> See, for example, Harry Ober, "Occupational wage differentials, 1907-47," *Monthly Labor Review*, August 1948, pp. 127-34.

<sup>4</sup> *Employment and Earnings*, October 1973, pp. 124-25.

## SPECIAL LABOR FORCE REPORT—

### EMPLOYMENT OF SCHOOL AGE YOUTH, OCTOBER 1973

THE POPULATION 16 to 24 years old not enrolled in school increased by almost 1 million between October 1972 and October 1973.<sup>1</sup> This expanding population of out-of-school youth reflected a decline in enrollment rates as well as an increase in population for this age group.

The number of youth in the labor force not enrolled in school also rose by nearly 1 million. Employment of out-of-school youth, increasing by 1.2 million to 13.6 million, grew more rapidly than the labor force, reducing this group's unemployment rate to 8.2 percent from 10.6 percent a year earlier. Unemployment rates declined for men and women and among whites; the decrease in rate for Negroes was not significant. (See table 1.)

The number of teenage students in the labor force rose over the year by 280,000 because of a rise in the labor force participation rate (percent of population working or looking for work) of 16- and 17-year-olds. The rate for teenage students increased from 38.4 percent in October 1972 to 41.5 percent in October 1973. Ten years earlier, less than a third of teenage students were in the labor force. The number of students 20 to 24 years old in the labor force remained unchanged over the year at 1.9 million.

Some 600,000 teenage students were unemployed in October 1973, the same number as a year earlier, and 3.8 million were employed, a larger number than in October 1972. As in recent years, students constituted somewhat over half of employed teenagers and the same proportion of the teenagers looking for work. Among the 20- to 24-year-old labor force only 15 percent were students.

Table 1. Employment status of students 16 to 24 years old, by age, sex, and race, October 1972 and October 1973

Enrollment status, age, sex, and race	Civilian non-institutional population	Labor force					Enrollment status, age, sex, and race	Civilian non-institutional population	Labor force				
		Total	Per-cent of popu-lation	Em-ployed	Unemployed				Total	Per-cent of popu-lation	Em-ployed	Unemployed	
					Num-ber	Per-cent of labor force						Num-ber	Per-cent of labor force
<b>1972</b>						<b>1973</b>							
<b>Enrolled in school</b>						<b>Enrolled in school</b>							
Total, 16 to 24 years...	14,321	5,999	41.9	5,249	750	12.5	Total, 16 to 24 years...	14,175	6,293	44.4	5,572	721	11.5
16 to 19 years.....	10,627	4,081	38.4	3,476	605	14.8	16 to 19 years.....	10,517	4,360	41.5	3,756	604	13.9
20 to 24 years.....	3,694	1,918	51.9	1,773	145	7.6	20 to 24 years.....	3,658	1,933	52.8	1,816	117	6.1
Men.....	7,775	3,512	45.2	3,095	417	11.9	Men.....	7,599	3,603	47.4	3,195	408	11.3
Women.....	6,546	2,487	38.0	2,154	333	13.4	Women.....	6,576	2,690	40.9	2,377	313	11.6
White.....	12,423	5,502	44.3	4,888	614	11.2	White.....	12,275	5,782	47.1	5,175	607	10.5
Negro and other races.....	1,898	497	26.2	361	136	27.4	Negro and other races.....	1,900	511	26.9	397	114	22.3
<b>Not enrolled in school</b>						<b>Not enrolled in school</b>							
Total, 16 to 24 years...	18,318	13,880	75.8	12,408	1,472	10.6	Total, 16 to 24 years...	19,263	14,221	76.9	13,607	1,214	8.2
16 to 19 years.....	4,900	3,588	73.2	3,047	541	15.1	16 to 19 years.....	5,326	3,949	74.1	3,433	516	13.1
20 to 24 years.....	13,418	10,292	76.7	9,361	931	9.0	20 to 24 years.....	13,937	10,872	78.0	10,174	698	6.4
Men.....	8,008	7,430	92.8	6,721	709	9.5	Men.....	8,647	8,010	92.6	7,450	560	7.0
Women.....	10,310	6,450	62.6	5,687	763	11.8	Women.....	10,616	6,811	64.2	6,157	654	9.6
White.....	15,792	12,070	76.4	10,943	1,127	9.3	White.....	16,494	12,845	77.9	11,967	878	6.8
Negro and other races.....	2,526	1,810	71.7	1,465	345	15.1	Negro and other races.....	2,769	1,976	71.4	1,640	336	17.0

At each age, unemployment rates of students under age 25 were about the same as for persons not in school, but the overall unemployment rate for students continued to be higher than for out-of-school youth. The student rate was higher because most of them were in the younger age brackets, where unemployment rates are higher than in older age groups. For example, 69 percent of the student labor force, but only 27 percent of the out-of-school group was 16 to 19 years old. For both students and those not in school, the unemployment rate for teenagers was about 13 percent, compared to 6 percent for 20- to 24-year-olds.

Men and women students 16 to 24 years old had about the same unemployment rate, while among persons out of school, men were less likely to be unemployed than women. For both students and out-of-school youth, the Negro unemployment rate was over twice as high as for whites.

(This summary, together with additional tables,

will be published this year as a Special Labor Force Report reprint.) □

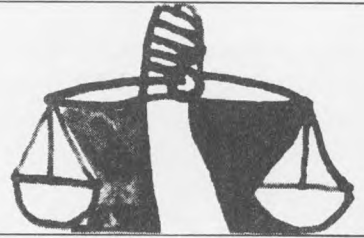
—FOOTNOTE—

<sup>1</sup> This article is based on supplementary questions in the October 1973 Current Population Survey, conducted and tabulated for the Bureau of Labor Statistics by the Bureau of the Census. The data relate to persons 16 to 24 years old in the civilian noninstitutional population in the calendar week ending Oct. 13, 1973. All members of the Armed Forces and inmates of institutions are excluded.

Because the estimates are based on a sample, they may differ from the figures that would have been obtained from a complete census. Sampling variability may be relatively large in cases where the numbers are small. Small estimates or differences between estimates, should be interpreted with caution.

The most recent report in this series was published in the *Monthly Labor Review*, September 1973, pp. 11-15, and was reprinted with additional tabular data and an explanatory note as Special Labor Force Report 158. Reprints of this article will be available upon request to the Bureau or to any of its regional offices.

## Significant Decisions in Labor Cases



### Illegitimates as dependents

ILLEGITIMACY OF BIRTH may be a heavy cross for a child to bear, its effects particularly painful when a law excludes the child from the benefits it is designed to provide. Recently the Supreme Court declared unconstitutional one such law—42 U.S.C. section 416(h)(3)(B), a provision of the Social Security Act, denying benefits to illegitimate children of a disabled wage earner if they were born after the onset of his disability and cannot meet certain statutory conditions to acquire eligibility. Such exclusion from the act's coverage, the Court said, is a denial of equal protection of the law. (*Jimenez v. Weinberger*.<sup>1</sup>)

The case is noteworthy inasmuch as it deals with the question of legislative classification of persons for the purposes of administration of a law in such a way as to satisfy the interests of most, even at the price of a less favorable treatment to some. The Supreme Court has often held that a restricted application of a law granting certain benefits, if justified by a presumption that it will serve most of the people the best, does not constitute denial of equal protection of the law.<sup>2</sup> In the present case, the Court took a different position. Here it held that the application of the social security provision which in effect placed a whole category of illegitimate children outside the act's coverage had no such justification.

The Federal law in question grants the status of dependents to those illegitimate children of disabled workers who are allowed by a State law to inherit from their parents (sec. 416(h)(2)(A)), or whose illegitimacy results from certain defects of their parents' marriage (sec. 416(h)(2)(B)), or who have legitimated their birth in accordance with a State law (sec. 402(d)(3)(A)). The illegitimates who are not able to meet any of these requirements are

entitled to dependent benefits *only* if the disabled worker "is shown by evidence . . . to be the father of the applicant and was living with or contributed to the support of that applicant at the time . . . such disability began . . ." (sec. 416(h)(3)(B)(ii)).<sup>3</sup> Hence, an illegitimate child who cannot meet any of the above-listed requirements is out of luck—and out of benefits.

In the present case, a disabled wage earner in Illinois who was receiving disability insurance benefits under the Social Security Act filed a claim for benefits for his three illegitimate children. He had acknowledged being their father, had supported them from the time of their birth, and had taken care of them after their mother left the family. The oldest of the children, though born after the man's disability began, was granted benefits because she was born only 4 months after the onset of the disability—or, as the High Court said, "she had been conceived before [her father] became disabled and no issue is presented with respect to her entitlement to benefits." The other two, however, were denied benefits because they could not meet the statutory requirements under 42 U.S.C. section 416(h)(3)(B): they had not received support from nor lived with their father prior to his disability—nor could they. . . .

The disabled father challenged the validity of section 416(h)(3)(B), arguing that it was based on "suspect classification," because, "[l]ike race and national origin, . . . illegitimacy is a characteristic determined solely by the accident of birth, . . . is a condition beyond the control of the children, and it is a status that subjects the children to stigma of inferiority and a badge of opprobrium. . . ." (Sup. Ct's. language.) The State of Illinois, on the other hand, asked that the statute be upheld because its exclusionary provisions served to protect State resources from "spurious claims" and to "insure that only those actually entitled to benefit receive payments." (Sup. Ct's. language.)

For support of its position, the State relied heavily

<sup>1</sup>"Significant Decisions in Labor Cases" is written by Eugene Skotzko, Office of Publications, Bureau of Labor Statistics.



on the High Court's decision in another case involving aid to dependent children, *Dandridge v. Williams*,<sup>4</sup> where the Supreme Court had held that ". . . a State does not violate the Equal Protection Clause [of the Fourteenth Amendment] because the classifications made by its laws are imperfect. If the classification has a 'reasonable basis,' it does not offend the Constitution" simply because some inequality results from it. (397 U.S., at 485.) The "reasonable basis" for inequality in aiding illegitimate children in the present case, the State of Illinois argued, was the need to prevent spurious claims to insurance benefits.

A three-judge Federal district court in Illinois agreed with the State's position and upheld the constitutionality of 42 U.S.C. section 416(h)(3)(B).<sup>5</sup> The case was appealed directly to the Supreme Court.

The High Court held the State's reliance on *Dandridge* unwarranted, because that case involved the State of Maryland with its "finite resources," whereas here no such justification existed. Here the Court saw a real denial of equal protection of the law.

Large in the Supreme Court's reasoning loomed the fact that the Federal statute permitted unequal treatment of two groups of persons with identical basic characteristics—that it made it possible for some "after-born" illegitimate children to acquire entitlement to social security benefits, but denied such possibility to other after-born children. If prevention of spurious claims on the social security system was the State's concern, the Court could not see why this rationale was based on the presumption that spurious claims were likely to originate among those who are statutorily precluded from gaining entitlement to benefits, but unlikely to come from those who are not so precluded.

Chief Justice Burger, who delivered the Court's opinion, concluded that "the two subclasses of [after-born] illegitimates stand on equal footing, and the potential for spurious claims is the same as to both; hence to conclusively deny one subclass benefits presumptively available to the other denies the former the equal protection of the law guaranteed by the due process provisions of the Fifth Amendment." Thus, the Chief Justice did not consider the need for protection against spurious claims to be an adequate justification for denying equal protection of the law to some illegitimate children.

The lower court's judgment was vacated and the

case remanded "to provide the appellants an opportunity, consistent with this opinion, to establish their claim to eligibility as 'children' of the claimant under the Social Security Act." It is not clear, however, what legislative adjustment, if any, the State of Illinois will have to make to carry out the ruling.

Justice Rehnquist dissented, largely on the ground that the majority's approach to the issue in the case was primarily through concern for equal protection of the law, instead of what he considered to be a proper position—concern for due process, which does not exclude the presumption of what is desirable for society as a whole, even if some individuals may not be treated on the par with others. "The very process of making legislative decisions to govern society as a whole means that some individuals may be treated less favorably than other individuals who fall within a different legislative classification," Justice Rehnquist said.

The dissenting justice recalled that only last year Chief Justice Burger, who led the majority in the present case, had argued (in *Vladis v. Kline*<sup>6</sup>) in the opposite direction, in favor of a presumptive approach to legislation, pointing to "literally thousands of State statutes creat[ing] classifications permanent in duration, which are less than perfect, as all legislative classifications are, and might be improved by individualized determination . . ." (412 U.S., at 462), not invalidated as denying equal protection of the law. Justice Rehnquist said, "This Court should not invalidate . . . classifications simply out of a preference for different classifications or because an unworkable system of individualized consideration would theoretically be more perfect."

### Pregnancy and disability benefits

Only 2 days earlier, however, while stressing the constitutional provision for equal protection of the law, the Supreme Court reaffirmed the principle that restriction of statutory benefit coverage is not a denial of equal protection if it is justified by a vital consideration. The reiteration came in *Geduldig v. Aiello*,<sup>7</sup> which involved disqualification of pregnant women from disability benefits under a State law.

Four California women who quit work because of pregnancy applied for disability benefits under the State's Unemployment Insurance Code, but their applications were rejected on the grounds that pregnancy was not among the disabilities covered by the statute. The law requires employees to contribute

1 percent of their earnings to the Unemployment Compensation Disability Fund, from which benefits are paid to workers disabled by illness or injury not covered by workmen's compensation. However, section 2626 of the code, as originally enacted in 1953, provides that ". . . [i]n no case shall the term 'disability' or 'disabled' include any injury or illness caused by or arising in connection with pregnancy up to the termination of such pregnancy and for a period of 28 days thereafter." Benefits are denied also to persons committed by courts as dipsomaniacs, drug addicts, and sexual psychopaths (sec. 2678 of the code).

In two separate class actions brought in a U.S. district court (where they were consolidated after one of the suits had been removed from the California Supreme Court), the four women challenged section 2626 as unconstitutional in that it denied equal protection of the law in violation of the Fourteenth Amendment. The State responded that concern for financial stability of the fund dictated a restriction on the risks that could be insured: the vast amounts that would have to be paid to pregnant women on leave could undermine the fund.

In upholding the plaintiffs,<sup>8</sup> a three-judge panel did not reject the theory that, for a valid reason, a State may limit the classification for the coverage of a law, but it found no such justification for California's concern over the solvency of its disability fund. It suggested that "[t]he increased costs could be accommodated quite easily by making reasonable changes in the contribution rate, the maximum benefits allowable, and other variables affecting the solvency of the program." (359 F.Supp., at 798.)

Shortly prior to this decision, the California Court of Appeals ruled<sup>9</sup> that only a disability arising in connection with "normal pregnancy" was excluded from the statute's coverage. This ruling subsequently resulted in an amendment to the Unemployment Insurance Code<sup>10</sup> and a change in the administrative guidelines to exclude only "maternity" payments—that is, benefits for disability arising from normal childbirth and recuperation. But the U.S. district court drew no distinction between normal and abnormal conditions of pregnancy in deciding the present case, simply because the State court's opinion had not reached it in time.

The Supreme Court viewed the State's concern over the fund's solvency seriously. In the words of Justice Stewart, who wrote for the majority, "It is evident that a totally comprehensive program would

be substantially more costly than the present program and would inevitably require State subsidy, a higher rate of employee contribution, a lower scale of benefits for those suffering insured disabilities, or some combination of these measures." And he went on:

The State has a legitimate interest in maintaining the self-supporting nature of its insurance program. Similarly, it has an interest in distributing the available resources in such a way as to keep benefit payments at an adequate level for disabilities that are covered, rather than to cover all disabilities inadequately. Finally, California has a legitimate concern in maintaining the contribution rate at a level that will not unduly burden participating employees, particularly low-income employees who may be most in need of the disability insurance.

Justice Stewart concluded, "There is nothing in the Constitution . . . that requires the State to subordinate or compromise its legitimate interests solely to create a more comprehensive social insurance program than it already has." He cited the High Court's previous ruling that "the Equal Protection Clause does not require that a State must choose between attacking every aspect of a problem or not attacking the problem at all (*Dandridge v. Williams*<sup>11</sup>); and that it is consistent with the Equal Protection Clause for a State to "take one step at a time, addressing itself to the phase of the problem which seems most acute to the legislative mind" (*Williams v. Lee Optical of Oklahoma, Inc.*<sup>12</sup>).

The State's concern over the adequacy of the fund was a valid reason for restricting the benefit coverage under its Unemployment Insurance Code, and there was "no evidence . . . that the selection of the risks insured . . . worked to discriminate against any definable group or class . . ." Justice Stewart said.

Three of the plaintiff women had suffered pregnancy complications, and they received disability benefits under the new provision, section 2626.2. The fourth one had a normal pregnancy and received no benefits.

Justice Brennan dissented, preferring "a stricter standard of scrutiny" than that which enabled the majority of the Court to uphold California's "gender-based classification" in this case—a classification the kind of which the Court had rejected in recent years.<sup>13</sup> He was joined by Justices Douglas and Marshall.

"In my view," Justice Brennan said, "by singling out for less favorable treatment a gender-linked disability peculiar to women, the State has created a

double standard for disability compensation: a limitation is imposed upon the disabilities for which women workers may recover, while men receive full compensation for all disabilities suffered, including those that affect only or primarily their sex. . . . In effect, one set of rules is applied to females and another to males. Such dissimilar treatment of men and women . . . inevitably constitutes sex discrimination."<sup>14</sup> He continued, "The Court's decision threatens to return men and women to a time when 'traditional' equal protection analysis sustained legislative classifications that treated differently members of a particular sex solely because of their sex."<sup>15</sup>

The dissenting justice held that California could insure normal pregnancy as a disability risk and still preserve its fund's solvency by "less drastic, sexually neutral means," such as those suggested by the district court. "But . . . the State's interest in preserving the fiscal integrity of its disability insurance program simply cannot render the State's use of a suspect [improper] classification constitutional. For while 'a State has a valid interest in preserving the fiscal integrity of its programs . . . a State may not accomplish such a purpose by invidious distinctions between classes of its citizens. . . . The saving of welfare costs cannot justify an otherwise invidious classification.'" <sup>16</sup> □

—FOOTNOTES—

<sup>1</sup> U.S. Sup. Ct., No. 72-6609, June 19, 1974.

<sup>2</sup> For instance: *Lindsley v. Natural Carbonic Gas Co.*, 220 U.S. 61 (1911); *Metropolis Theatre Co. v. City of Chicago*, 228 U.S. 61 (1913); *McGowan v. Maryland*, 366 U.S. 420 (1961); *Dandridge v. Williams*, 397 U.S. 471 (1970).

<sup>3</sup> Title 42 U.S.C., sec. 416(h)(3)(B) reads as follows: "(3) An applicant who is the son or daughter of a fully or currently insured individual, but who is not (and is not deemed to be) the child of such insured individual under paragraph 2 of this subsection [stating that an eligible applicant child must be able to inherit from the insured parent under a State law, or his or her illegitimacy must have resulted from a defect in the parent's marriage], shall nevertheless be deemed to be the child of such insured individual if:

\* \* \* \* \*

(B) in the case of an insured individual entitled to disability insurance benefits . . .

(i) such insured individual—(I) has acknowledged in writing that the applicant is his son or daughter, (II) has been decreed by a court to be the father of the applicant, or (III) has been ordered by a court to contribute to the support of the applicant because the applicant is his son or daughter, and such acknowledgment, court decree, or court order was made before such insured individual's most recent period of disability began; or

(ii) such insured individual is shown by evidence . . . to be the father of the applicant and was living with or contributing to the support of that applicant at the time such period of disability began. . . ."

<sup>4</sup> 397 U.S. 471 (1970).

<sup>5</sup> *Jimenez v. Richardson*, 353 F. Supp. 1356 (D.C.—No. Ill., 1973).

<sup>6</sup> 412 U.S. 441 (1973).

<sup>7</sup> U.S. Sup. Ct., No. 73-640, June 17, 1974.

<sup>8</sup> 359 F. Supp. 792 (1973).

<sup>9</sup> *Rentzer v. California Unemployment Insurance Appeals Board*, 32 Cal. App. 3d 604 (2d App. Dist., 1973).

<sup>10</sup> Section 2626 was modified by a new provision—subsection 2626.2, effective Jan. 1, 1974—which allows benefits to claimants disabled "(a) . . . because of an abnormal and involuntary complication of pregnancy . . ."; and (b) [when] a condition possibly arising out of pregnancy would disable the claimant without regard to the pregnancy. . . ."

<sup>11</sup> 397 U.S. 471, 486-87 (1970).

<sup>12</sup> 348 U.S. 483, 489 (1955).

<sup>13</sup> Reference to *Reed v. Reed*, 404 U.S. 71 (1971); and *Frontiero v. Richardson*, 411 U.S. 677 (1973). In both cases the Court essentially rejected a classification based on distinction between men and women.

<sup>14</sup> Justice Brennan pointed out that sex discrimination is prohibited by Title VII of the Civil Rights Act of 1964, and that the Equal Employment Opportunity Commission's guidelines state that pregnancy "should be treated as [a temporary disability] under any health or temporary disability insurance . . . plan available in connection with employment." (29 CFR section 1604.10(b), 1973).

<sup>15</sup> Cited: *Muller v. Oregon*, 208 U.S. 412 (1908); *Goesaert v. Cleary*, 335 U.S. 464 (1948); *Hoyt v. Florida*, 368 U.S. 57 (1961).

<sup>16</sup> Justice Brennan's citation is from the Supreme Court's decision in *Shapiro v. Thompson*, 394 U.S. 618, 633 (1969).



# Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in November 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
American Chain and Cable Co., Inc. (Interstate)	Fabricated metals products	Steelworkers	1,500
Armstrong Cork Co., Lancaster Floor Plant (Lancaster, Pa.)	Miscellaneous manufacturing	Rubber Workers	2,050
Bituminous Coal Operators Association (Interstate)	Mining	Mine Workers (Ind.)	80,000
Chicago Dry Cleaners Association (Chicago, Ill.)	Services	Laundry, Cleaning, and Dye House Workers (Ind.)	3,000
Fieldcrest Mills, Inc., Columbus Towel Division (Columbus, Ga.)	Textiles	Textile Workers Union	1,250
Foster Grant Co., Inc. (New Hampshire and Massachusetts)	Rubber	Retail, Wholesale and Department Store Union	1,000
Greater New York Milk Dealers Labor Committee (New York, N.Y.)	Food products	Teamsters (Ind.)	3,500
ICI America, Inc., Indiana Army Ammunition Plant (Charlestown, Ind.)	Ordnance	Firemen and Oilers; Chemical Workers	3,000
Industrial Launderers, Cleaners Association and Linen Companies (Detroit, Mich.) <sup>2</sup>	Services	Laundry Cleaning and Dye House Workers (Ind.)	1,600
Johnson and Johnson (Illinois)	Instruments	Textile Workers Union	1,300
Kroger Co. (Columbus, Ohio)	Retail trade	Retail Clerks	1,600
Kroger Co. (Louisville, Ky.)	Retail trade	Meat Cutters	2,800
Litton Systems, Inc., Ingalls Nuclear Shipbuilding Division (Pascagoula, Miss.)	Transportation equipment	Pascagoula Metal Trades Council, including Teamsters (Ind.)	5,000
Lockheed Aircraft Corp., Lockheed-California Co. Division (California)	Transportation equipment	Engineers and Scientists Guild (Ind.)	3,200
McDonnell Douglas Corp., Douglas Aircraft Co., and McDonnell Douglas Astronautics Co.-West (Interstate)	Transportation equipment	Southern California Professional Engineering Association (Ind.)	4,250
Metropolitan New York Nursing Home Association, Inc., Licensed Practical Nurses (New York, N.Y.)	Hospitals	Service Employees	1,250
Metropolitan New York Nursing Home Association, Inc., Blue-Collar Workers (New York, N.Y.)	Hospitals	Service Employees	6,500
Pharmseal Laboratories (Irwindale, Calif.)	Instruments	Brick and Clay Workers; Teamsters (Ind.)	1,100
Professional Laundry Institute of Chicagoland (Chicago, Ill.)	Services	Laundry, Cleaning, and Dye House Workers (Ind.)	4,500
RCA Corp., RCA Service Co. Division (Interstate)	Services	Electrical Workers (IBEW)	3,250
Reno Employers Council, Lake Tahoe Resort (Nevada)	Restaurants	Hotel and Restaurant Employees	1,200
Rohr Corp. (Chula Vista, Calif.)	Transportation equipment	Machinists	2,200
Rohr Corp. (Riverside, Calif.)	Transportation equipment	Machinists	1,100
Seattle-First National Bank (Seattle, Wash.)	Finance	Firstbank Independent Employees Association (Ind.)	3,300
Tecumseh Products Co. (Tecumseh, Mich.)	Machinery	United Products Workers (Ind.)	3,000
Teledyne Industries, Inc., Teledyne Ryan Aeronautical Division (San Diego, Calif.)	Transportation equipment	Auto Workers (Ind.)	1,200
United Aircraft Corp., Pratt and Whitney Aircraft Division (Connecticut)	Transportation equipment	Machinists	11,500
United Aircraft Corp., Pratt and Whitney Aircraft Division (Southington, Conn.)	Transportation equipment	Machinists	2,550
Voluntary Hi-Rise Labor Negotiating Committee, Fireproof Apartment Buildings (Chicago, Ill.)	Services	Service Employees	2,000
Walk-Up Apartment Buildings (Chicago, Ill.) <sup>2</sup>	Services	Service Employees	4,900
Youngstown Hospital Association (Youngstown, Ohio)	Hospitals	Service Employees	1,100
	<b>Government activity</b>	<b>Employee organization <sup>1</sup></b>	
District of Columbia: D.C. Department of Corrections	Correctional Institutions	Government Employees	1,350
Massachusetts: Division of Employment Security	Multidepartment	State, County and Municipal Employees	2,500
Ohio: Cleveland Board of Education, Teachers	Education	Teachers	5,500
Tennessee: Memphis Board of Education, Custodial, Maintenance, and Cafeteria employees	Education	State, County and Municipal Employees	2,300
Wisconsin: Milwaukee Police Department	Law enforcement	Professional Policemen's Protective Association (Ind.)	2,100

<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



### Ford asks, gets cost-of-living monitor

On August 12, in his first major policy address, President Gerald R. Ford called on Congress to "reactivate the Cost of Living Council through passage of a clean bill, without reimposing controls, that will let us monitor wages and prices to expose abuses." Declaring that "we must begin now" to control inflation, the President asked Congress to pass the necessary legislation before its Labor Day recess. He also disclosed that he would preside over an economic "summit meeting," to focus on ways to bring inflation under control.

Congress complied with the President's request and on August 24 the President signed a bill establishing a Council on Wage and Price Stability. The council has no enforcement powers and relies on persuasion to limit wage and price increases. Mr. Ford warned that the panel could not be expected to provide "an instant answer or an immediate panacea" for inflation, but would give "guidance in very broad terms to management and labor so they don't take advantage of a free economy in this critical situation." He also reiterated his position that the council ". . . should not be a stepping stone back to mandatory wage and price controls. We have learned from experience that in today's economy controls lead to disruptions and new troubles."

The law also gave the council authority to determine the effect of government policies and programs on inflation, and to hold public hearings to scrutinize inflationary problems in various sectors of the economy. The President was to appoint the eight members and four "adviser members" of the council, as well as a director. The panel was expected to have a 25-person staff and a budget of about \$1 million to

carry it through the fiscal year ending June 30, 1975. Its authority expires August 15, 1975.

On August 26, Mr. Ford announced that the September 24-28 "summit conference" on inflation would have five goals:

- To clarify the Nation's present economic condition.
- To identify the causes of inflation.
- To develop a consensus on basic policies to deal with inflation.
- To consider new and realistic approaches to the inflation problem.
- To define hardship areas requiring immediate action.

The President said he would also preside over two preliminary meetings—on September 5 with economists and on September 11 with labor leaders. Some Cabinet officers were also scheduled to conduct presummit meetings with leaders from various sectors of the economy.

The President's first public action on the economy came earlier, on August 12, when he criticized General Motors Corp. for an announced average 9.5-percent increase in prices of its 1975 model cars. He said, "I was very disappointed, and I hope that the General Motors action will not be viewed as a signal by the other auto companies or other industries. It is essential at this time, particularly, that all segments of the economy—industry and labor—exercise restraint in their wage and price actions."

General Motors responded that even the 9.5-percent increase was not enough to cover its production cost increases. However, the company did reduce the increase to an average of 8.5 percent.

### Ford and Meany meet

The day after announcing his anti-inflation campaign, President Ford met with AFL-CIO President George Meany to solicit the assistance of organized labor. The White House said the President hoped the meeting would "serve to help the Ford Administration establish good relations with the AFL-CIO and with a great labor leader."

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"Developments in Industrial Relations" is prepared by Leon Bornstein 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.

During the 45-minute meeting, Mr. Meany reportedly suggested Government actions to assist hard-hit segments of the work force, such as easing credit restrictions to increase activity in the construction industry. Mr. Meany also stressed that labor wanted a strong role in the summit conference.

The White House visit was Mr. Meany's first since June 1973, reflecting the bitter feelings between the Federation and the previous Administration. Mr. Meany had particularly criticized President Nixon's economic policies and his handling of the Watergate affair.

### A parting shot

The AFL-CIO Executive Council, meeting shortly before President Nixon resigned, blasted the Nixon Administration's handling of the economy, claiming that unions were trying to reach collective bargaining settlements "in the most difficult economic environment since World War II." The council, at its summer session in Chicago, cited the increase of 11.1 percent in living costs in the year ending in June, the 4.5-percent decline in real earnings over the same period, and the rise in unemployment from 4.6 percent in October to 5.3 percent in July. It also declared that "unions must catch up" following "nearly 2 years of accelerating inflation and more than a year of declining purchasing power."

In other developments, A. Philip Randolph, 85, announced his retirement from the Executive Council and as an AFL-CIO vice president. The noted civil rights and trade union leader had resigned as president of the Sleeping Car Porters in 1968, a post he assumed in 1929. AFL-CIO President George Meany lauded "Phil Randolph and the contribution he has made, not only to the advancement of blacks in America and in the trade union movement, but the contribution he has made to the cause of human freedom all over." The council elected C. L. Dellums, successor to Mr. Randolph as head of the Sleeping Car Porters, to the latter's two AFL-CIO posts. Similarly, Francis S. Filbey, who was recently re-elected president of the American Postal Workers Union, was chosen to fill the council vacancy created in April by the death of John F. Griner, former president of the Government Employees.

Mr. Meany also announced that the Federation had chartered a Public Employees Department comprising unions representing Federal, State, and local

government employees, as well as those of the U.S. Postal Service. Currently, 22 unions representing more than 2 million government and postal workers are affiliated with the AFL-CIO. Mr. Meany said 12 unions had agreed to join the new department and that "there are more coming in." The unions reportedly were planning to hold a constitutional convention in November. The existing AFL-CIO Government Employees Council was expected to be merged into the new department.

### Telephone strike averted

American Telephone & Telegraph Co. and the Communications Workers settled August 4 on a 3-year contract, 2 hours before a scheduled nationwide strike against the various operating companies of the Bell System. About 500,000 workers were covered by the CWA contract and 150,000 by similar contracts negotiated by the Electrical Workers (IBEW) and various independent unions. Ratification of the contracts was announced in September, after the unions had completed negotiations on local issues, including allocation of funds provided by the national accords for raising some cities and towns to higher wage zones and eliminating wage inequities.

An additional 56,000 IBEW-represented workers at 10 Western Electric Co. plants, who had earlier rejected the terms, accepted a revised offer on September 3, ending their 33-day strike. Western Electric said the "modified" package was "within the framework" of the earlier package, indicating that the wage and benefit components may have been altered but the overall cost was not. (Employees at 3 of the 10 plants delayed returning to work for a few days because of unresolved local issues.)

CWA President Glenn E. Watts said the 3-year accord would raise wage and benefit costs by 35.8 percent. This includes projected cost-of-living wage escalator adjustments. The CWA contract features an immediate wage increase of 7.1 to 10.7 percent, varying by job grade; 3.3-percent deferred wage increases on the first and second anniversaries; cost-of-living escalator adjustments on the first and second anniversaries of 50 cents a week plus .6 percent of an employee's scheduled weekly wage rate for each 1-percent rise in the Consumer Price Index during the preceding 12 months (the previous clause provided for July 1972 and July 1973 adjustments of 50 cents a week for each 0.5 point rise in the 1957-59=100 index); a \$100 million fund for local



wage adjustments; a 7.5-hour shift, instead of 8, for traffic employees, effective January 5, 1975; a company-financed dental plan; a 10th paid holiday; improved pension and insurance benefits; adoption of an agency shop provision requiring nonunion workers to pay the union the equivalent of dues; and a uniform expiration date of August 6, 1977.

### Teachers' union picks Shanker over Selden

Albert Shanker overwhelmingly defeated David Selden for the presidency of the American Federation of Teachers at the union's annual convention in Toronto. Unofficial results of the balloting by 2,300 delegates gave Mr. Shanker 258,911 votes, Mr. Selden, 39,987, and David Rasoff, 1,067.

Mr. Selden had headed the 425,000-member union since 1968.

Mr. Shanker has been president of New York City's Federation of Teachers since 1964 and is executive vice president of the 205,000-member New York State United Teachers, an affiliate of both the AFT and the National Education Association. He also serves on the AFL-CIO Executive Council.

After his victory, Mr. Shanker said he would not resign from his other posts. Prior to the election, the delegates overwhelmingly rejected a constitutional amendment that would have prevented the president from holding office in local or State units.

### Time-out called in football strike

On August 11, the National Football League Players Association announced that its members would suspend their 45-day strike against 26 club owners by reporting to training camps on August 14 for a 14-day "cooling-off" period. The walkout had become official on July 1, when the first of the professional football teams' training camps opened. Ed Garvey, executive director of the players union, said that the 2-week suspension was suggested by Federal mediator W. J. Usery, Jr., who felt it might be used to resume meaningful talks.

Mr. Usery had been meeting with the NFL Management Council and the Association since late July to resolve the differences. The talks began March 16, when the players presented their demands. By mid-August, NFL teams had already played several "pre-season" games, using mostly rookies and free agents to fill up the squads. However, the NFL Management Council claimed that more than 300 "regu-

lar" players had reported to camp. In early August, defections from the Players Association ranks grew, with several stars reporting to camp. Commenting on the 2-week suspension, Association President Bill Curry of the Houston Oilers said, "We aren't giving up. We aren't selling out. We'll be back, and we'll find out if the collective-bargaining system works."

When the negotiations were recessed on August 10, the owners reported that they and the Association were far apart on economic issues. The players disputed this, claiming "substantial progress was made this week." Among economic demands by the players were minimum salaries of \$20,000 for rookies, instead of \$12,000, and \$25,000 for veterans, instead of \$13,000; increases in pay for six preseason games, from a maximum of \$2,160 to \$12,000; an increase in training camp allowances from \$14.15 to \$30 a day; and larger shares of playoff and Super Bowl revenue, as well as increases in insurance coverage and pensions.

The strike was distinguished by the importance of so-called "freedom" issues. The Association demanded the elimination of all restrictions on player movement between teams, including the waiver system, and reserve and option clauses in contracts. One of the chief targets was the "Rozelle Rule," which compensates a team when an athlete plays out his option and moves to another team. The players also demanded fewer curfews, disciplinary actions, and fines, and a curb on the powers of Commissioner Pete Rozelle.

As the 14-day period passed without a settlement, player representatives voted to stay in camp and play the regular season without an agreement if necessary. At the same time, the players rejected the owners' latest proposal.

### Railroads, union reach accord

The Sheet Metal Workers and the Nation's railroads reached an "understanding" that is expected to avert a strike until at least next January. The parties had been negotiating for over a year on a contract to replace the one which expired June 30, 1973. Talks are to resume soon, and if an agreement is not reached by January 1 the union will be free to call a strike on 14 days' notice. The carriers agreed to pay the Sheet Metal Workers the same 4-percent wage increase retroactive to January 1, which other rail employees already received under their 1973 settlements. In July, a Presidential board had recom-

mended that the Sheet Metal Workers accept the same terms as the other unions. (*Monthly Labor Review*, September 1974, pp. 62-63).

### Copper accords end strikes

Bargaining in the copper industry neared an end on August 22, when the White Pine Copper Co. accepted a 3-year contract similar to the accords negotiated between other companies and a coalition of 26 unions led by the Steelworkers. All of the settlements except that at Anaconda Co. were preceded by strikes, beginning July 15.

Although the June 25 settlement at Anaconda set the wage and benefit package cost for the industry, there were variations in how the money was allocated at the various companies. This was particularly true in the area of wages, where increases varied because of the unions' drive to gain uniform wage structures. Reported terms at Anaconda included a 28-cent-an-hour general wage increase, plus a 1-cent increase in the increment between job grades effective July 1, a 16-cent general increase and a 0.8-cent increment increase on July 1, 1975, and a 17-cent general increase and a 0.75-cent increment increase in July 1976, amounting to a combined reported average increase of 86.4 cents an hour; one-cent quarterly wage escalator adjustments for each 0.3-point movement in the Consumer Price Index (1967=100), instead of the previous 1 cent for each 0.4-point movement in the 1957-59=100 index; normal pensions computed at \$11 a month for each of the first 15 years of service (was \$7.50 for all years), \$12.50 for the 16th through 30th years, and \$14 for each additional year; a 5-percent "inflation adjustment" in pensions on July 1, 1975; a company-financed dental plan; a ninth paid holiday; sickness and accident benefits of \$105 a week for 52 weeks instead of \$70 a week for 26 weeks; and 4 weeks' paid vacation after 17 years' service, instead of 20, and a 5th week after 25 years.

The other concerns that settled companywide issues were Kennecott Copper Corp., American Smelting and Refining Corp., Phelps Dodge Corp., and Magma Copper Co. More than 30,000 workers were covered. Negotiations were continuing on local issues at some of the companies.

### Steelworkers, mining firms settle

Bargaining between the Steelworkers and five iron ore mining and processing companies in Michigan and Minnesota was completed August 17, when the

Cleveland Cliffs Mining Co. settled with its 3,000 workers.

The union had previously settled with Hanna Mining Co., which employs 2,300 members; Reserve Mining Co., 3,000; Oglebay Norton Co., 400; and Pickands Mather Co., 2,300. All of the settlements were preceded by strikes that began August 1. The 3-year accords, similar to the March settlements with the major steel producers, included general wage increases of 28 cents an hour retroactive to May 1, and 16-cent increases on August 1 of 1975 and 1976, plus increases in the increment between job grades; liberalization of the wage escalator clause; pension improvements, including increases in the monthly benefit rate for each year of credited service and a flat 5-percent "inflation adjustment" for all future retirees; a company-financed dental plan; and adoption of steel's Experimental Negotiating Agreement approach, which will eliminate the possibility of companywide strikes in the 1977 round of bargaining.

In addition to these terms, ore miners gained an 8-hour workday, including a 20-minute paid lunch period. Previously, the workday was 8½ hours, including a half-hour unpaid lunch period.

### Coal miners' walkout honors dead

On August 19, 80,000 coal miners began a nationwide 5-day work stoppage to honor the "more than 100,000" miners killed in mining accidents in this century. Mine Workers' President Arnold R. Miller said the memorial period would "commemorate the thousands of coal miners killed while working in the Nation's mines, all the miners whose lives have been ravaged by black lung disease, and coal mining families who are victims of company violence designed to prevent them from winning the protection of a United Mine Workers contract." The union cited a section of its collective bargaining agreement with the Bituminous Coal Operators Association permitting memorial stoppages totaling not more than 10 days over the 3-year term if "reasonable notice" is given to the affected companies.

Indications were that the union also had other motives in calling the walkout. The UMW initially mentioned a possible memorial stoppage in a July letter to the Bituminous Coal Operators Association in which it suggested that the Association intervene in a dispute between the union and a Duke Power Co. subsidiary in Harlan, Ky. The union was reportedly angered by alleged police interference in its organizing drive against Duke Power's Brookside

mine, where a strike began 13 months earlier. Duke Power, however, is not a member of the Association, prompting coal company lawyers to claim the Duke walkout constituted an illegal secondary boycott.

Observers also suggested the national walkout was intended to reduce coal stockpiles and thus strengthen the union's bargaining position in its talks with the Association on a contract to succeed the one expiring November 12.

A week before the action against 1,200 mines, the coal mine operators sought to have the National Labor Relations Board declare the walkout a secondary boycott. However, the Board refused.

On August 29, the Mine Workers settled with Duke Power's Eastover Mining Co., ending the bitter and violent impasse at the Brookside Mine in Harlan. The settlement was expected to strengthen the UMW's position in its bargaining with the Bituminous Coal Operators Association, and it was also seen as a breakthrough in the drive to extend UMW jurisdiction to the entire industry.

Mr. Miller said the agreement means ". . . the beginning of the end for nonunion coal in this country . . . I serve notice that the UMW intends to bring every ton of coal mined in this country and every American miner under UMW contract." According to the union, nearly a quarter of all U.S. coal is mined by nonunion workers.

Under the settlement, Eastover agreed to sign the current national contract between the UMW and the Association, and the union was not to authorize a strike against Eastover before the date when a new contract is reached with the Association. Eastover also agreed to a representation election at its nearby High Splint mine, which employs about 200 miners; to rehire 59 dismissed strikers; and to drop all pending legal actions.

### Taft-Hartley now covers hospital workers

In late July, President Nixon signed a bill extending the coverage of the Taft-Hartley Act to 1.4 million workers in private nonprofit hospitals. The legislation also established special notice and mediation procedures aimed at minimizing work stoppages resulting from contract disputes. The procedures apply to all private hospitals—proprietary and nonprofit—and to all other health care institutions, including health maintenance organizations, clinics, and nursing homes. (Exempted were Federal, State, and municipal hospitals, as well as administrative employees in the health field.)

The Taft-Hartley Amendment specifies that a

party desiring to terminate or modify a bargaining agreement must give written notice at least 90 days before the planned action. In addition, the Federal Mediation and Conciliation Service (FMCS) must be given 60 days' notice—30 days in the case of initial contract negotiations. The parties would then be required to cooperate with the FMCS in any meetings called by the agency to achieve a settlement.

The FMCS may also, within 30 days of receiving notice, invoke a 30-day "cooling-off" period if it sees the likelihood of a strike or lockout that would "substantially interrupt" health care in the community. During the cooling-off period, the FMCS, while continuing its mediation efforts, would appoint a board of inquiry to study the dispute and report its findings and settlement recommendations to the parties within 15 days. The parties would then have another 15 days to reach a settlement on the basis of the report. Strikes or lockouts would be barred during the inquiry board's tenure.

### Black-white income gap widens

A Census Bureau study revealed that the income gap between white and black families has begun to widen again, after having narrowed in the 1960's. Entitled "The Social and Economic Status of the Black Population in the United States, 1973," the study found that the median annual income of black families in 1973 was \$7,269, or 58 percent of the \$12,595 for white families. This compared with a high of 61 percent in 1969 and 1970.

The ratio of black-to-white family income first became available in 1964 from the Bureau's "Current Population Reports"—in that year black family income amounted to 54 percent of white family income. When white family income was compared with blacks "and other races," the minority income was 60 percent of whites in 1973, down from 64 percent in 1970.

The study did not detail the factors causing the declining income position of black families; however, it was noted that the proportion of black families with two wage earners or more has decreased to 50 percent, compared with a rise to 54 percent of white families. The Bureau also indicated that in recent years the proportion of black families headed by women—who generally earn less than men—has increased and the number of blacks and other minority members moving to better-paying jobs has slowed.

A White House official said that the income figures did not include public assistance grants, such as



welfare payments and food stamps, which have expanded sharply in the 1970's.

### Government payrolls rise

State and local government salary costs jumped 14.1 percent from October 1972 to October 1973, according to the Bureau of the Census. This was the largest October-to-October rise during the 22 years studied. The October 1971-to-October 1972 rise was 9.9 percent. The record increases in salary costs resulted from a rise in employment, to 11.4 million, from 10.8 million, and higher wage levels. The Bureau said that the salaries of full-time employees averaged \$847 a month, compared with \$772 in 1972. Salary costs in October 1973 totaled \$8 billion.

Meanwhile, Federal civilian employment remained at about 2.8 million for the sixth consecutive year. Salary costs, however, rose 11.2 percent, to \$3 billion for October 1973.

### AT&T bars bias against homosexuals

The American Telephone & Telegraph Co. said it was company policy not to discriminate against homosexuals in hiring and employment. The National Gay Task Force hailed the announcement as a breakthrough that could lead to similar actions by other concerns. Previously, AT&T, the Nation's largest private employer with 1 million employees, had been criticized by homosexual rights organizations, because some of its operating subsidiaries had barred the hiring or retention of homosexuals.

The policy was announced in the employee publication "AT&T News," in answer to a reader's question on the company's views on the subject. The company replied that "an individual's sexual preference isn't a criterion either for becoming an employee or remaining an employee of the Bell System. Job retention and promotability are based on demonstrable job performance and behavior. An individual's sexual tendencies or preferences are strictly personal."

The company also said that any supervisor "who is proven to have taken discriminatory actions

against any employee solely for sexual behavior occurring off the job wouldn't be defended by the company." AT&T cautioned that any employee whose "overt actions on the job prove to be a disruptive influence on the work force could be disciplined or dismissed," noting this applies "to all individuals regardless of their sexual preferences."

### Machinists, car dealers settle

Two Machinists union locals in the San Francisco Bay area reached separate 3-year agreements in mid-July with Eastbay Motor Car Dealers, Inc., and the Contra Costa Automotive Association. Wage changes for the 4,000 mechanics were an initial 50 cents an hour retroactive to June 1, 40 cents on January 1 and June 1 of both 1975 and 1976, and 45 cents on January 1, 1977. The Contra Costa mechanics will receive an additional 30 cents on the May 31, 1977, termination date of the contracts to help equalize rates between the two areas. The increases will bring the Eastbay rate to \$9.80 and the Contra Costa rate to \$9.60.

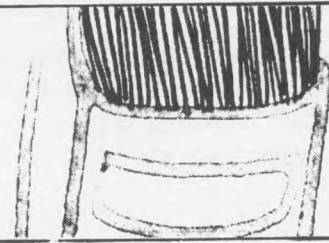
Other improvements in the Contra Costa contract were a ninth paid holiday, a \$12.50 a month increase in the employer contribution to the pension fund, \$10,000 life insurance, instead of \$5,000, and adoption of sickness and accident benefits equal to about 75 percent of the employee's weekly wage.

The Eastbay employees won a 10th paid holiday and an additional \$12.50 a month contribution to the pension fund.

### Meat Cutters settle with A&P

An August 16 settlement between the Meat Cutters and 550 A&P stores in the New York City area ended a 5-day strike by 18,300 butchers, clerks, and cashiers. The 3-year accord was expected to set a pattern for 8,000 employees whose contracts with 16 other food chains were scheduled to expire August 24. Terms at A&P included total wage increases of \$74 a week for butchers and \$60 for clerks. The previous average weekly wage was \$180. □

## Book Reviews and Notes



### Tracing the 'real relations' of economic society

*Theories of Value and Distribution Since Adam Smith: Ideology and Economic Theory.* By Maurice Dobb. London, Cambridge University Press, 1973. 295 pp. \$12.50, Cambridge University Press, New York.

Despite its title, this excellent book is not an organized review or summary of theories of value and distribution since Adam Smith. The reader had better know the historical background and its technical problems before tackling Mr. Dobb. He takes this knowledge for granted and goes from there, relating the considerable recent literature to the old contributions of the 18th and 19th centuries. In all, he cites some 200 major and minor contributors to the subject. For a reader somewhat removed from the doctrinal and analytical issues taken up by Dobb, this reviewer recommends reading Blaug's *Economic Theory in Retrospect* first.

Dobb first probes into the nature of economic theory, taking as his point of departure Schumpeter's distinction (in *History of Economic Analysis*) between economics as (a) pure analysis and (b) vision of the economic process. An economist's vision of the process is framed by his ideological proclivities and basic beliefs. Dobb accepts this distinction only if analysis means nothing more than a mere formal framework devoid of any "statement about the real relations of economic society" (p. 36). Schumpeter would have protested this restriction because it relegates analysis to a technical exercise without substance. This is Dobb's intention; he seems not to object to analysis as thus interpreted if it claims no more and is not a masquerade for the real thing.

Dobb's interest is in economic theory which begins with and attempts to explain the "real relations" of economic society, the structure and roots of economic society. Such theory must embrace historical intuition, social perspective, ideological belief—all elements in the theorists' vision of the economic process. As Dobb discusses the theories

of value and distribution, his interest centers on the theorists' vision of the real economic process.

In the Smith-Ricardo-Marx tradition the starting point is the real process—the class structure and property relations which shape the system and determine the distribution of income. Value was labor-determined but distributed by the prevailing property relations. Smith departed this tradition once he left the "early and rude state of society." Ricardo struggled with it and in the end was overcome by the complexities caused by disparate capital-labor ratios. Marx fared not much better on this intractable point; the intricacies and obscurities are well brought out by Dobb. Nevertheless, he remains committed to the "real value" approach with distribution governed by property relations.

Dobb traces the early criticism of the labor theory of value, laid out by Malthus, Bailey, and others, and the subsequent development of a comprehensive theory of price at the hands of J. B. Clark and others. Their theory of the system embraces only market and price interdependencies and ignores the underlying class and property relations which shape the distribution of income to begin with and therefore the structure of demand, which then confirms the equity of the distributive process. Dobb, and

### Books reviewed in this issue

- Maurice Dobb, *Theories of Value and Distribution Since Adam Smith: Ideology and Economic Theory*. Reviewed by Arthur E. Burns.
- Barbara F. Esser, Daniel H. Kruger, Benjamin Shimborg, *Occupational Licensing: Practices and Policies*. Reviewed by Arthur J. Bousel.
- John Kenneth Galbraith, *Economics & The Public Purpose*. Reviewed by Kenneth E. Boulding.
- John W. Kendrick, *Postwar Productivity Trends in the United States, 1948-1969*. Reviewed by Irving H. Siegel.
- Studs Terkel, *Working: People Talk About What They Do All Day and How They Feel About What They Do*. Reviewed by Elliott Liebow.

socialists in general, view this as an ideologically conservative vision of the economy, no matter how analytically sophisticated and neutral the formal apparatus may appear to be. The apparatus is a coverup for an ideological bias.

This tradition, extending back to Jevons, came under attack in the 1920's and particularly the 1930's with the Keynesian revolution. While Dobb discusses Keynes at length, it is not clear what bearing Keynes had on value and distribution theory. More importance is attached to Piero Sraffa, particularly his *Production of Commodities by Means of Commodities* (1960) which Dobb hails as the "true watershed of critical discussion" (p. 248). As Dobb sees it, "what is particularly striking . . . about the Sraffa-system . . . is its rehabilitation of the Ricardo-Marx approach to problems of value and distribution from the side of production; with the consequential result that relative prices are independent of the pattern of consumption and demand" (p. 257). This broadens the base of theory to include social, institutional, changing and changeable, historically relative conditions excluded from the post-Jevonian tradition.

Dobb's discussion of this revival of the classicists problem is of great interest, particularly with regard to the meaning and role of capital. And yet this reviewer is not persuaded that the recent discussion has in fact banished the role of demand as a determinant of value, real wages, profits, and relative prices; either separately or in combination.

—ARTHUR E. BURNS

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### Minus the spark

*Economics & the Public Purpose.* By John Kenneth Galbraith. Boston, Houghton Mifflin Co., 1973. 334 p. \$10.

As a compulsive writer myself, I have sometimes wished for a "Writers Anonymous" as a form of collective restraint on books that do not have to be written. As a longtime admirer of Galbraith's wit and insight, I regret to report that this volume was probably unnecessary. It can be justified, perhaps, as a summary of his previous thought, but I am not sure that the previous thought is enhanced. There is the occasional Galbraithian phrase, such as "convenient social virtue," or the middle-class wife as a "crypto-

servant," and there are flashes of the old astringent wit, but they do not seem to come up to the spark of previous volumes.

The general thesis is a simple one, that the capitalist world, and especially of course the United States, is divided sharply into two sectors; first, what he calls the "planning system" consisting of the large corporations who can plan their future outputs and prices, and second, the "market system" consisting of the small firms who are in perfect competition and at the mercy of price fluctuations that they cannot control. It is rather odd that someone who calls himself an advocate of the "new socialism" (page 279), which most old socialists would hardly recognize as such, should use the word "planning" in a rather coy, pejorative manner, but I suppose the moral is that, if you must have a planning sector, do it right.

The book opens with the usual attack on neoclassical economics, which I must confess strikes me as a battle with the customary straw man. It would not, after all, do even new socialists any harm to understand that the relative price structure—and the corresponding structures of individual terms of trade—does matter, which is the principal message of neoclassical economics. Then there is a section on the market system, another section on the planning system, a fourth on the interaction of the two, and the book ends with a general theory of reform, which I would find hard to embody in a specific political platform. Nevertheless, there are good points. Galbraith does not believe in monetary policy because it restricts the market system; he is in favor of more progressive taxation, price and wage control in the planning system, and public ownership in backward sectors of the economy. All this can be defended, but none of it seems to me to get at the root of what is the matter with us, which lies really in the long misunderstanding and neglect of neoclassical economics by virtuous liberals. We have neglected the social effects of the relative price structure, and have not understood the nature of implicit grants, with the result that resources are misallocated, income is not redistributed, and social democracy has become how to subsidize the rich in the name of subsidizing the poor. Galbraith's commitment to the liberal vision cannot be doubted. Nevertheless, like his spiritual ancestor Veblen, his almost paranoid denial of neoclassical economics leaves a hole in his system which is likely to frustrate his liberal intentions.



One must also report rather sadly that like many great liberals, Galbraith lets fall phrases that suggest a subtle snobbery. Thus, he talks about the "natural surliness" of the operators of the gasoline station, the motel, or lunch counter (page 72) and says "no one ever went into receivership underestimating the popular taste." All of which goes to show that the besetting sin of most clever people is that it is much easier to say clever things than true ones.

—KENNETH E. BOULDING  
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### The daily humiliations

*Working: People Talk About What They Do All Day and How They Feel About What They Do.*

By Studs Terkel. New York, Pantheon Books, 1974. 589 pp. \$10.

This extraordinary book consists of tape-recorded conversations sought out by Studs Terkel with more than 130 working Americans, men and women, black, brown, and white, from washroom attendant to corporation executive. Terkel's own contributions to the conversations were edited out, leaving a series of remarkably frank self-portraits that beautifully realize the author's clear intention: to show the violence wrought by most jobs on the human body and spirit, "above all . . . the daily humiliations."

Terkel's "methodology"—he would wince at the word—automatically brings Oscar Lewis' *La Vida* to mind, but Terkel, in his 14-page introduction, disavows the role of interviewer, social scientist, or journalist. He is a self-styled "wayfarer" who packed his tape-recorder and went on the road, meeting and talking to people on planes and trains, in the street, in bars, and in their homes, threading his way from father to son, or neighbor, or coworker, and picking up again with a new acquaintance.

Wayfarer or interviewer, Terkel has a genius for getting people to talk about themselves and their feelings, a genius that is surely related to his shameless love for ordinary people. For Terkel, in a sense, there are no ordinary people: the men and women who tell their stories in his book are all "heroes and heroines." Terkel stands in admiration and astonishment—his favorite word—at the extraordinary quality of everyday lives and of the extraordinary people who live them.

*Working* digs deeper and is more revealing of our lives and our society than Terkel's earlier books (*Division Street: America* and *Hard Times*), perhaps because work is so central to our lives that it is not possible for people to talk freely about their work without at the same time talking about their innermost feelings and their gut perceptions of who they are and how they fit or don't fit into the world around them. Thus, we get much more from these self-portraits than detailed, personal accounts of job-inflicted pain, failure, and "daily humiliations." Because we are shown different pieces of the whole of work, not just the most punishing aspects of it, we also get a sense of the meanings that people put into work in our society, and the meanings and other-than-money satisfactions that they take from it.

Different people will of course see different things in this rich parade of American workers. Clearly, there are many people who are able to live decently on their incomes, who get a sure sense of self from their work, who enjoy their jobs and are even exhilarated by them. But just as clearly, there are more who do not. *Working* shows that there really is a problem with work in America, and that the problem is not with workers' values and attitudes toward work but rather with the jobs they are asked to do, the conditions under which they are required to do them, and the rewards they get—or don't get—for doing them. Most workers at all occupational levels tend to see themselves dealt with as "things," treated "worse than the machines," sacrificed in the pursuit of profits and in the name of efficiency, discouraged and often punished for concerning themselves with quality instead of quantity, oversupervised, spied on, tethered to machines or to supervisors' whims, engaged in the production of useless or even harmful goods and services, and outraged or defeated by the indignity and self-waste of it all.

In short, Terkel shows us that the work ethic is indeed under attack in our society, not by those who work, but by the job system itself as we have defined it, by the very structure and organization of work itself.

—ELLIOT LIEBOW

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National Institute of Mental Health

## The case for and against licensing

*Occupational Licensing: Practices and Policies.* By Barbara F. Esser, Daniel H. Kruger, Benjamin Shimberg. Washington, Public Affairs Press, 1973. 249 pp. \$7.50.

Occupational licensing is vital for the protection of the public interest. Without it the safety and health of the majority of Americans would be placed in substantial jeopardy. Therefore, all licensing laws already on the books must be maintained and new ones should be promulgated in occupational areas not now covered.

Portions of the above, which is the traditional case for licensing, are challenged by the authors of *Occupational Licensing*. Their book attempts to show that occupational licensing is often, in reality, adopted to serve some narrow economic interest. Second, it argues that too many occupations are licensed, unnecessary restrictions and impediments to the mobility of workers are incorporated into licensing laws, and—with each State and local area enumerating different qualifications for identical professions—the whole system of licensing has resulted in a chaotic and confusing mess.

The book is based on a study by Educational Testing Service for the Manpower Administration of the U.S. Department of Labor. The primary goal of the original research was to determine the effects of licensing on the availability and mobility of non-professional labor in occupations where skill shortages were prevalent. As a result, the authors address themselves to this topic as well as to the ones above.

In challenging the widespread assumption that licensing is solely for the public benefit, the authors argue that the American people have never clamored for the licensing of any occupation as the result of some perceived need for the protection of their health and safety. Rather, special interest groups have asserted that such a need is evident. These interest groups consist almost exclusively of practitioners of the occupation of which licensing is being considered. The associations promote the passage of regulatory legislation which in turn sets up a regulatory agency, "composed of practitioners from the trade or profession in question." The result is that the practitioners of an occupation end up regulating themselves. By having the power to restrict entree into the field they regulate, they are able to determine just how much competition they themselves will

have. The boards serve as prosecutor, judge, and jury in any dispute they adjudicate.

With so many occupations licensed and requirements varying from State to State and even from city to city, the mobility of the work force is seriously impeded. The authors question the need for licensing journeymen who work under a licensed contractor. The safety of the public would be assured as long as the contractor were competent. Most trade unions oppose such modifications in the licensing structure, however, because this could lessen their control over entree to the trade.

Some cities require years of apprenticeship before testing, while adjacent localities might admit any applicant to be tested. Some localities require attendance at a vocational school, some give written examinations, others practical tests, and some both. There is generally no reciprocity between these individual fiefdoms with their jealously guarded job standards. A person moving from one place to another may have to start the training process for his occupation all over again, even if he has been practicing in his former place of residence for years.

The authors conclude that the growth of licensing in America has been a "haphazard, uncoordinated, and chaotic process." Their suggestions for improving the situation include establishing more appropriate performance standards for licensure and licensing on a national basis. Given the present situation, they appear to be much too optimistic about the chances of any of their suggestions being adopted.

The book is generally well-written and interesting; yet it does not satisfy the purpose of either the layman or the academician. For the former it may at times be too technical, and it definitely is not easy reading. The expert may conclude that the authors draw too many conclusions from evidence not wholly convincing. Their opinions show through clearly enough and are constantly reiterated. Their comments on the effects of licensure on minority group members seem to be based on preconceived notions as much as on their actual data. They admit to their expectation that licensing had an especially adverse effect on the upward mobility of minority groups, and that when they received contrary data they tended to regard it suspiciously. Their numerous cogent criticisms of licensing boards suffer from the bombast with which they sometimes portray the members. Not so important, but still annoying to the reader, the manuscript seems to have been poorly proofread. In several spots sentences or lines are

inverted or left out entirely. Such annoyances crop up on pages 13 and 107 for example.

In spite of these defects, the book is worthwhile reading for those who are concerned about the effects of licensing. The authors do present a strong case for thinking of licensing as an institution that is "fraught with chaotic and inequitable rules, regulations, and requirements and prone to restrictive and exclusionary practices as a result of pressure exerted by special interest groups."

—ARTHUR J. BOUSEL  
Office of Publications  
Bureau of Labor Statistics

### Measuring 'total factor' productivity

*Postwar Productivity Trends in the United States, 1948–1969.* By John W. Kendrick, assisted by Maude R. Pech. New York, National Bureau of Economic Research, 1973. 369 pp. \$15, Columbia University Press, New York.

This book is a sequel to Kendrick's *Productivity Trends in the United States*, which was published in 1961 and was also prepared with Ms. Pech's assistance. Together, the books provide productivity series reaching back, as a rule, to 1899—in some instances, a whole century, to 1869. They take advantage of work done by predecessors (such as Mills, Kuznets, and Fabricant) and contemporaries (such as Fuchs) at the National Bureau of Economic Research. They also have benefited greatly from the statistical labors of the U.S. Commerce Department's Bureau of Economic Analysis.

The six chapters of *Postwar Productivity Trends* are followed by a three-part appendix that makes up more than half the book. The first chapter presents an overview (less felicitous and less memorable, by the way, than the exposition that Fabricant contributed to Kendrick's earlier volume). The second deals with concepts and methods of measurement. The next two concern national productivity estimates, and the final two refer to measures for industries and industry groups. The appendix reports on data sources and methodology and presents detailed tables on output, input, and productivity.

Like Kendrick's earlier book (and other National Bureau volumes containing longtime series), this one is sure to be used widely and cited often by business analysts, economists, economic statisticians, econometricians, historians, and journalists. Its pro-

gram of productivity measurement is conceived and carried out in the attractive format of the Department of Commerce's national income and product accounts. It even offers series for the whole national economy, including government. The chief target at which it aims is the measurement of what is (misleadingly) called "total factor productivity"—the ratio of (a) real net product, which excludes capital consumption allowances as well as intermediate output, and (b) a weighted composite of labor input and real net tangible capital stock. Unfortunately, no formulas are provided, so it is not easy to examine the literal algebra beneath the author's algebra.

The multiplicity of admissible approaches to productivity measurement is acknowledged by Kendrick and illustrated, in some degree, by his variant and alternative series; but his book could hardly be expected to attempt a complete or balanced guide to the diversity of eligible concepts and methods. Although he does mention the current fashion among academics of viewing productivity change in the context of "production functions," he ignores the adaptability (explored, for example, by W. Duane Evans and Anne Carter) of the Leontief input-output system to a similar purpose. He makes noticeably sparse reference to the productivity work of the Bureau of Labor Statistics, which has a longer lineage than the National Bureau's own work in the field. His few remarks on the differences between Jorgenson-Griliches and Denison can be supplemented easily by recourse to *Survey of Current Business*, May 1972 (Part II). He addresses lightly, or not at all, some other relevant matters on the state of measurement art and statistical gaps considered during the National Commission on Productivity's Conference on an Agenda for Economic Research on Productivity, April 1973.

—IRVING H. SIEGEL  
Economist  
U.S. Department of Commerce

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### The function of book reviews

The book review process is surrounded with much myth and folklore. Even the experienced author awaits reviews—or in fact to see if the book will be reviewed—while assuring himself that reviews are not really important and have no influence on anything except his ego and blood pressure.

Some argue that since the reviewer is expressing only one opinion the whole process should be abandoned as a waste of scarce resources.

There is often little correlation between the reviewer's opinion and the "success" of the book. One sees slashing reviews of books which later become (at least in terms of the market) highly successful, and glowing reviews of others which quickly sink from sight. . . .

Perhaps the book review performs a more vital function in economics and certain other rapidly changing fields than it does in those which are more established, or more static. Clearly, some device must exist whereby scholars in the field can keep reasonably abreast of the flow of new literature in a fairly painless fashion, avoiding the impossible task of personally reading all new books. Thus the major contribution of the review

process is to provide a source of information in brief form, surveying, as widely as practicable, recent developments in the literature of the discipline.

From the standpoint of the author of the book under consideration, the ideal review serves several purposes. First, it "exposes" the book (a very important function). It should also point out to the author strong and weak points, indicate factual errors, etc., to guide him in reprint or revision. If the review is favorable and it enhances his self esteem, so much the better!

\* \* \* \* \*

No doubt the "ideal" is seldom achieved. A mildly critical review may be satisfactory to the publisher but it irritates the author, and an in-depth review presents logistical problems to the editor. Like many other institutions the review has changed in character and suffers from a large number of constraints and limitations which are to some degree impossible to solve with universal satisfaction. The decisionmaking processes throughout often seem to lack logic.

—HUGH S. NORTON,

"Reviewing Economics Textbooks: Some Comments on the Process,"  
*The Journal of Economic Literature*, September 1973.

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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. For a technical discussion of the method used to make seasonal adjustments, see "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1711 (Bureau of Labor Statistics, 1971), pp. 247-54, and *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15, Bureau of the Census (1967). Seasonally adjusted employment data in tables 2-7 are revised in the April issue of the *Monthly Labor Review* to reflect the preceding year's experience. Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 is usually introduced in the *Monthly Labor Review* at midyear. 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 wholesale price index series. However, seasonally adjusted indexes are not published for either the U.S. average All Items CPI or the All Commodities and Industrial Commodities WPI. Only seasonally adjusted percent changes are available for these 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 1973*, Bulletin 1790, 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 and from unemployment insurance records 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 Consumer Price Index* and *Wholesale Prices and Price Indexes*. Selected key statistical series are presented graphically in the monthly *Chartbook on Prices, Wages, and Productivity*.

### 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 reflect the availability of later data but may also reflect other adjustments.

### Schedule of release dates for major BLS statistical series

Title	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation .....	October 4	September	November 1	October	1-11
Wholesale Price Index .....	October 10	September	November 14	October	26-29
Consumer Price Index .....	October 22	September	November 21	October	23-25
Real earnings .....	October 22	September	November 21	October	14-20
Major collective bargaining settlements .....	October 25	1st 9 mos.	.....	.....	35-36
Productivity and costs in the private economy .....	October 30	3d quarter	.....	.....	.....
Work stoppages .....	October 30	September	November 27	October	37
Labor turnover in manufacturing ...	October 31	September	November 29	October	12-13
Productivity and costs in nonfinancial corporations .....	.....	.....	November 22	3d quarter	.....

## EMPLOYMENT DATA FROM 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 47,000 households, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

### Definitions

**Employed persons** 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 were available for work but did not 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 long-term illness, those discouraged from seeking work because of personal or job market factors and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

**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.

The reclassification of census occupations introduced in January 1971 affected comparisons of 1971 occupational employment data with data for prior years. Additional information on changes in the occupational classification system and other census adjustments may be found in the monthly "Explanatory Note" section of *Employment and Earnings*, published by the Bureau of Labor Statistics.

Data in tables 2-7 are seasonally adjusted, based on the seasonal experience through December 1973.

### 1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950-73

[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	58,920	7,160	51,760	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,171	6,449	55,724	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
1963	125,154	74,571	59.6	71,833	67,762	4,687	63,076	4,070	5.7	50,583
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	84,239	61.1	80,733	77,902	3,606	74,296	2,831	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

## 2. Employment status by age, sex, and color, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1973					1974							
	1972	1973	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>TOTAL</b>															
Total noninstitutional population <sup>1</sup> .....	145,775	148,263	148,565	148,782	149,001	149,208	149,436	149,656	149,857	150,066	150,283	150,507	150,710	150,922	151,135
Total labor force.....	88,991	91,040	91,011	91,664	92,038	92,186	92,315	92,801	92,814	92,747	92,556	92,909	93,130	93,387	93,281
<b>Civilian noninstitutional population<sup>1</sup>.....</b>	<b>143,326</b>	<b>145,936</b>	<b>146,258</b>	<b>146,491</b>	<b>146,713</b>	<b>146,924</b>	<b>147,155</b>	<b>147,398</b>	<b>147,599</b>	<b>147,816</b>	<b>148,040</b>	<b>148,277</b>	<b>148,499</b>	<b>148,701</b>	<b>148,916</b>
Civilian labor force.....	86,542	88,714	88,704	89,373	89,749	89,903	90,033	90,543	90,556	90,496	90,313	90,679	90,919	91,167	91,061
Employed.....	81,702	84,409	84,513	85,133	85,649	85,649	85,669	85,811	85,803	85,863	85,775	85,971	86,165	86,312	86,187
Agriculture.....	3,472	3,452	3,425	3,376	3,455	3,561	3,643	3,794	3,852	3,699	3,511	3,457	3,293	3,405	3,443
Nonagricultural industries.....	78,230	80,957	81,088	81,757	82,194	82,088	82,026	82,017	81,951	82,164	82,264	82,514	82,872	82,907	82,744
Unemployed.....	4,840	4,304	4,191	4,240	4,100	4,254	4,364	4,732	4,753	4,633	4,538	5,708	4,754	4,855	4,874
Unemployment rate.....	5.6	4.9	4.7	4.7	4.6	4.7	4.8	5.2	5.2	5.1	5.0	5.2	5.2	5.3	5.4
Not in labor force.....	56,785	57,222	57,554	57,118	56,964	57,021	57,121	56,855	57,043	57,320	57,727	57,598	57,580	57,534	57,855
<b>Males, 20 years and over</b>															
Civilian noninstitutional population <sup>1</sup> .....	59,790	60,943	61,704	61,175	61,270	61,359	61,510	61,628	61,709	61,801	61,897	62,000	62,097	62,176	62,273
Civilian labor force.....	48,808	49,539	49,520	49,651	49,921	49,926	50,085	50,371	50,312	50,091	50,065	50,227	50,245	50,205	50,397
Employed.....	46,880	47,946	47,992	48,138	48,432	48,425	48,559	48,660	48,529	48,379	48,272	48,508	48,483	48,428	48,506
Agriculture.....	2,501	2,500	2,480	2,472	2,489	2,544	2,569	2,687	2,708	2,646	2,493	2,494	2,420	2,470	2,516
Nonagricultural industries.....	44,379	45,445	45,512	45,666	45,943	45,881	45,990	45,973	45,821	45,733	45,779	46,014	46,063	45,958	45,990
Unemployed.....	1,928	1,594	1,528	1,513	1,489	1,501	1,526	1,711	1,783	1,712	1,793	1,719	1,762	1,777	1,891
Unemployment rate.....	4.0	3.2	3.1	3.0	3.0	3.0	3.0	3.4	3.5	3.4	3.5	3.4	3.5	3.5	3.8
Not in labor force.....	10,982	11,404	11,554	11,524	11,349	11,434	11,424	11,258	11,397	11,710	11,832	11,773	11,852	11,971	11,876
<b>Females, 20 years and over</b>															
Civilian noninstitutional population <sup>1</sup> .....	68,092	69,249	69,391	69,494	69,600	69,701	69,781	69,840	69,937	70,035	70,139	70,247	70,346	70,448	70,549
Civilian labor force.....	29,710	30,713	30,970	30,999	31,042	31,183	31,169	31,133	31,329	31,498	31,612	31,651	31,944	32,404	32,216
Employed.....	28,100	29,228	29,483	29,517	29,661	29,704	29,596	29,519	29,722	29,916	30,057	30,051	30,314	30,716	30,528
Agriculture.....	560	550	545	500	531	550	595	628	641	613	539	507	469	537	495
Nonagricultural industries.....	27,540	28,678	28,938	29,017	29,130	29,154	29,001	28,891	29,081	29,303	29,518	29,544	29,845	30,179	30,033
Unemployed.....	1,610	1,485	1,487	1,482	1,381	1,479	1,573	1,614	1,607	1,582	1,555	1,600	1,630	1,688	1,688
Unemployment rate.....	5.4	4.8	4.8	4.8	4.4	4.7	5.0	5.2	5.1	5.0	4.9	5.1	5.1	5.2	5.2
Not in labor force.....	38,382	38,536	38,421	38,495	38,558	38,518	38,612	38,707	38,608	38,537	38,527	38,596	38,402	38,044	38,333
<b>Both sexes, 16-19 years</b>															
Civilian noninstitutional population <sup>1</sup> .....	15,444	15,744	15,794	15,822	15,843	15,864	15,864	15,930	15,952	15,981	16,004	16,030	16,056	16,077	16,094
Civilian labor force.....	8,024	8,461	8,214	8,723	8,786	8,794	8,779	9,039	8,915	8,907	8,636	8,801	8,730	8,558	8,448
Employed.....	6,722	7,236	7,038	7,478	7,556	7,520	7,514	7,632	7,552	7,568	7,446	7,412	7,368	7,168	7,153
Agriculture.....	411	402	400	404	435	467	479	479	503	440	479	456	404	398	432
Nonagricultural industries.....	6,311	6,834	6,638	7,074	7,121	7,053	7,035	7,153	7,049	7,128	6,967	6,956	6,964	6,770	6,721
Unemployed.....	1,302	1,225	1,176	1,245	1,230	1,274	1,265	1,407	1,363	1,339	1,190	1,389	1,362	1,390	1,295
Unemployment rate.....	16.2	14.5	14.3	14.3	14.0	14.5	14.4	15.6	15.3	15.0	13.8	15.8	15.6	16.2	15.3
Not in labor force.....	7,421	7,283	7,580	7,099	7,057	7,070	7,085	6,891	7,037	7,074	7,368	7,229	7,326	7,519	7,646
<b>WHITE</b>															
Civilian noninstitutional population <sup>1</sup> .....	127,358	129,302	129,530	129,727	129,911	130,086	130,197	130,393	130,555	130,739	130,922	131,114	131,293	131,457	131,636
Civilian labor force.....	76,958	78,689	78,654	79,211	79,566	79,673	79,704	80,089	80,122	80,163	80,100	80,488	80,565	80,873	80,765
Employed.....	73,074	75,278	75,359	75,881	76,301	76,339	76,223	76,328	76,354	76,498	76,464	76,694	76,738	76,986	76,856
Unemployed.....	3,884	3,411	3,295	3,330	3,265	3,334	3,481	3,761	3,768	3,665	3,636	3,794	3,827	3,887	3,909
Unemployment rate.....	5.0	4.3	4.2	4.2	4.1	4.2	4.4	4.7	4.7	4.6	4.5	4.7	4.8	4.8	4.8
Not in labor force.....	50,401	50,613	50,876	50,516	50,345	50,413	50,493	50,304	50,433	50,576	50,822	50,626	50,728	50,584	50,871
<b>NEGRO AND OTHER RACES</b>															
Civilian noninstitutional population <sup>1</sup> .....	15,968	16,634	16,728	16,764	16,802	16,839	16,953	17,005	17,044	17,077	17,118	17,164	17,206	17,245	17,280
Civilian labor force.....	9,584	10,025	10,065	10,156	10,187	10,210	10,300	10,499	10,340	10,289	10,168	10,292	10,269	10,267	10,294
Employed.....	8,628	9,131	9,184	9,222	9,333	9,299	9,412	9,513	9,390	9,323	9,285	9,315	9,376	9,301	9,343
Unemployed.....	956	894	881	934	854	911	888	986	950	966	883	977	910	968	951
Unemployment rate.....	10.0	8.9	8.8	9.2	8.4	8.9	8.6	9.4	9.2	9.4	8.7	9.5	8.8	9.4	9.2
Not in labor force.....	6,384	6,609	6,663	6,608	6,615	6,629	6,658	6,506	6,704	6,788	6,950	6,872	6,920	6,976	6,986



## 3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1973					1974							
	1972	1973	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Total employed, 16 years and over.....	81,702	84,409	84,513	85,133	85,649	85,649	85,669	85,811	85,803	85,863	85,775	85,971	86,165	86,312	86,187
Males.....	50,630	51,963	51,892	52,290	52,638	52,584	52,732	52,910	52,716	52,556	52,370	52,628	52,499	52,389	52,445
Females.....	31,072	32,446	32,621	32,843	33,011	33,065	32,937	32,901	33,087	33,307	33,405	33,343	33,666	33,923	33,742
Household heads.....	48,752	49,926	50,146	50,232	50,403	50,385	50,565	50,807	50,825	50,706	50,738	50,817	50,995	51,054	51,059
Married men, spouse present.....	38,446	38,963	38,861	38,936	39,265	39,237	39,252	39,394	39,268	39,025	38,975	39,064	38,933	38,802	38,888
Married women, spouse present.....	18,218	19,091	19,017	19,216	19,538	19,462	19,354	19,147	19,224	19,349	19,497	19,505	19,682	19,910	19,887
<b>OCCUPATION</b>															
White-collar workers.....	39,092	40,386	40,423	40,691	40,921	41,205	41,138	41,399	41,375	41,743	41,601	41,615	42,111	41,953	41,766
Professional and technical.....	11,459	11,777	11,843	11,895	11,989	11,980	12,030	12,068	12,350	12,260	12,274	12,248	12,482	12,601	12,572
Managers and administrators, except farm.....	8,032	8,644	8,619	8,653	8,761	8,989	9,099	9,186	9,031	8,938	9,009	9,145	9,172	8,932	8,681
Sales workers.....	5,354	5,415	5,303	5,431	5,424	5,425	5,254	5,386	5,408	5,462	5,443	5,440	5,375	5,349	5,453
Clerical workers.....	14,247	14,548	14,658	14,712	14,747	14,811	14,755	14,759	14,586	15,083	14,875	14,782	15,082	15,071	15,060
Blue-collar workers.....	28,576	29,869	29,928	30,150	30,285	30,075	30,101	30,212	29,760	29,773	29,722	30,192	29,664	30,056	29,885
Craft and kindred workers.....	10,810	11,288	11,334	11,396	11,336	11,403	11,357	11,444	11,337	11,603	11,534	11,623	11,380	11,621	11,569
Operatives.....	13,549	14,269	14,315	14,329	14,488	14,414	14,303	14,187	13,990	13,716	13,973	14,137	13,982	14,283	14,014
Nonfarm laborers.....	4,217	4,312	4,279	4,425	4,461	4,258	4,441	4,581	4,433	4,459	4,215	4,432	4,302	5,152	4,302
Service workers.....	10,966	11,128	11,206	11,290	11,368	11,230	11,260	11,098	11,177	11,136	11,212	11,129	11,466	11,370	11,644
Farm workers.....	3,069	3,027	2,976	2,939	3,025	3,102	3,123	3,326	3,380	3,204	3,128	3,028	2,899	2,968	2,941
<b>MAJOR INDUSTRY AND CLASS OF WORKER</b>															
Agriculture:															
Wage and salary workers.....	1,216	1,254	1,233	1,226	1,271	1,340	1,353	1,493	1,469	1,440	1,299	1,320	1,235	1,268	1,341
Self-employed workers.....	1,789	1,776	1,745	1,751	1,765	1,790	1,821	1,887	1,919	1,828	1,767	1,740	1,701	1,740	1,723
Unpaid family workers.....	467	423	442	407	427	420	405	392	429	408	456	398	387	388	380
Nonagricultural industries:															
Wage and salary workers.....	72,381	74,995	75,224	75,641	76,180	76,123	76,100	75,984	76,031	76,231	76,054	76,132	76,618	76,602	76,739
Private households.....	1,654	1,543	1,524	1,612	1,568	1,508	1,542	1,438	1,505	1,403	1,434	1,424	1,408	1,367	1,432
Government.....	13,329	13,562	13,520	13,615	13,687	13,690	13,668	13,590	13,844	14,028	14,036	14,065	14,175	14,168	14,017
Other.....	57,399	59,889	60,180	60,414	60,925	60,925	60,890	60,956	60,682	60,800	60,584	60,643	61,035	61,067	61,290
Self-employed workers.....	5,332	5,426	5,436	5,497	5,476	5,409	5,455	5,399	5,458	5,362	5,636	5,703	5,811	5,805	5,745
Unpaid family workers.....	517	536	578	573	553	528	473	466	461	520	498	495	491	463	419
<b>PERSONS AT WORK<sup>1</sup></b>															
Nonagricultural industries.....	73,662	76,182	76,657	76,936	77,352	77,252	77,396	76,801	77,164	76,993	75,696	77,679	77,833	78,050	77,846
Full-time schedules.....	61,317	63,560	64,070	63,954	64,242	64,128	64,038	63,847	63,911	63,984	63,378	64,537	64,669	64,750	64,688
Part time for economic reasons.....	2,408	2,311	2,287	2,353	2,377	2,405	2,562	2,586	2,754	2,540	2,390	2,746	2,484	2,432	2,511
Usually work full time.....	1,081	1,074	1,167	1,106	1,103	1,143	1,192	1,213	1,381	1,249	1,078	1,260	1,209	1,156	1,174
Usually work part time.....	1,327	1,237	1,120	1,247	1,274	1,262	1,370	1,373	1,373	1,291	1,312	1,486	1,275	1,276	1,337
Part time for non-economic reasons.....	9,937	10,311	10,300	10,629	10,733	10,719	10,796	10,368	10,499	10,469	9,928	10,396	10,680	10,868	10,647

<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.

## 4. Selected unemployment indicators, seasonally adjusted

Selected categories	Annual average		1973					1974							
	1972	1973	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Total, 16 years and over.....	5.6	4.9	4.7	4.7	4.6	4.7	4.8	5.2	5.2	5.1	5.0	5.2	5.2	5.3	5.4
Males, 20 years and over.....	4.0	3.2	3.1	3.0	3.0	3.0	3.0	3.4	3.5	3.4	3.6	3.4	3.5	3.5	3.8
Females, 20 years and over.....	5.4	4.8	4.8	4.8	4.4	4.7	5.0	5.2	5.1	5.0	4.9	5.1	5.1	5.2	5.2
Both sexes, 16-19 years.....	16.2	14.5	14.3	14.3	14.0	14.5	14.4	15.6	15.3	15.0	13.8	15.8	15.6	16.2	15.3
White, total.....	5.0	4.3	4.2	4.2	4.1	4.2	4.4	4.7	4.7	4.6	4.5	4.7	4.8	4.8	4.8
Males, 20 years and over.....	3.6	2.9	2.8	2.8	2.7	2.7	2.9	3.1	3.2	3.0	3.2	3.1	3.2	3.3	3.5
Females, 20 years and over.....	4.9	4.3	4.3	4.3	4.0	4.1	4.4	4.7	4.7	4.7	4.6	4.7	4.8	4.8	4.8
Both sexes, 16-19 years.....	14.2	12.6	12.4	12.2	12.4	12.7	12.8	13.7	13.3	12.8	11.9	14.0	13.9	13.9	13.3
Negro and other races, total.....	10.0	8.9	8.8	9.2	8.4	8.9	8.6	9.4	9.2	9.4	8.7	9.5	8.8	9.4	9.2
Males, 20 years and over.....	6.8	5.7	5.7	5.4	5.5	5.5	4.9	5.8	6.6	6.8	6.5	6.3	6.5	5.9	6.3
Females, 20 years and over.....	8.8	8.2	8.0	8.1	7.8	8.7	8.7	9.1	7.9	7.0	6.8	8.0	6.9	8.0	8.0
Both sexes, 16-19 years.....	33.5	30.2	29.7	33.7	27.3	29.1	28.7	29.1	29.2	33.8	30.3	33.5	30.3	35.3	31.4
Household heads.....	3.3	2.9	2.8	2.7	2.7	2.8	2.8	3.0	3.0	3.0	3.1	3.0	3.1	3.0	3.1
Married men, spouse present.....	2.8	2.3	2.1	2.1	2.1	2.1	2.2	2.3	2.4	2.4	2.5	2.2	2.6	2.6	2.6
Full-time workers.....	5.5	4.3	4.2	4.2	4.1	4.3	4.4	4.7	4.7	4.6	4.6	4.6	4.7	4.8	4.8
Part-time workers.....	8.6	7.9	8.1	7.7	7.5	7.3	7.5	8.2	8.4	8.1	7.3	8.8	8.9	8.6	8.7
Unemployed 15 weeks and over.....	1.3	.9	.9	.9	.8	.9	.8	.8	.9	.9	.9	1.0	1.0	1.0	1.0
State insured <sup>1</sup> .....	3.5	1.7	2.6	2.6	2.6	2.6	2.7	3.1	3.3	3.4	3.4	3.3	3.4	3.4	3.3
Labor force time lost <sup>2</sup> .....	5.9	5.2	5.1	5.1	5.1	5.2	5.4	5.7	5.7	5.6	5.7	5.7	5.6	5.7	5.8
<b>OCCUPATION</b>															
White-collar workers.....	3.4	2.9	2.9	2.9	2.6	2.8	3.1	3.2	3.2	2.8	2.8	3.2	3.1	3.3	3.1
Professional and technical.....	2.4	2.2	2.2	2.3	2.2	2.1	2.3	2.5	2.0	1.9	2.2	2.1	1.9	2.1	2.2
Managers and administrators, except farm.....	1.8	1.4	1.3	1.3	1.4	1.2	1.4	1.7	1.8	1.5	1.6	1.9	1.8	1.4	1.9
Sales workers.....	4.3	3.7	3.8	3.5	3.0	3.3	4.5	4.0	4.2	3.8	3.3	4.2	4.6	4.0	3.7
Clerical workers.....	4.7	4.2	4.1	4.2	3.6	4.0	4.3	4.5	4.5	4.0	3.9	4.6	4.4	5.0	4.4
Blue-collar workers.....	6.5	5.3	5.2	5.1	5.1	5.4	5.2	6.0	6.1	6.1	6.4	5.7	6.2	6.1	6.5
Craft and kindred workers.....	4.3	3.7	3.7	3.7	3.5	3.9	3.2	3.8	3.9	3.6	3.9	3.7	4.2	4.2	4.2
Operatives.....	6.9	5.7	5.4	5.3	5.4	5.6	5.8	7.0	6.8	7.2	7.1	6.3	6.8	6.3	7.0
Nonfarm laborers.....	10.3	8.4	8.4	8.1	8.0	8.6	8.3	8.4	9.3	9.0	10.4	8.8	9.6	10.7	10.7
Service workers.....	6.3	5.7	5.5	5.7	5.1	5.9	6.2	5.5	6.1	6.1	5.8	6.7	5.8	6.3	6.2
Farm workers.....	2.6	2.5	2.6	2.4	2.5	2.3	2.4	1.9	2.1	2.8	2.7	2.6	2.8	2.9	2.8
<b>INDUSTRY</b>															
Nonagricultural private wage and salary workers <sup>3</sup> .....	5.7	4.8	4.7	4.7	4.5	4.8	5.0	5.3	5.4	5.1	5.3	5.2	5.4	5.4	5.5
Construction.....	10.3	8.8	8.5	9.6	9.0	9.1	8.2	9.1	7.9	8.4	10.3	9.6	10.2	10.6	11.1
Manufacturing.....	5.6	4.3	4.0	4.2	3.9	4.3	4.3	5.1	5.3	5.2	5.0	4.7	5.2	5.1	5.4
Durable goods.....	5.4	3.9	3.6	4.0	3.7	3.6	3.9	5.0	5.1	5.0	5.0	4.5	4.8	4.4	4.8
Nondurable goods.....	5.7	4.9	4.7	4.4	4.1	5.3	4.9	5.3	5.7	5.5	5.1	5.0	5.7	6.0	6.4
Transportation and public utilities.....	3.5	3.0	3.0	2.8	2.9	3.1	3.1	2.9	3.1	2.8	3.0	3.0	3.2	3.4	3.6
Wholesale and retail trade.....	6.4	5.6	5.9	5.6	5.1	5.4	6.1	6.1	6.0	5.8	5.9	6.3	6.1	6.4	6.1
Finance and service industries.....	4.8	4.3	4.1	4.0	4.1	4.3	4.6	4.5	4.9	4.4	4.3	4.3	4.3	4.3	4.4
Government workers.....	2.9	2.7	2.7	3.0	2.7	2.5	2.5	2.8	2.8	2.8	2.9	3.4	2.8	3.1	2.9
Agricultural wage and salary workers.....	7.6	6.9	7.1	5.8	6.7	7.4	6.4	6.3	6.7	7.8	8.2	7.1	7.5	7.8	6.9
<b>VETERAN STATUS</b>															
Males, Vietnam-era veterans <sup>4</sup> :															
20 to 34 years.....	6.7	5.0	5.0	4.9	4.5	3.7	4.3	5.2	5.0	5.1	5.1	4.8	5.2	4.9	5.0
20 to 24 years.....	10.6	8.9	9.3	8.0	8.2	7.2	7.5	10.6	10.0	9.0	9.2	10.3	10.1	9.6	11.4
25 to 29 years.....	5.0	3.7	3.9	4.0	3.4	2.5	3.4	3.6	3.8	4.3	4.5	3.6	4.4	4.3	3.6
30 to 34 years.....	2.9	2.6	2.1	3.1	2.7	2.4	2.8	3.1	2.7	2.8	2.8	2.5	2.6	2.0	2.5
Males, nonveterans:															
20 to 34 years.....	5.8	4.9	4.9	4.7	4.2	4.6	4.7	5.2	5.4	5.5	5.8	5.6	5.4	5.5	6.3
20 to 24 years.....	8.8	6.8	6.9	6.6	5.7	6.5	6.6	7.2	7.9	7.8	7.6	7.9	7.5	7.8	9.2
25 to 29 years.....	4.2	4.3	4.5	4.2	4.0	4.2	4.0	4.0	4.1	4.3	4.9	4.8	4.6	4.0	4.3
30 to 34 years.....	3.1	2.4	2.4	2.2	2.1	2.0	2.1	3.2	2.8	3.2	3.7	2.6	2.8	3.5	3.8

<sup>1</sup> Insured unemployment under State programs; unemployment rate calculated as a percent of average covered employment.

<sup>2</sup> Man-hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force man-hours.

<sup>3</sup> Includes mining, not shown separately.

<sup>4</sup> Vietnam-era veterans are those who served after August 4, 1964.

## 5. Unemployment rates, by age and sex, seasonally adjusted

Age and sex	Annual average		1973					1974							
	1972	1973	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>Total, 16 years and over</b> .....	5.6	4.9	4.7	4.7	4.6	4.7	4.8	5.2	5.2	5.1	5.0	5.2	5.2	5.3	5.4
16 to 19 years.....	16.2	14.5	14.3	14.3	14.0	14.5	14.4	15.6	15.3	15.0	13.8	15.8	15.6	16.2	15.3
16 and 17 years.....	18.5	17.3	16.6	17.2	16.4	17.2	16.7	19.4	17.9	18.4	15.7	18.1	18.4	18.0	17.3
18 and 19 years.....	14.6	12.4	12.8	12.6	12.1	12.5	12.9	13.3	12.9	12.7	12.5	14.3	12.9	14.7	14.1
20 to 24 years.....	9.3	7.8	7.8	7.8	6.7	7.2	7.7	8.5	8.6	8.1	8.1	8.6	8.3	8.8	9.5
25 years and over.....	3.6	3.1	3.0	2.9	2.9	3.0	3.1	3.2	3.3	3.3	3.3	3.2	3.3	3.3	3.3
25 to 54 years.....	3.7	3.2	3.1	3.0	2.9	3.1	3.3	3.4	3.5	3.4	3.6	3.3	3.5	3.5	3.4
55 years and over.....	3.3	2.7	2.7	2.6	2.6	2.7	2.6	2.8	2.9	2.7	2.6	2.7	2.7	2.8	3.2
<b>Male, 16 years and over</b> .....	4.9	4.1	4.0	4.0	3.9	4.0	4.0	4.4	4.5	4.4	4.5	4.4	4.6	4.6	4.7
16 to 19 years.....	15.9	13.9	14.1	13.7	13.4	14.3	13.6	14.1	14.6	14.4	14.0	14.6	15.6	15.4	15.2
16 and 17 years.....	18.2	17.0	16.5	15.6	15.6	17.2	16.3	18.8	18.0	17.6	16.3	18.0	18.9	18.4	18.8
18 and 19 years.....	14.0	11.4	12.3	12.6	11.3	12.1	11.9	11.2	11.6	12.1	12.4	12.2	12.1	12.8	12.7
20 to 24 years.....	9.2	7.3	7.2	7.0	6.3	6.6	6.7	7.9	8.3	7.9	7.8	8.3	8.1	8.1	9.3
25 years and over.....	3.1	2.5	2.4	2.4	2.4	2.4	2.4	2.7	2.8	2.7	2.9	2.6	2.7	2.8	2.8
25 to 54 years.....	3.1	2.5	2.4	2.3	2.2	2.3	2.5	2.7	2.7	2.7	3.0	2.7	2.8	2.8	2.8
55 years and over.....	3.3	2.5	2.6	2.7	2.7	2.6	2.4	2.6	2.9	2.4	2.3	2.3	2.5	2.7	3.2
<b>Female, 16 years and over</b> .....	6.6	6.0	5.8	5.9	5.6	5.9	6.2	6.6	6.4	6.2	5.9	6.4	6.3	6.5	6.3
16 to 19 years.....	16.7	15.2	14.6	15.0	14.8	14.8	15.4	17.3	16.2	15.8	13.5	17.2	15.6	17.2	15.4
16 and 17 years.....	18.8	17.7	16.6	19.3	17.3	17.2	17.2	20.1	17.8	19.3	14.9	18.3	17.7	17.5	15.3
18 and 19 years.....	15.2	13.5	13.3	12.6	13.0	13.1	14.0	15.6	14.4	13.4	12.6	16.7	13.8	16.9	15.8
20 to 24 years.....	9.3	8.4	8.5	8.7	7.3	7.9	8.9	9.3	9.0	8.4	8.4	9.0	8.7	9.6	9.8
25 years and over.....	4.6	4.0	3.9	3.9	3.8	4.1	4.2	4.2	4.3	4.2	4.1	4.2	4.4	4.2	4.2
25 to 54 years.....	4.9	4.4	4.3	4.1	4.1	4.4	4.6	4.6	4.8	4.5	4.4	4.4	4.6	4.6	4.5
55 years and over.....	3.4	2.8	2.9	2.5	2.5	2.7	2.8	3.1	2.9	3.4	3.0	3.2	3.1	2.9	3.2

## 6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1973					1974								
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	
<b>NUMBER OF UNEMPLOYED</b>														
Lost last job.....	1,565	1,611	1,461	1,664	1,761	2,006	2,052	2,022	2,007	1,888	1,998	2,022	1,988	
Left last job.....	646	670	678	783	765	731	750	739	720	676	738	764	773	
Reentered labor force.....	1,362	1,303	1,253	1,227	1,266	1,252	1,240	1,186	1,263	1,599	1,406	1,454	1,147	
Never worked before.....	608	641	612	590	593	682	630	632	549	643	625	675	634	
<b>PERCENT DISTRIBUTION</b>														
Total unemployed.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Lost last job.....	37.4	38.1	36.5	39.0	40.2	42.9	43.9	44.2	44.2	39.3	41.9	41.1	40.8	
Left last job.....	15.5	15.9	16.9	18.4	17.4	15.6	16.1	16.1	15.9	14.1	15.5	15.5	15.9	
Reentered labor force.....	32.6	30.8	31.3	28.8	28.9	26.8	26.5	25.9	27.8	33.3	29.5	29.6	30.2	
Never worked before.....	14.5	15.2	15.3	13.8	13.5	14.6	13.5	13.8	12.1	13.4	13.1	13.7	13.0	
<b>UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE</b>														
Lost last job.....	1.8	1.8	1.6	1.9	2.0	2.2	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.2
Left last job.....	.7	.7	.8	.9	.8	.8	.8	.8	.8	.7	.8	.8	.8	.8
Reentered labor force.....	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.3	1.4	1.8	1.5	1.6	1.6	1.6
Never worked before.....	.7	.7	.7	.7	.7	.8	.7	.7	.6	.7	.7	.7	.7	.7

## 7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Period	Annual average		1973					1974							
	1972	1973	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Less than 5 weeks.....	2,223	2,196	2,206	2,158	2,001	2,243	2,308	2,466	2,427	2,464	2,269	2,520	2,370	2,471	2,493
5 to 14 weeks.....	1,458	1,296	1,220	1,339	1,283	1,235	1,270	1,437	1,426	1,388	1,467	1,353	1,462	1,516	1,440
15 weeks and over.....	1,158	812	777	768	756	820	740	768	830	815	857	877	939	928	949
15 to 26 weeks.....	597	475	446	476	431	469	409	440	505	503	528	525	571	550	564
27 weeks and over.....	562	337	331	292	325	351	331	328	325	312	329	352	368	378	385
Average (mean) duration, in weeks.....	12.1	10.0	10.0	9.4	10.3	10.0	9.3	9.4	9.6	9.4	9.8	9.5	9.8	10.1	10.0



## EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEY

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 160,000 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 mentioned in the titles of tables 14-20 include production workers in manufacturing and mining; construction workers in contract construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in service 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** adjusts average hourly earnings data 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 is 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.

### Notes on the data

Unless otherwise noted, all establishment data collected by the Bureau of Labor Statistics have been adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment was made in November 1972 and affected prior data back to April 1971. Consequently, data provided in this publication prior to November 1972 are not strictly comparable to data being published on a current basis. Comparable back data are published in *Employment and Earnings, United States, 1909-72*, Bulletin 1312-9 (Bureau of Labor Statistics, 1973).

Two measures of change in employment in manufacturing exist, but they are not comparable. Month-to-month changes in total employment in manufacturing industries are measured by labor turnover rates (tables 12 and 13). A monthly change also can be calculated from employment data for establishments in manufacturing. The two measures differ because (1) the labor turnover series measures changes during the calendar month, while other establishment data report changes from midmonth to midmonth, and (2) the establishment data reflect the direct influence of strikes on employment, the turnover series does not.

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 1711 (Bureau of Labor Statistics, 1971).

## 8. Employment by industry, 1947-73

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Contract construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade			Finance, insurance, and real estate	Services	Government		
						Total	Wholesale trade	Retail trade			Total	Federal	State and local
1947	43,881	955	1,982	15,545	4,166	8,955	2,361	6,595	1,754	5,050	5,474	1,892	3,582
1948	44,891	994	2,169	15,582	4,189	9,272	2,489	6,783	1,829	5,206	5,650	1,863	3,787
1949	43,778	930	2,165	14,441	4,001	9,264	2,487	6,778	1,857	5,264	5,856	1,908	3,948
1950	45,222	901	2,333	15,241	4,034	9,386	2,518	6,868	1,919	5,382	6,026	1,928	4,098
1951	47,849	929	2,603	16,393	4,226	9,742	2,606	7,136	1,991	5,576	6,389	2,302	4,087
1952	48,825	898	2,634	16,632	4,248	10,004	2,687	7,317	2,069	5,730	6,609	2,420	4,188
1953	50,232	866	2,623	17,549	4,290	10,247	2,727	7,520	2,146	5,867	6,645	2,305	4,340
1954	49,022	791	2,612	16,314	4,084	10,235	2,739	7,496	2,234	6,002	6,751	2,188	4,563
1955	50,675	792	2,802	16,882	4,141	10,535	2,796	7,740	2,335	6,274	6,914	2,187	4,727
1956	52,408	822	2,999	17,243	4,244	10,858	2,884	7,974	2,429	6,536	7,277	2,209	5,069
1957	52,894	828	2,923	17,174	4,241	10,886	2,893	7,992	2,477	6,749	7,616	2,217	5,399
1958	51,363	751	2,778	15,945	3,976	10,750	2,848	7,902	2,519	6,806	7,839	2,191	5,648
1959 <sup>1</sup>	53,313	732	2,960	16,675	4,011	11,127	2,946	8,182	2,594	7,130	8,083	2,233	5,850
1960	54,234	712	2,885	16,796	4,004	11,391	3,004	8,388	2,669	7,423	8,353	2,270	6,083
1961	54,042	672	2,816	16,326	3,903	11,337	2,993	8,344	2,731	7,664	8,594	2,279	6,315
1962	55,596	650	2,902	16,853	3,906	11,566	3,056	8,511	2,800	8,028	8,890	2,340	6,550
1963	56,702	635	2,963	16,995	3,903	11,778	3,104	8,675	2,877	8,325	9,225	2,358	6,868
1964	58,331	634	3,050	17,274	3,951	12,160	3,189	8,971	2,957	8,709	9,596	2,348	7,248
1965	60,815	632	3,186	18,062	4,036	12,716	3,312	9,404	3,023	9,087	10,074	2,378	7,696
1966	63,955	627	3,275	19,214	4,151	13,245	3,437	9,808	3,100	9,551	10,792	2,564	8,227
1967	65,857	613	3,208	19,447	4,261	13,606	3,525	10,081	3,225	10,099	11,398	2,719	8,679
1968	67,915	606	3,285	19,781	4,310	14,084	3,611	10,473	3,382	10,623	11,845	2,737	9,109
1969	70,284	619	3,435	20,167	4,429	14,639	3,733	10,906	3,564	11,229	12,202	2,758	9,444
1970	70,593	623	3,381	19,349	4,493	14,914	3,812	11,102	3,688	11,612	12,535	2,705	9,830
1971	70,645	602	3,411	18,529	4,442	15,142	3,809	11,333	3,796	11,869	12,856	2,664	10,191
1972	72,764	607	3,521	18,933	4,495	15,683	3,918	11,765	3,927	12,309	13,290	2,650	10,640
1973	75,567	625	3,648	19,820	4,611	16,288	4,079	12,209	4,053	12,866	13,657	2,627	11,031

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

## 9. Employment by State

[Nonagricultural payroll data, in thousands]

State	July 1973	June 1974	July 1974 <sup>1</sup>	State	July 1973	June 1974	July 1974 <sup>1</sup>
Alabama	1,145.7	1,162.6	1,158.7	Montana	233.4	245.2	249.4
Alaska	117.9	122.9	127.4	Nebraska	541.1	557.0	556.5
Arizona	696.3	720.2	720.6	Nevada	249.7	261.8	261.1
Arkansas	628.7	642.6	639.4	New Hampshire	308.3	310.3	318.2
California	7,690.8	7,903.3	7,777.6	New Jersey	2,789.2	2,842.5	2,808.9
Colorado	899.3	928.5	915.2	New Mexico	349.6	362.7	361.7
Connecticut	1,244.5	1,288.1	1,279.4	New York	7,143.7	7,205.8	7,146.6
Delaware	236.9	237.2	239.2	North Carolina	1,980.4	2,042.7	2,013.0
District of Columbia	706.3	710.9	726.5	North Dakota	183.9	191.8	191.1
Florida	2,671.3	2,779.0	2,734.5	Ohio	4,115.8	4,239.5	4,193.6
Georgia	1,779.6	1,807.9	1,788.3	Oklahoma	851.7	877.1	872.7
Hawaii	333.8	341.9	342.0	Oregon	816.8	850.2	850.2
Idaho <sup>1</sup>	253.1	258.3	262.2	Pennsylvania	4,491.4	4,539.8	4,491.0
Illinois	4,407.2	4,453.9	4,453.8	Rhode Island	361.8	362.0	355.8
Indiana	2,019.8	2,034.2	2,037.1	South Carolina	1,001.8	1,053.4	1,054.6
Iowa	984.8	1,013.6	1,010.8	South Dakota	208.3	214.1	214.0
Kansas	752.6	774.4	768.2	Tennessee	1,546.1	1,581.1	1,575.2
Kentucky	1,045.0	1,066.7	1,064.7	Texas	4,183.1	4,354.3	4,350.1
Louisiana	1,162.1	1,170.7	1,169.6	Utah	418.9	438.8	437.6
Maine	361.5	361.4	365.4	Vermont	166.0	167.0	167.5
Maryland	1,424.8	1,473.4	1,462.7	Virginia	1,734.3	1,783.5	1,769.4
Massachusetts	2,330.4	2,393.7	2,357.5	Washington	1,147.6	1,217.2	1,188.5
Michigan <sup>1</sup>	3,226.1	3,249.2	3,221.2	West Virginia	565.4	571.1	563.0
Minnesota	1,447.0	1,508.4	1,493.1	Wisconsin	1,668.8	1,712.8	1,701.3
Mississippi	672.9	692.2	688.3	Wyoming	133.1	136.6	136.4
Missouri	1,759.3	1,772.1	1,754.9				

<sup>1</sup> Revised series; 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		1973					1974							
	1972	1973	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>p</sup>	Aug. <sup>p</sup>
<b>TOTAL</b> .....	72,764	75,567	75,686	76,238	76,914	77,322	77,391	75,613	75,792	76,117	76,706	77,225	77,897	76,958	77,128
<b>MINING</b> .....	607	625	648	641	640	643	642	642	641	642	653	664	679	682	680
<b>CONTRACT CONSTRUCTION</b> .....	3,521	3,648	3,981	3,944	3,923	3,822	3,639	3,280	3,329	3,405	3,527	3,658	3,779	3,765	3,838
<b>MANUFACTURING</b> .....	18,933	19,820	20,018	20,132	20,168	20,202	20,110	19,818	19,738	19,726	19,777	19,825	20,107	19,833	20,008
Production workers.....	13,838	14,575	14,727	14,841	14,866	14,886	14,799	14,513	14,422	14,405	14,454	14,486	14,724	14,441	14,600
Durable goods.....	10,884	11,633	11,676	11,801	11,856	11,909	11,878	11,699	11,620	11,610	11,696	11,718	11,884	11,714	11,667
Production workers.....	7,919	8,548	8,560	8,681	8,725	8,765	8,737	8,557	8,472	8,459	8,547	8,557	8,692	8,514	8,461
Ordnance and accessories. Lumber and wood products.....	188.2	192.7	192.3	191.8	190.6	187.8	191.4	192.6	190.2	191.2	190.3	187.6	190.8	193.9	193.3
Furniture and fixtures.....	612.0	631.5	650.6	642.6	641.2	636.7	636.3	626.5	630.4	634.6	640.3	645.0	660.3	653.9	652.6
Stone, clay, and glass products.....	492.7	522.3	530.3	528.4	534.4	534.9	532.0	526.8	520.7	519.0	518.1	518.1	522.6	501.4	512.9
Primary metal industries.....	660.0	692.7	711.5	708.8	709.4	704.3	699.5	682.6	681.3	687.9	691.8	700.6	706.0	705.6	706.3
Production workers.....	1,234.8	1,314.6	1,326.1	1,331.0	1,332.3	1,339.2	1,339.1	1,333.9	1,328.2	1,323.5	1,330.4	1,333.4	1,351.4	1,337.9	1,330.2
Fabricated metal products. Machinery, except electrical.....	1,371.1	1,452.6	1,457.2	1,467.4	1,476.1	1,486.4	1,481.5	1,458.3	1,445.7	1,443.1	1,446.8	1,450.4	1,474.0	1,450.0	1,446.6
Electrical equipment.....	1,864.2	2,042.0	2,048.5	2,066.3	2,075.5	2,108.4	2,127.8	2,129.1	2,135.3	2,146.8	2,146.9	2,141.2	2,176.4	2,154.4	2,136.0
Transportation equipment. Instruments and related products.....	1,833.0	1,996.3	2,005.8	2,028.1	2,050.8	2,066.2	2,069.4	2,047.3	2,036.7	2,022.5	2,018.7	2,016.1	2,035.9	2,011.8	1,962.2
Production workers.....	1,746.8	1,856.5	1,803.8	1,881.6	1,878.7	1,875.8	1,847.3	1,763.3	1,706.1	1,689.7	1,756.1	1,763.9	1,788.2	1,741.8	1,743.3
Miscellaneous manufacturing.....	455.9	494.7	502.3	503.9	507.5	513.9	515.7	514.1	518.5	519.2	521.8	522.1	532.3	528.5	534.7
Nondurable goods.....	8,049	8,186	8,342	8,331	8,312	8,293	8,232	8,119	8,118	8,116	8,081	8,107	8,223	8,119	8,341
Production workers.....	5,919	6,027	6,167	6,160	6,141	6,121	6,062	5,956	5,950	5,946	5,907	5,929	6,032	5,927	6,139
Food and kindred products.....	1,751.1	1,736.3	1,834.2	1,840.7	1,804.8	1,767.9	1,735.7	1,689.0	1,678.0	1,686.4	1,669.3	1,684.1	1,721.8	1,760.4	1,872.9
Tobacco manufactures.....	72.0	73.9	79.6	81.7	81.5	80.8	79.2	75.4	73.3	70.6	69.4	67.4	67.9	67.7	79.7
Textile mill products.....	991.0	1,024.0	1,029.5	1,026.5	1,027.1	1,033.4	1,034.8	1,026.3	1,022.1	1,017.7	1,014.3	1,011.2	1,022.9	987.7	1,006.8
Apparel and other textile products.....	1,335.3	1,340.2	1,346.4	1,349.3	1,353.4	1,347.6	1,319.4	1,295.2	1,309.9	1,302.7	1,293.0	1,300.0	1,303.3	1,236.7	1,283.0
Paper and allied products.....	697.0	717.8	727.1	722.3	724.9	729.6	728.3	724.6	723.5	724.7	724.6	722.8	736.1	727.5	731.3
Printing and publishing.....	1,079.6	1,097.8	1,097.8	1,095.2	1,101.1	1,106.5	1,112.8	1,103.5	1,107.9	1,104.5	1,103.6	1,103.8	1,109.3	1,102.9	1,104.5
Chemicals and allied products.....	1,002.2	1,029.5	1,040.6	1,038.9	1,041.0	1,039.6	1,039.2	1,037.6	1,038.7	1,045.7	1,045.9	1,048.3	1,065.1	1,065.5	1,068.0
Petroleum and coal products.....	189.6	187.3	193.3	191.9	190.9	190.1	190.2	187.9	187.2	187.1	188.6	192.7	196.8	197.3	198.5
Rubber and plastics products, n.e.c.....	627.0	682.6	691.6	688.8	691.5	698.9	696.0	689.3	686.6	683.7	680.3	682.5	700.5	685.3	697.5
Leather and leather products.....	304.4	296.8	302.3	295.7	296.1	298.5	296.5	290.1	290.7	292.5	292.3	294.1	299.6	287.9	298.8
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	4,495	4,611	4,659	4,671	4,680	4,659	4,644	4,618	4,616	4,634	4,635	4,664	4,718	4,699	4,684
<b>WHOLESALE AND RETAIL TRADE</b> .....	15,683	16,288	16,279	16,367	16,515	16,780	17,113	16,290	16,127	16,187	16,429	16,535	16,677	16,631	16,587
Wholesale trade.....	3,918	4,079	4,136	4,127	4,162	4,188	4,181	4,155	4,142	4,148	4,156	4,177	4,240	4,248	4,248
Retail trade.....	11,765	12,209	12,143	12,240	12,353	12,592	12,932	12,135	11,985	12,039	12,273	12,358	12,437	12,382	12,339
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	3,927	4,053	4,121	4,082	4,076	4,079	4,080	4,072	4,087	4,102	4,118	4,141	4,181	4,199	4,201
<b>SERVICES</b> .....	12,309	12,866	13,009	12,982	13,057	13,096	13,062	12,913	13,056	13,147	13,274	13,422	13,552	13,539	13,557
Hotels and other lodging places.....	849.0	882.0	1,015.7	925.8	866.6	845.8	836.8	813.6	829.8	834.5	847.4	885.9	947.6	1,019.9	-----
Personal services.....	913.0	896.9	889.6	892.7	897.6	897.5	894.7	872.6	868.9	870.0	871.5	877.9	878.6	871.1	-----
Medical and other health services.....	3,441.5	3,676.8	3,722.3	3,729.4	3,757.7	3,778.4	3,790.9	3,810.5	3,840.3	3,867.9	3,883.8	3,920.7	3,975.4	4,009.4	-----
Educational services.....	1,166.8	1,203.3	1,019.3	1,150.6	1,267.6	1,293.7	1,286.1	1,248.4	1,304.8	1,318.7	1,315.4	1,298.3	1,190.7	1,079.6	-----
<b>GOVERNMENT</b> .....	13,290	13,657	12,971	13,419	13,855	14,041	14,101	13,980	14,198	14,274	14,293	14,316	14,204	13,610	13,573
Federal.....	2,650	2,627	2,617	2,608	2,613	2,628	2,677	2,635	2,659	2,667	2,684	2,695	2,703	2,721	2,713
State and local.....	10,640	11,031	10,354	10,811	11,242	11,413	11,424	11,345	11,539	11,607	11,609	11,621	11,501	10,889	10,860



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

[Nonagricultural payroll data, in thousands]

Industry division and group	1973					1974							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>p</sup>	Aug. <sup>p</sup>
<b>TOTAL</b> .....	75,747	75,961	76,363	76,679	76,626	76,526	76,813	76,804	76,941	77,136	77,101	77,100	77,177
<b>MINING</b> .....	634	633	639	644	646	654	656	655	659	664	665	668	665
<b>CONTRACT CONSTRUCTION</b> .....	3,676	3,700	3,694	3,711	3,732	3,636	3,757	3,725	3,659	3,662	3,599	3,522	3,544
<b>MANUFACTURING</b> .....	19,861	19,882	20,016	20,095	20,090	20,006	19,904	19,851	19,921	19,942	19,961	19,915	19,801
Production workers.....	14,611	14,609	14,720	14,774	14,771	14,682	14,563	14,516	14,582	14,590	14,598	14,552	14,420
<b>Durable goods</b> .....	11,692	11,708	11,802	11,859	11,859	11,774	11,683	11,644	11,733	11,746	11,783	11,760	11,635
Production workers.....	8,597	8,599	8,674	8,712	8,712	8,624	8,524	8,489	8,578	8,577	8,598	8,574	8,437
Ordnance and accessories.....	192	190	191	186	190	192	191	193	193	189	191	194	193
Lumber and wood products.....	631	631	634	637	645	645	647	648	654	650	640	637	633
Furniture and fixtures.....	527	525	528	528	527	527	523	522	523	524	522	511	509
Stone, clay, and glass products.....	694	696	701	701	707	704	702	703	697	701	691	694	689
Primary metal industries.....	1,323	1,339	1,353	1,357	1,354	1,343	1,331	1,316	1,320	1,322	1,328	1,323	1,328
Fabricated metal products.....	1,459	1,456	1,466	1,473	1,470	1,466	1,454	1,449	1,456	1,458	1,462	1,468	1,448
Machinery, except electrical.....	2,065	2,073	2,086	2,121	2,128	2,133	2,123	2,134	2,136	2,139	2,161	2,159	2,153
Electrical equipment.....	2,006	2,010	2,039	2,048	2,057	2,051	2,043	2,033	2,031	2,030	2,036	2,028	1,962
Transportation equipment.....	1,859	1,850	1,858	1,857	1,827	1,753	1,706	1,681	1,756	1,764	1,778	1,773	1,751
Instruments and related products.....	500	503	507	512	514	516	521	521	523	524	531	529	532
Miscellaneous manufacturing.....	436	435	439	439	440	444	442	444	444	445	443	444	437
<b>Nondurable goods</b> .....	8,169	8,174	8,214	8,236	8,231	8,232	8,221	8,207	8,188	8,196	8,178	8,155	8,166
Production workers.....	6,014	6,010	6,046	6,062	6,059	6,058	6,039	6,027	6,004	6,013	5,999	5,978	5,983
Food and kindred products.....	1,706	1,719	1,735	1,749	1,753	1,754	1,755	1,764	1,750	1,747	1,725	1,721	1,742
Tobacco manufactures.....	72	70	72	75	75	76	76	77	77	76	76	76	72
Textile mill products.....	1,026	1,025	1,027	1,028	1,030	1,029	1,025	1,019	1,016	1,013	1,011	1,002	1,004
Apparel and other textile products.....	1,337	1,337	1,340	1,333	1,321	1,315	1,309	1,294	1,296	1,300	1,290	1,284	1,274
Paper and allied products.....	721	719	725	725	724	729	729	730	728	731	727	727	725
Printing and publishing.....	1,100	1,097	1,098	1,102	1,105	1,106	1,109	1,105	1,105	1,107	1,109	1,106	1,107
Chemicals and allied products.....	1,031	1,038	1,043	1,043	1,042	1,046	1,045	1,048	1,046	1,050	1,057	1,058	1,058
Petroleum and coal products.....	189	190	190	190	192	193	192	190	191	193	193	192	194
Rubber and plastics products, n.e.c.....	691	683	687	694	693	693	690	686	684	685	696	694	697
Leather and leather products.....	296	296	297	297	296	291	291	294	295	294	294	295	293
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	4,617	4,629	4,671	4,654	4,644	4,684	4,691	4,676	4,668	4,664	4,653	4,643	4,642
<b>WHOLESALE AND RETAIL TRADE</b> .....	16,352	16,388	16,465	16,520	16,398	16,417	16,472	16,487	16,549	16,594	16,602	16,664	16,661
Wholesale trade.....	4,099	4,111	4,137	4,163	4,152	4,184	4,192	4,190	4,202	4,211	4,215	4,207	4,210
Retail trade.....	12,253	12,277	12,328	12,357	12,246	12,233	12,280	12,297	12,347	12,383	12,387	12,457	12,451
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	4,064	4,078	4,088	4,095	4,101	4,109	4,124	4,127	4,130	4,145	4,140	4,133	4,143
<b>SERVICES</b> .....	12,906	12,995	13,044	13,122	13,128	13,136	13,215	13,240	13,248	13,329	13,365	13,378	13,449
Hotels and other lodging places.....	890	901	894	904	891	874	882	877	868	889	901	895	895
Personal services.....	894	895	892	891	892	881	879	875	873	883	866	871	871
Medical and other health services.....	3,711	3,733	3,758	3,778	3,798	3,822	3,848	3,876	3,895	3,932	3,952	3,982	3,982
Educational services.....	1,196	1,209	1,221	1,229	1,230	1,217	1,240	1,246	1,252	1,245	1,244	1,241	1,241
<b>GOVERNMENT</b> .....	13,637	13,656	13,746	13,838	13,887	13,884	13,994	14,043	14,107	14,136	14,116	14,177	14,272
Federal.....	2,599	2,613	2,626	2,638	2,654	2,651	2,670	2,675	2,681	2,698	2,684	2,691	2,694
State and local.....	11,038	11,043	11,120	11,200	11,233	11,233	11,324	11,368	11,426	11,438	11,432	11,486	11,578

## 12. Labor turnover rates in manufacturing, 1971 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total accessions													
1971	3.9	3.5	3.1	3.5	3.6	4.0	4.9	4.0	5.3	4.8	3.9	3.3	2.5
1972	4.4	4.1	3.7	4.0	4.0	4.8	5.2	4.6	6.0	5.3	4.8	3.6	2.7
1973	4.8	4.6	4.0	4.4	4.5	5.3	5.9	5.1	6.2	5.7	5.2	3.8	2.6
1974		4.2	3.6	4.0	4.4	5.1	5.4	p5.0					
New hires													
1971	2.5	2.0	1.9	2.2	2.3	2.6	3.5	2.7	3.4	3.4	2.7	2.2	1.6
1972	3.3	2.6	2.4	2.7	2.9	3.6	4.1	3.4	4.4	4.2	3.8	2.9	2.0
1973	3.9	3.5	3.1	3.5	3.6	4.4	5.0	4.1	5.0	4.7	4.3	3.0	2.0
1974		3.2	2.7	3.0	3.3	3.9	4.3	p3.9					
Total separations													
1971	4.2	4.2	3.5	3.7	3.9	3.7	3.8	4.8	5.5	5.3	4.3	3.7	3.8
1972	4.2	4.0	3.5	3.8	3.7	3.9	4.2	4.8	5.4	5.3	4.3	3.7	3.6
1973	4.6	4.2	3.7	4.2	4.1	4.3	4.4	5.1	6.5	5.7	4.9	4.1	3.9
1974		4.9	4.0	4.3	4.2	4.4	4.2	p5.1					
Quits													
1971	1.8	1.5	1.3	1.5	1.6	1.7	1.8	1.8	2.8	2.9	1.9	1.5	1.2
1972	2.2	1.7	1.6	1.9	2.0	2.2	2.2	2.2	3.6	3.4	2.5	1.9	1.6
1973	2.7	2.2	2.1	2.5	2.4	2.7	2.8	2.8	4.5	3.9	3.0	2.2	1.6
1974		2.2	1.9	2.3	2.4	2.6	2.5	p2.7					
Layoffs													
1971	1.6	1.9	1.4	1.4	1.4	1.2	1.2	2.1	1.8	1.5	1.5	1.5	1.8
1972	1.1	1.4	1.1	1.1	1.0	.8	1.1	1.7	.9	.9	.9	1.0	1.3
1973	.9	1.0	.8	.8	.7	.6	.6	1.4	.8	.7	.8	1.0	1.5
1974		1.7	1.2	1.1	.9	.8	.7	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			Total			Quits			Layoffs		
	July 1973	June 1974	July 1974 <sup>p</sup>	July 1973	June 1974	July 1974 <sup>p</sup>	July 1973	June 1974	July 1974 <sup>p</sup>	July 1973	June 1974	July 1974 <sup>p</sup>	July 1973	June 1974	July 1974 <sup>p</sup>
	July 1973	June 1974	July 1974 <sup>p</sup>	July 1973	June 1974	July 1974 <sup>p</sup>	July 1973	June 1974	July 1974 <sup>p</sup>	July 1973	June 1974	July 1974 <sup>p</sup>	July 1973	June 1974	July 1974 <sup>p</sup>
<b>MANUFACTURING</b>	5.1	5.4	5.0	4.1	4.3	3.9	5.1	4.2	5.1	2.8	2.5	2.7	1.4	0.7	1.4
Seasonally adjusted	4.8	4.1	4.7	3.9	3.1	3.7	4.5	4.5	4.5	2.8	2.5	2.7	1.0	.9	1.0
<b>Durable goods</b>	4.5	5.0	4.5	3.7	4.0	3.5	4.6	3.8	5.0	2.4	2.2	2.4	1.2	.6	1.5
Ordnance and accessories	2.4	2.5		1.4	1.9		2.2	2.2		1.0	.9		.9	.8	
<b>Lumber and wood products</b>	6.5	7.9	6.4	5.9	7.0	5.6	6.1	5.8	7.2	4.6	4.0	4.6	.5	.7	1.4
Furniture and fixtures	7.6	6.4	7.4	6.8	5.7	6.6	7.9	5.7	7.4	5.0	3.8	4.8	1.6	.7	1.2
Stone, clay, and glass products	5.3	5.7	4.7	4.6	4.8	4.0	4.9	4.4	4.7	3.1	2.6	2.9	.7	.8	.6
Primary metal industries	3.4	4.2	3.3	2.8	3.3	2.4	3.1	2.8	3.2	1.6	1.4	1.5	.4	.3	.6
Fabricated metal products	5.2	5.8		4.4	4.7		5.0	4.6		2.9	2.6		.9	.9	
Machinery, except electrical	3.5	4.2	3.6	2.9	3.6	3.0	3.2	3.1	3.2	1.8	1.7	1.8	.6	.5	.5
Electrical equipment	4.4	4.4		3.3	3.3		4.0	3.5		2.1	2.0		.8	.6	
Transportation equipment	4.3	4.8		3.1	3.1		6.6	3.7		1.9	1.8		3.7	.9	
Instruments and related products	3.4	4.8	4.1	3.0	4.2	3.3	2.9	3.0	4.1	1.7	1.9	2.3	.4	.2	.6
Miscellaneous manufacturing	6.4	6.4	6.9	5.3	5.6	5.3	5.9	4.9	7.4	3.3	3.0	3.4	1.5	.8	2.5
<b>Nondurable goods</b>	5.9	5.9	5.7	4.6	4.7	4.3	5.8	4.7	5.4	3.3	2.9	3.0	1.6	.9	1.4
Food and kindred products	8.6	8.4	8.9	6.5	6.4	6.6	6.9	5.9	6.6	3.8	3.3	3.7	2.3	1.7	2.0
Tobacco manufacturers	8.8	3.7	10.9	4.0	2.0	3.2	3.7	2.9	3.5	1.7	1.2	1.4	1.1	.8	.6
Textile mill products	7.1	6.3	6.1	5.8	5.2	5.0	7.2	5.8	6.9	5.3	4.1	4.4	.7	.5	1.2
Apparel and other products	6.9	6.1	6.5	4.9	4.5	4.6	9.0	6.0	8.1	4.3	3.5	4.0	3.7	1.5	3.1
Paper and allied products	3.5	4.5	3.6	3.1	3.9	3.1	3.3	3.0	3.6	2.0	1.9	1.9	.6	.4	.8
Printing and publishing	3.4	4.0	3.3	2.9	3.5	2.8	3.3	3.4	3.1	2.1	2.3	1.9	.6	.5	.6
Gchemicals and allied products	2.6	3.6	2.6	2.2	3.0	2.1	2.3	2.3	2.1	1.2	1.2	1.1	.4	.4	.4
Petroleum and coal products	2.6	3.4	2.1	2.3	3.0	1.9	2.2	1.9	1.9	1.0	.9	.9	.5	.4	.4
Rubber and plastics products, nec.	5.9	6.5	5.5	4.9	5.3	4.6	6.0	5.0	5.5	3.7	3.4	3.4	1.0	.5	.8
Leather and leather products	9.6	7.7		6.4	6.3		10.0	8.1		5.6	4.7		3.2	2.0	

## 14. Hours and earnings, by industry division, 1947-73

[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			Contract construction			Manufacturing		
1947	\$45.58	40.3	\$1.131	\$59.94	40.8	\$1.469	\$58.87	38.2	\$1.541	\$49.17	40.4	\$1.217
1948	49.00	40.0	1.225	65.56	39.4	1.664	65.27	38.1	1.713	53.12	40.0	1.328
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	67.16	40.7	1.65
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	75.79	40.7	1.86
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	98.65	40.1	2.46	100.27	37.0	2.71	81.59	39.8	2.05
1958	75.08	38.5	1.95	98.08	38.9	2.47	103.78	36.8	2.82	82.71	39.2	2.11
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	105.44	40.4	2.61	113.04	36.7	3.08	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	110.43	40.9	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	99.63	40.5	2.46
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	95.06	38.8	2.45	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	112.34	41.3	2.72
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.90	40.6	2.83
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.93	37.4	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	155.23	43.0	3.61	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.46	37.1	3.22	164.40	42.7	3.85	195.98	37.4	5.24	133.73	39.8	3.36
1971	126.91	37.0	3.43	171.74	42.3	4.06	( <sup>2</sup> )	37.3	( <sup>2</sup> )	142.04	39.9	3.56
1972	135.78	37.2	3.65	186.15	42.5	4.38	( <sup>2</sup> )	37.0	( <sup>2</sup> )	154.69	40.6	3.81
1973	144.32	37.1	3.89	199.28	42.4	4.70	( <sup>2</sup> )	37.2	( <sup>2</sup> )	165.65	40.7	4.07
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1947				\$38.07	40.5	\$0.940	\$43.21	37.9	\$1.140			
1948				40.80	40.4	1.010	45.48	37.9	1.200			
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	\$118.37	41.1	\$2.88	74.28	37.9	1.96	85.79	37.3	2.30	\$69.84	36.0	\$1.94
1965	125.14	41.3	3.03	76.53	37.7	2.03	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.02	37.1	2.13	92.15	37.3	2.47	77.04	35.5	2.17
1967	131.22	40.5	3.24	81.76	36.5	2.24	95.46	37.0	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	86.40	36.0	2.40	101.75	37.0	2.75	84.32	34.7	2.43
1969	148.15	40.7	3.64	91.14	35.6	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	95.66	35.3	2.71	113.34	36.8	3.08	96.66	34.4	2.81
1971	( <sup>2</sup> )	40.2	( <sup>2</sup> )	100.74	35.1	2.87	( <sup>2</sup> )	37.0	( <sup>2</sup> )	( <sup>2</sup> )	34.2	( <sup>2</sup> )
1972	( <sup>2</sup> )	40.4	( <sup>2</sup> )	106.00	35.1	3.02	( <sup>2</sup> )	37.2	( <sup>2</sup> )	( <sup>2</sup> )	34.1	( <sup>2</sup> )
1973	( <sup>2</sup> )	40.6	( <sup>2</sup> )	111.04	34.7	3.20	( <sup>2</sup> )	37.1	( <sup>2</sup> )	( <sup>2</sup> )	34.1	( <sup>2</sup> )

<sup>1</sup> Data include Alaska and Hawaii beginning 1959.<sup>2</sup> Previously published data for this series for March 1971 through May 1974 are being revised to correct processing errors. Revised historical data are scheduled to

be released in December and published in the January 1975 issue of the Monthly Labor Review. The periodic benchmarking revisions will be made at the same time.



## 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		1973						1974						
	1972	1973	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>p</sup>	Aug. <sup>p</sup>
<b>TOTAL PRIVATE</b> .....	37.2	37.1	37.5	37.3	37.0	37.0	37.2	36.4	36.6	36.6	36.3	36.6	37.0	37.2	37.2
<b>MINING</b> .....	42.5	42.4	42.8	43.0	42.9	42.9	43.5	42.3	42.7	42.4	42.5	43.1	43.6	43.3	43.0
<b>CONTRACT CONSTRUCTION</b> .....	37.0	37.2	38.3	37.9	37.7	37.5	36.6	34.9	36.4	36.7	36.0	36.9	37.8	38.1	37.8
<b>MANUFACTURING</b> .....	40.6	40.7	40.5	41.0	40.7	40.8	41.2	40.0	40.1	40.3	39.1	40.3	40.4	40.0	40.3
Overtime hours.....	3.5	3.8	3.8	4.1	3.9	3.9	3.8	3.3	3.3	3.4	2.7	3.3	3.5	3.2	3.4
<b>Durable goods</b> .....	41.3	41.5	40.9	41.7	41.4	41.5	41.9	40.5	40.7	40.9	39.6	40.9	41.1	40.4	40.8
Overtime hours.....	3.6	4.1	3.9	4.4	4.1	4.1	4.1	3.4	3.4	3.6	2.7	3.5	3.6	3.3	3.6
Ordnance and accessories.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Lumber and wood products.....	41.0	40.6	40.9	40.9	40.7	40.2	40.9	39.5	40.0	40.2	40.1	40.4	40.7	39.8	40.1
Furniture and fixtures.....	40.5	39.9	40.2	40.2	39.9	39.8	40.4	39.2	38.9	39.2	38.3	39.1	39.7	39.0	39.1
Stone, clay, and glass products.....	41.9	42.1	42.5	42.6	42.3	42.2	42.1	40.6	41.1	41.5	41.1	41.7	41.8	41.6	41.9
Primary metal industries.....	41.6	42.4	41.7	42.8	42.2	43.0	42.4	41.8	41.4	41.7	41.5	41.8	42.0	41.5	41.8
Fabricated metal products.....	41.2	41.6	41.4	41.8	41.6	41.7	42.0	40.6	40.7	41.1	39.3	41.2	41.3	40.6	40.9
Machinery, except electrical.....	42.0	42.6	42.0	43.0	42.5	42.4	43.7	42.3	42.4	42.7	40.6	42.3	42.5	41.4	42.2
Electrical equipment.....	40.5	40.4	40.1	40.6	40.2	40.5	40.7	39.5	39.7	39.9	38.7	39.9	40.3	39.5	29.9
Transportation equipment.....	41.8	41.9	40.0	41.6	41.7	41.4	42.4	39.6	40.1	40.3	38.0	40.7	40.3	40.3	40.3
Instruments and related products.....	40.5	40.7	40.2	41.1	40.9	41.3	41.5	40.4	40.5	40.5	39.3	40.2	40.4	39.8	40.5
Miscellaneous manufacturing.....	39.3	39.0	38.9	39.1	38.8	39.3	39.1	38.0	38.7	38.9	37.6	38.8	39.0	38.4	38.6
<b>Nondurable goods</b> .....	39.7	39.6	39.8	40.0	39.7	39.9	40.1	39.2	39.2	39.3	38.4	39.3	39.5	39.4	39.6
Overtime hours.....	3.3	3.4	3.5	3.8	3.5	3.6	3.5	3.2	3.1	3.1	2.6	3.1	3.3	3.2	3.2
Food and kindred products.....	40.4	40.4	41.0	41.3	40.6	40.9	41.2	40.5	40.1	39.9	39.2	40.4	40.7	40.9	41.1
Tobacco manufactures.....	37.4	38.3	39.1	39.0	40.6	40.9	39.8	38.9	37.7	36.4	37.6	38.5	37.4	36.7	35.4
Textile mill products.....	41.3	40.8	40.9	41.0	40.6	41.0	41.2	40.2	40.4	40.3	38.9	40.0	40.6	39.9	39.8
Apparel and other textile products.....	36.0	35.8	36.0	35.9	35.8	36.0	35.9	34.7	35.4	35.6	34.4	35.5	34.8	35.6	35.9
Paper and allied products.....	42.8	42.7	42.6	43.1	42.8	42.9	43.2	42.6	42.1	42.3	41.5	42.1	42.5	42.3	42.4
Printing and publishing.....	37.9	37.9	37.9	38.3	37.9	38.0	38.3	37.2	37.3	37.6	36.9	37.7	37.7	37.5	38.0
Chemicals and allied products.....	41.8	41.9	41.8	42.0	41.9	42.1	42.2	41.7	41.8	41.8	42.0	41.8	41.9	41.7	41.6
Petroleum and coal products.....	42.2	42.2	42.3	43.0	42.6	43.1	42.4	41.8	41.9	42.2	42.6	42.4	42.8	42.6	41.8
Rubber and plastics products, n.e.c.....	41.2	41.0	40.6	41.3	40.9	41.3	41.3	40.5	40.6	40.6	39.1	40.3	40.8	40.3	40.8
Leather and leather products.....	38.3	37.9	38.1	37.8	37.6	38.1	38.2	37.2	37.7	37.8	36.6	37.8	38.2	37.5	37.4
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	40.4	40.6	41.1	40.8	40.9	40.8	40.6	40.4	40.3	40.1	40.4	40.5	40.7	41.0	41.1
<b>WHOLESALE AND RETAIL TRADE</b> .....	35.1	34.7	35.4	34.7	34.3	34.3	34.7	33.9	33.9	34.0	34.1	34.0	34.5	35.1	35.0
Wholesale trade.....	39.8	39.5	39.6	39.5	39.3	39.4	39.5	38.9	38.7	38.8	38.7	38.9	39.1	39.2	39.0
Retail trade.....	33.6	33.2	34.1	33.2	32.8	32.8	33.2	32.3	32.4	32.4	32.7	32.5	33.1	33.8	33.7
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	37.2	37.1	37.1	37.1	37.0	37.0	37.2	36.9	37.0	36.9	36.9	36.8	36.8	36.9	37.1
<b>SERVICES</b> .....	34.1	34.1	34.7	34.1	33.9	33.9	34.0	33.8	33.9	33.9	33.9	33.8	34.2	34.7	34.7

<sup>1</sup> Previously published data for this series for March 1971 through May 1974 are being revised to correct processing errors. The corrected figures for June 1974 and subsequent months are published in this table. Revised historical data are scheduled

to be released in December and published in the January 1975 issue of the Monthly Labor Review. The periodic benchmarking revisions will be made at the same time.

## 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	1973					1974							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>p</sup>	Aug. <sup>p</sup>
<b>TOTAL PRIVATE</b> .....	37.0	37.2	37.0	37.1	37.0	36.7	37.0	36.8	36.6	36.8	36.7	36.8	36.7
<b>MINING</b> .....	42.6	42.9	42.5	42.8	43.3	42.6	43.4	42.9	42.5	43.2	43.2	43.1	42.8
<b>CONTRACT CONSTRUCTION</b> .....	37.1	36.7	36.9	38.5	37.2	36.2	37.7	37.1	36.2	36.9	37.1	37.2	36.6
<b>MANUFACTURING</b> .....	40.5	40.8	40.6	40.6	40.7	40.3	40.5	40.4	39.3	40.3	40.1	40.2	40.3
Overtime hours.....	3.7	3.8	3.7	3.8	3.7	3.4	3.5	3.6	2.9	3.4	3.4	3.3	3.3
<b>Durable goods</b> .....	41.9	41.4	41.3	41.4	41.3	40.8	41.1	40.9	39.8	40.9	40.8	40.7	41.0
Overtime hours.....	3.9	4.0	3.9	4.0	3.9	3.5	3.6	3.7	2.9	3.6	3.4	3.4	3.6
Ordnance and accessories.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	<sup>1</sup> 41.9	<sup>1</sup> 41.7	<sup>1</sup> 41.0
Lumber and wood products.....	40.7	40.7	40.3	40.3	40.9	40.4	40.6	40.3	40.1	40.1	40.1	39.9	39.9
Furniture and fixtures.....	39.7	39.7	39.4	39.4	39.6	39.8	39.7	39.5	38.8	39.4	39.4	39.4	38.6
Stone, clay, and glass products.....	42.0	42.2	41.9	42.1	42.2	41.6	41.9	41.7	41.2	41.6	41.4	41.4	41.4
Primary metal industries.....	41.8	42.7	42.7	43.4	42.4	41.8	41.4	41.5	41.2	41.6	41.6	41.6	41.9
Fabricated metal products.....	41.3	41.5	41.5	41.6	41.5	41.0	41.2	41.3	39.6	41.1	40.9	40.8	40.8
Machinery, except electrical.....	42.4	43.0	42.6	42.3	42.9	42.3	42.5	42.4	40.7	42.3	42.4	41.9	42.6
Electrical equipment.....	40.1	40.4	40.0	40.2	40.1	39.6	40.2	39.9	39.0	40.0	40.1	40.0	39.9
Transportation equipment.....	41.0	41.1	41.5	41.1	41.0	40.0	40.6	40.3	38.9	40.5	39.7	40.5	41.3
Instruments and related products.....	40.4	40.9	40.8	40.9	41.0	40.6	40.8	40.5	39.4	40.3	40.3	40.2	40.7
Miscellaneous manufacturing.....	38.7	39.1	38.6	38.9	38.8	38.3	39.0	38.9	37.6	38.9	38.9	38.9	38.4
<b>Nondurable goods</b> .....	39.5	39.8	39.7	39.7	39.8	39.6	39.6	39.5	38.7	39.4	39.3	39.3	39.3
Overtime hours.....	3.3	3.4	3.3	3.5	3.4	3.4	3.3	3.3	2.8	3.2	3.2	3.2	3.0
Food and kindred products.....	40.4	40.6	40.6	40.8	40.9	40.8	40.8	40.4	39.8	40.6	40.5	40.5	40.5
Tobacco manufactures.....	38.5	37.9	39.2	40.7	38.9	39.5	38.8	37.7	38.8	38.8	36.8	36.8	34.9
Textile mill products.....	40.8	40.9	40.5	40.6	40.8	40.6	40.7	40.4	39.2	40.2	40.2	40.2	39.7
Apparel and other textile products.....	35.7	35.9	35.8	35.7	35.9	35.2	35.6	35.5	34.5	35.6	34.7	35.5	35.6
Paper and allied products.....	42.4	42.8	42.6	42.7	42.8	42.8	42.5	42.6	41.7	42.3	42.4	42.3	42.2
Printing and publishing.....	37.7	38.0	37.9	37.9	37.8	37.7	37.7	37.6	37.1	37.8	37.6	37.4	37.8
Chemicals and allied products.....	42.1	42.0	41.9	42.0	41.9	41.8	42.0	41.8	41.8	41.8	41.8	41.9	41.9
Petroleum and coal products.....	42.1	42.5	42.2	43.0	42.7	42.5	42.6	42.8	42.5	42.2	42.5	42.0	41.6
Rubber and plastics products, n.e.c.....	40.5	41.0	40.8	41.2	41.0	40.6	40.9	40.8	39.3	40.3	40.6	40.6	40.7
Leather and leather products.....	38.1	38.4	38.0	38.0	37.5	37.2	37.8	38.1	37.3	37.6	37.6	37.0	37.4
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	40.9	40.6	40.8	40.7	40.4	40.8	40.4	40.3	40.9	40.8	40.5	40.6	40.9
<b>WHOLESALE AND RETAIL TRADE</b> .....	34.5	34.6	34.5	34.6	34.5	34.3	34.4	34.3	34.5	34.3	34.2	34.2	34.1
Wholesale trade.....	39.4	39.5	39.3	39.4	39.1	39.1	38.9	38.9	38.9	39.1	39.0	39.0	38.8
Retail trade.....	33.0	33.2	33.0	33.1	32.9	32.8	33.0	32.9	33.1	32.9	32.8	32.8	32.6
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	37.0	37.2	36.9	37.0	37.2	36.9	37.0	36.9	36.9	36.9	36.8	36.8	37.0
<b>SERVICES</b> .....	34.2	34.1	34.0	34.0	34.0	34.0	34.1	34.0	34.0	34.1	34.2	34.1	34.2

<sup>1</sup> Previously published data for this series for March 1971 through May 1974 are being revised to correct processing errors. The corrected figures for June 1974 and subsequent months are published in this table. Revised historical data are scheduled

to be released in December and published in the January 1975 issue of the Monthly Labor Review. The periodic benchmarking and seasonal adjustment revisions will be made at the same time.

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		1973					1974							
	1972	1973	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>p</sup>	Aug. <sup>p</sup>
	<b>TOTAL PRIVATE</b> .....	\$3.65	\$3.89	\$3.91	\$3.99	\$3.99	\$4.00	\$4.01	\$4.02	\$4.04	\$4.06	\$4.07	\$4.14	\$4.20	\$4.21
<b>MINING</b> .....	4.38	4.70	4.69	4.78	4.76	4.86	4.92	4.99	4.99	4.99	5.09	5.12	5.19	5.23	5.25
<b>CONTRACT CONSTRUCTION</b> .....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	<sup>1</sup> 6.67	<sup>1</sup> 6.69	<sup>1</sup> 6.87
<b>MANUFACTURING</b> .....	3.81	4.07	4.06	4.13	4.14	4.16	4.21	4.21	4.21	4.24	4.25	4.33	4.38	4.41	4.43
<b>Durable goods</b> .....	4.05	4.32	4.31	4.39	4.39	4.42	4.48	4.47	4.47	4.50	4.50	4.60	4.65	4.67	4.71
Ordnance and accessories.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	<sup>1</sup> 4.76	<sup>1</sup> 4.76	<sup>1</sup> 4.87
Lumber and wood products.....	3.31	3.58	3.62	3.68	3.67	3.65	3.68	3.68	3.73	3.74	3.76	3.81	3.90	3.92	3.98
Furniture and fixtures.....	3.06	3.26	3.28	3.33	3.34	3.34	3.36	3.36	3.39	3.41	3.42	3.47	3.50	3.49	3.53
Stone, clay, and glass products.....	3.91	4.18	4.21	4.26	4.27	4.28	4.29	4.27	4.30	4.33	4.39	4.45	4.53	4.53	4.57
Primary metal industries.....	4.66	5.03	5.10	5.16	5.14	5.23	5.23	5.24	5.25	5.30	5.38	5.53	5.60	5.65	5.76
Fabricated metal products.....	3.99	4.24	4.24	4.30	4.32	4.35	4.39	4.38	4.39	4.43	4.40	4.52	4.56	4.57	4.62
Machinery, except electrical.....	4.27	4.55	4.53	4.61	4.63	4.65	4.75	4.73	4.75	4.78	4.73	4.84	4.88	4.87	4.90
Electrical equipment.....	3.67	3.86	3.88	3.91	3.91	3.93	3.98	3.98	3.97	3.99	3.99	4.06	4.13	4.15	4.14
Transportation equipment.....	4.73	5.07	5.02	5.10	5.14	5.16	5.32	5.28	5.23	5.27	5.25	5.36	5.41	5.43	5.52
Instruments and related products.....	3.72	3.88	3.87	3.93	3.93	3.95	4.04	4.04	4.05	4.06	4.06	4.10	4.12	4.17	4.19
Miscellaneous manufacturing.....	3.11	3.27	3.26	3.31	3.31	3.33	3.36	3.41	3.42	3.43	3.43	3.48	3.50	3.48	3.50
<b>Nondurable goods</b> .....	3.47	3.69	3.70	3.75	3.76	3.78	3.80	3.83	3.83	3.85	3.87	3.91	3.97	4.02	4.03
Food and kindred products.....	3.60	3.83	3.83	3.85	3.89	3.91	3.97	4.00	4.02	4.05	4.08	4.12	4.16	4.19	4.15
Tobacco manufactures.....	3.43	3.77	3.73	3.68	3.73	3.81	3.87	3.92	3.89	4.01	4.14	4.30	4.31	4.43	4.09
Textile mill products.....	2.73	2.94	2.92	3.02	3.03	3.06	3.07	3.06	3.06	3.07	3.05	3.11	3.24	3.24	3.26
Apparel and other textile products.....	2.61	2.78	2.79	2.84	2.85	2.86	2.83	2.85	2.86	2.87	2.89	2.95	2.98	2.99	3.04
Paper and allied products.....	3.94	4.19	4.24	4.26	4.27	4.30	4.31	4.33	4.31	4.33	4.37	4.40	4.47	4.52	4.57
Printing and publishing.....	4.48	4.68	4.70	4.76	4.75	4.76	4.79	4.79	4.82	4.85	4.85	4.91	4.94	4.94	4.97
Chemicals and allied products.....	4.20	4.47	4.50	4.53	4.54	4.58	4.60	4.64	4.64	4.65	4.70	4.72	4.78	4.85	4.87
Petroleum and coal products.....	4.95	5.22	5.24	5.29	5.26	5.29	5.27	5.40	5.42	5.42	5.55	5.47	5.56	5.64	5.72
Rubber and plastics products, n.e.c.....	3.60	3.80	3.81	3.86	3.86	3.90	3.91	3.92	3.93	3.93	3.87	3.93	3.99	4.07	4.11
Leather and leather products.....	2.71	2.81	2.80	2.84	2.85	2.87	2.87	2.90	2.92	2.94	2.95	3.01	3.00	2.99	3.01
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	<sup>1</sup> 5.35	<sup>1</sup> 5.44	<sup>1</sup> 5.45
<b>WHOLESALE AND RETAIL TRADE</b> .....	3.02	3.20	3.21	3.26	3.27	3.29	3.28	3.35	3.36	3.38	3.38	3.44	3.48	3.49	3.50
Wholesale trade.....	3.88	4.12	4.13	4.19	4.18	4.22	4.27	4.29	4.31	4.33	4.37	4.41	4.46	4.48	4.51
Retail trade.....	2.70	2.87	2.87	2.92	2.93	2.94	2.94	2.99	2.99	3.01	3.01	3.08	3.11	3.12	3.12
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	<sup>1</sup> 3.80	<sup>1</sup> 3.80	<sup>1</sup> 3.82
<b>SERVICES</b> .....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	<sup>1</sup> 3.72	<sup>1</sup> 3.70	<sup>1</sup> 3.73

<sup>1</sup> Previously published data for this series for March 1971 through May 1974 are being revised to correct processing errors. The corrected figures for June 1974 and subsequent months are published in this table. Revised

historical data are scheduled to be released in December and published in the January 1975 issue of the **Monthly Labor Review**. The periodic benchmarking revisions will be made at the same time.

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967=100]

Industry	1973					1974							Percent change		
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>p</sup>	Aug. <sup>p</sup>	July-Aug. 1974	Aug. 1973 to Aug. 1974
<b>TOTAL PRIVATE (in current dollars)</b> ..	147.6	149.0	149.6	150.3	151.3	151.7	152.5	153.5	154.5	156.1	158.5	159.3	160.8	0.9	8.9
Mining.....	147.5	149.5	148.4	150.2	152.1	154.2	154.8	156.1	158.0	159.8	162.6	164.2	165.6	.8	12.3
Contract construction.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	<sup>1</sup> 163.3	<sup>1</sup> 163.5	<sup>1</sup> 167.8	2.6	(2)
Manufacturing.....	144.5	145.4	146.5	147.0	147.9	148.5	149.3	150.1	141.4	153.3	155.4	156.7	158.0	.9	9.4
Transportation and public utilities.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	<sup>1</sup> 165.9	<sup>1</sup> 167.8	<sup>1</sup> 168.4	.3	(2)
Wholesale and retail trade.....	144.4	145.7	146.2	146.9	147.9	148.8	149.1	150.4	151.0	153.5	155.4	156.5	157.4	.6	9.1
Finance, insurance, and real estate.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	<sup>1</sup> 148.7	<sup>1</sup> 148.7	<sup>1</sup> 149.8	.8	(2)
Services.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	<sup>1</sup> 162.9	<sup>1</sup> 162.0	<sup>1</sup> 163.4	.9	(2)
<b>TOTAL PRIVATE (in constant dollars)</b> ..	109.4	109.9	109.5	109.1	109.2	108.4	107.6	107.2	107.3	107.3	107.9	107.6	107.1	-.4	-2.0

<sup>1</sup> See table 17, footnote 1.

<sup>2</sup> Not available.



## 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		1973					1974							
	1972	1973	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>p</sup>	Aug. <sup>p</sup>
<b>TOTAL PRIVATE</b> .....	\$135.78	\$144.32	\$146.63	\$148.83	\$147.63	\$148.00	\$149.17	\$146.33	\$147.86	\$148.60	147.74	\$151.52	\$155.40	\$156.61	\$157.73
<b>MINING</b> .....	186.15	199.28	200.73	205.54	204.20	208.49	214.02	211.08	213.07	211.58	216.33	220.67	226.28	226.46	225.75
<b>CONTRACT CONSTRUCTION</b> .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	<sup>1</sup> 252.13	<sup>1</sup> 254.89	<sup>1</sup> 259.69
<b>MANUFACTURING</b> .....	154.69	165.65	164.43	169.33	168.50	169.73	173.45	168.40	168.82	170.87	166.18	174.50	176.95	176.40	178.53
<b>Durable goods</b> .....	167.27	179.28	176.28	183.06	181.75	183.43	187.71	181.04	181.93	184.05	178.20	188.14	191.12	188.67	192.17
Ordnance and accessories, Lumber and wood products.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	<sup>1</sup> 200.40	<sup>1</sup> 196.11	<sup>1</sup> 199.67
Furniture and fixtures.....	135.71	145.35	148.06	150.51	149.37	146.73	150.51	145.36	149.20	150.35	150.78	153.92	158.73	156.02	159.60
Stone, clay, and glass products.....	123.93	130.07	131.86	133.87	133.27	132.93	135.74	131.71	131.87	133.67	130.99	135.08	138.95	136.11	138.02
Primary metal industries.....	163.83	175.98	178.93	181.48	180.62	180.62	180.61	173.36	176.73	179.70	180.43	185.57	189.35	188.45	191.48
Fabricated metal products, Machinery, except electrical.....	193.86	213.27	212.67	220.85	216.91	224.89	221.75	219.03	217.35	221.01	223.27	231.15	235.20	234.48	240.77
Electrical equipment.....	164.39	176.38	175.54	179.74	179.71	181.40	184.38	177.83	178.67	182.07	172.92	186.22	188.33	185.54	188.96
Transportation equipment.....	179.34	193.83	190.26	198.23	196.78	197.16	207.58	200.08	201.40	204.11	192.04	204.73	207.40	201.62	206.78
Instruments and related products.....	148.64	155.94	155.59	158.75	157.18	159.17	161.99	157.21	157.61	159.20	154.41	161.99	166.44	163.93	165.19
Miscellaneous manufacturing.....	197.71	212.43	200.80	212.16	214.34	213.62	225.57	209.09	209.72	212.38	199.50	218.15	218.02	218.83	222.46
Nondurable goods.....	150.66	157.92	155.57	161.52	160.74	163.14	167.66	163.22	164.03	164.43	159.56	164.82	166.45	165.97	169.70
Food and kindred products.....	122.22	127.53	126.81	129.42	128.43	130.87	131.38	129.58	132.35	133.43	128.97	135.02	136.50	133.63	135.10
Tobacco manufactures.....	137.76	146.12	147.26	150.00	149.27	150.82	152.38	150.14	150.14	151.31	148.61	153.66	156.82	158.39	159.59
Textile mill products.....	145.44	154.73	157.03	159.01	157.93	159.92	163.56	162.00	161.20	161.60	159.94	166.45	169.31	171.37	170.57
Apparel and other textile products.....	128.28	144.39	145.84	143.52	151.44	155.83	154.03	152.49	146.65	145.96	155.66	165.55	161.19	162.58	144.79
Paper and allied products.....	112.75	119.95	119.43	123.82	123.02	125.46	126.48	123.01	123.62	123.72	118.65	124.40	131.54	129.28	129.75
Printing and publishing.....	93.96	99.52	100.44	101.96	102.03	102.96	101.60	98.90	101.24	102.17	99.42	104.73	103.70	106.44	109.14
Chemicals and allied products.....	168.63	178.91	180.62	183.61	182.76	184.47	186.19	184.46	181.45	183.16	181.36	185.24	189.98	191.20	193.77
Petroleum and coal products.....	169.79	177.37	178.13	182.31	180.03	180.88	183.46	178.19	179.79	182.36	178.97	185.11	186.24	185.25	188.86
Rubber and plastics products, n.e.c.....	175.56	187.29	188.10	190.26	190.23	192.82	194.12	193.49	193.95	194.37	197.40	197.30	200.28	202.25	202.59
Leather and leather products.....	208.89	220.28	221.65	227.47	224.08	228.00	223.45	225.72	227.10	228.72	236.43	231.93	237.97	240.26	239.10
Wholesale trade.....	148.32	155.80	154.69	159.42	157.87	161.07	161.48	158.76	159.56	159.56	151.32	158.38	162.79	164.02	167.69
Retail trade.....	103.79	106.50	106.68	107.35	107.16	109.35	109.63	107.88	110.08	111.13	107.97	113.78	114.60	112.13	112.57
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	<sup>1</sup> 217.75	<sup>1</sup> 223.04	<sup>1</sup> 224.00
<b>WHOLESALE AND RETAIL TRADE</b> .....	106.00	111.04	113.63	113.12	112.16	112.85	113.82	113.57	113.90	114.92	115.26	116.96	120.06	122.50	122.50
Wholesale trade.....	154.42	162.74	163.55	165.51	164.27	166.27	168.67	166.88	166.80	168.00	169.12	171.55	174.39	175.62	175.89
Retail trade.....	90.72	95.28	97.87	96.94	96.10	96.43	97.61	96.58	96.88	97.52	98.43	100.10	102.94	105.46	105.14
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	<sup>1</sup> 139.84	<sup>1</sup> 140.22	<sup>1</sup> 141.72
<b>SERVICES</b> .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	<sup>1</sup> 127.22	<sup>1</sup> 128.39	<sup>1</sup> 129.43

<sup>1</sup> Previously published data for this series for March 1971 through May 1974 are being revised to correct processing errors. The corrected figure for June 1974 and subsequent months are published in this table. Revised historical data are scheduled

to be released in December and published in the January 1975 issue of the Monthly Labor Review. The periodic benchmarking revisions will be made at the same time.

## 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		Worker with 3 dependents				Worker with no dependents		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	99.63	108.65	79.82	87.04	87.58	95.51
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.....	95.06	100.59	78.99	83.59	86.30	91.32	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	112.34	115.58	91.57	94.21	99.45	102.31
1967.....	101.84	101.84	83.38	83.38	90.86	90.86	114.90	114.90	93.28	93.28	101.26	101.26
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.....	119.46	102.72	95.94	82.49	104.61	89.95	133.73	114.99	106.62	91.68	115.90	99.66
1971.....	126.91	104.62	103.51	85.33	112.12	92.43	142.04	117.10	114.68	94.54	123.93	102.17
1972.....	135.78	108.36	111.37	88.88	120.79	96.40	154.69	123.46	125.32	100.02	135.56	108.19
1973.....	144.32	108.43	116.73	87.70	126.55	95.08	165.65	124.46	132.00	99.17	142.90	107.36
1973: August.....	146.63	108.53	118.42	87.65	128.34	95.00	164.43	121.71	131.15	97.08	141.98	105.09
September.....	148.83	109.84	120.03	88.58	130.03	95.96	169.33	124.97	134.68	99.39	145.74	107.56
October.....	147.63	108.07	119.15	87.23	129.11	94.52	168.50	123.35	134.07	98.15	145.09	106.22
November.....	148.00	107.56	119.42	86.79	129.39	94.03	169.73	123.35	134.98	98.10	146.05	106.14
December.....	149.17	107.70	120.28	86.84	130.29	94.07	173.45	125.23	137.72	99.44	148.95	107.55
1974: January.....	146.33	104.75	118.20	84.61	128.10	91.70	168.40	120.54	134.00	95.92	145.01	103.80
February.....	147.86	104.49	119.32	84.33	129.28	91.36	168.82	119.31	134.30	94.91	145.34	102.71
March.....	148.60	103.84	119.86	83.76	129.85	90.74	170.87	119.41	135.82	94.91	146.94	102.68
April.....	147.74	102.60	119.23	82.80	129.19	89.72	166.18	115.40	132.38	91.93	143.29	99.51
May.....	151.52	104.07	122.00	83.79	132.11	90.73	174.50	119.85	138.49	95.12	149.77	102.86
June.....	155.40	105.64	124.81	84.85	135.10	91.84	176.95	120.29	140.30	95.38	151.68	103.11
July P.....	156.61	105.60	125.66	84.73	136.03	91.73	176.40	118.95	139.90	94.34	151.25	101.99
August P.....	157.73	105.01	126.45	84.19	136.90	91.15	178.53	118.86	141.47	94.19	152.91	101.80

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in purchasing power as measured by the Bureau's Consumer Price Index. These series are described in "The Spendable Earnings Series: A Technical Note on its

Calculation," in *Employment and Earnings and Monthly Report on the Labor Force*, February 1969, pp. 6-13.

## UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Manpower 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 the State, Ex-Servicemen, and UCFE programs, and the Railroad Insurance Act.

Unemployed persons are those who file claims under State or Federal unemployment insurance programs. Under both State and Federal programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance

(about 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. 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	1973						1974						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
<b>All programs:</b>													
Insured unemployment.....	1,640	1,572	1,441	1,452	1,666	2,093	2,740	2,824	2,752	2,564	2,278	2,161	2,290
<b>State unemployment insurance program:<sup>1</sup></b>													
Initial claims <sup>2</sup> .....	1,231	954	747	978	1,159	1,618	2,113	1,436	1,215	1,170	1,084	1,064	-----
Insured unemployment (average weekly volume).....	1,505	1,436	1,299	1,299	1,502	1,922	2,561	2,630	2,502	2,217	1,934	1,834	1,989
Rate of insured unemployment.....	2.5	2.4	2.1	2.1	2.4	3.1	4.1	4.2	4.0	3.5	3.0	2.9	3.1
Weeks of unemployment compensated.....	5,290	5,653	4,408	4,923	5,005	5,725	9,486	8,921	9,518	8,898	7,967	6,355	-----
Average weekly benefit amount for total unemployment.....	\$57.42	\$57.46	\$58.12	\$58.97	\$59.61	\$60.40	\$62.28	\$63.35	\$63.85	\$63.62	\$62.69	\$62.54	-----
Total benefits paid.....	\$296,334	\$316,321	\$248,345	\$280,717	\$289,379	\$335,897	\$570,769	\$553,267	\$593,946	\$552,662	\$486,403	\$387,383	-----
<b>Unemployment compensation for ex-servicemen:<sup>3</sup></b>													
Initial claims <sup>1</sup> .....	32	31	26	27	28	30	33	26	26	28	28	29	-----
Insured unemployment (average weekly volume).....	59	59	53	51	54	60	67	66	65	61	59	59	66
Weeks of unemployment compensated.....	240	270	209	220	218	223	309	261	275	264	265	265	-----
Total benefits paid.....	\$15,325	\$17,355	\$13,537	\$14,300	\$14,238	\$14,580	\$20,200	\$17,532	\$18,255	\$17,671	\$17,757	\$15,942	-----
<b>Unemployment compensation for Federal civilian employees:<sup>4</sup></b>													
Initial claims.....	31	18	12	17	14	12	19	12	11	13	13	15	-----
Insured unemployment (average weekly volume).....	39	42	42	44	47	47	47	43	40	36	33	34	40
Weeks of unemployment compensated.....	127	178	161	190	197	191	219	169	174	160	152	134	-----
Total benefits paid.....	\$7,752	\$11,460	\$10,400	\$12,386	\$12,713	\$12,389	\$14,181	\$10,928	\$11,279	\$10,369	\$9,835	\$8,741	-----
<b>Railroad unemployment insurance:</b>													
Applications.....	13	7	6	4	4	4	8	3	2	3	2	6	11
Insured unemployment (average weekly volume).....	9	9	10	9	10	9	14	12	10	10	7	6	7
Number of payments.....	18	21	20	21	22	18	31	25	24	23	17	14	14
Average amount of benefit payment.....	\$96.64	\$96.22	\$92.52	\$94.38	\$95.69	\$97.52	\$95.13	\$97.99	\$97.63	\$91.90	\$90.34	\$93.82	\$94.88
Total benefits paid.....	\$1,524	\$1,760	\$1,612	\$1,946	\$1,895	\$1,614	\$2,739	\$2,379	\$2,189	\$2,010	\$1,572	\$1,175	\$1,203
<b>Employment service:</b>													
New applications and renewals.....	1,490	2,824	3,740	4,810	6,163	6,995	8,256	9,196	10,158	11,108	12,155	13,307	15,239
Nonfarm placements.....	403	811	1,090	1,353	1,670	1,841	2,041	2,224	2,434	2,652	2,893	3,172	3,319

<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.

NOTE: Data for Puerto Rico are included. Dashes indicate data not available.



## PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and wholesale 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 of goods and services purchased by urban wage earners and clerical workers for day-to-day living. It is based on prices of about 400 "market-basket" items selected to represent all consumption goods and services purchase by these workers. 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 about 40,000 tenants and 18,000 retail establishments in 56 urban areas across the country. All taxes directly associated with the purchase and use of the 400 items are included in the index. Since the CPI is based on the expenditures of a specific population group, it may not accurately reflect the experience of other families and individuals 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. For geographic comparisons of living costs, see the BLS family budget studies, Bulletins 1570-5 and 1570-6, and their supplements.

The **Wholesale Price Index** measures average price changes of all commodities and products, classified according to their use or composition, rather than industry of origin. For each product sold in large quantities in open markets, the price of only the first commercial transaction is reflected in the index; for crude, manufactured, and processed goods, prices at each level of processing are included. Monthly price data come from establishments in the sample which voluntarily return questionnaires by mail. Reported prices generally do not include transportation charges from the production point or excise taxes, nor do they apply to interplant transfers, military production, and goods sold to household consumers directly by producing establishments. Each commodity price series in the index

represents a class of prices weighted by its own relative importance in primary markets plus the importance of other commodities not priced directly but whose prices are known or assumed to move similarly. All weights refer to the shipment value of the commodity.

The **price indexes for output of selected SIC industries** measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual* (Washington, U.S. Office of Management and Budget, 1963). 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

As of January 1967, the Wholesale Price Index incorporated a revised weighting structure reflecting 1963 values of shipments. Changes in the classification structure, titles, and composition of some wholesale indexes were made at the same time. Titles and indexes under the revised classification structure may differ from data previously published.

For a discussion of the general method of computing consumer, wholesale, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1711 (Bureau of Labor Statistics, 1971), chapters 10-12. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974-82.

Methods of calculating indexes by population-size group (and areas included) are outlined in Richard C. Bahr, Mark R. Meiners, and Toshiko Nakayama, "New consumer price indexes by size of city," *Monthly Labor Review*, August 1972, pp. 3-8. For an explanation of regional indexes, see Toshiko Nakayama and Diane Warsky, "Measuring regional price changes in urban areas," *Monthly Labor Review* Reprint 2920, October 1973. For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics 1973*, Bulletin 1790 (Bureau of Labor Statistics, 1973), tables 136-149. Additional data and analysis of price changes are provided in *The Consumer Price Index* and *Wholesale Prices and Prices Indexes*, both monthly publications of the Bureau of Labor Statistics.

## 22. Consumer and Wholesale Price Indexes, annual averages and changes, 1951-73

[1967 = 100]

Year	Consumer prices						Wholesale prices					
	All items		Commodities		Services		All commodities		Farm products, processed foods and feeds		Industrial commodities	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1951	77.8	7.9	85.9	9.0	61.8	5.3	91.9	11.4	106.9	13.8	86.1	10.4
1952	79.5	2.2	87.0	1.3	64.5	4.4	88.6	-2.7	102.7	-3.9	84.1	-2.3
1953	80.1	.8	86.7	-3.3	67.3	4.3	87.4	-1.4	96.0	-6.5	84.8	.8
1954	80.5	.5	85.9	-9.9	69.5	3.3	87.6	.2	95.7	-3.3	85.0	.2
1955	80.2	-4.4	85.1	-9.9	70.9	2.0	87.8	.2	91.2	-4.7	86.9	2.2
1956	81.4	1.5	85.9	.9	72.7	2.5	90.7	3.3	90.6	-7.7	90.8	4.5
1957	84.3	3.6	88.6	3.1	75.6	4.0	93.3	2.9	93.7	3.4	93.3	2.8
1958	86.6	2.7	90.6	2.3	78.5	3.8	94.6	1.4	98.1	4.7	93.6	.3
1959	87.3	.8	90.7	.1	80.8	2.9	94.8	.2	93.5	-4.7	95.3	1.8
1960	88.7	1.6	91.5	.9	83.5	3.3	94.9	.1	93.7	.2	95.3	0
1961	89.6	1.0	92.0	.5	85.2	2.0	94.5	-4.4	93.7	0	94.8	-5.5
1962	90.6	1.1	92.8	.9	86.8	1.9	94.8	.3	94.7	1.1	94.8	0
1963	91.7	1.2	93.6	.9	88.5	2.0	94.5	-3.3	93.8	-1.0	94.7	-1.1
1964	92.9	1.3	94.6	1.1	90.2	1.9	94.7	.2	93.2	-6.6	95.2	.5
1965	94.5	1.7	95.7	1.2	92.2	2.2	96.6	2.0	97.1	4.2	96.4	1.3
1966	97.2	2.9	98.2	2.6	95.8	3.9	99.8	3.3	103.5	6.6	98.5	2.2
1967	100.0	2.9	100.0	1.8	100.0	4.4	100.0	.2	100.0	-3.4	100.0	1.5
1968	104.2	4.2	103.7	3.7	105.2	5.2	102.5	2.5	102.4	2.4	102.5	2.5
1969	109.8	5.4	108.4	4.5	112.5	6.9	106.5	3.9	108.0	5.5	106.0	3.4
1970	116.3	5.9	113.5	4.7	121.6	8.1	110.4	3.7	111.6	3.3	110.0	3.8
1971	121.3	4.3	117.4	3.4	128.4	5.6	113.9	3.2	113.8	2.0	114.0	3.6
1972	125.3	3.3	120.9	3.0	133.3	3.8	119.1	4.6	122.4	7.6	117.9	3.4
1973	133.1	6.2	129.9	7.4	139.1	4.4	135.5	13.8	159.1	30.0	127.0	7.7

## 23. Consumer Price Index—U.S. average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	Annual average 1973	1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
All items	133.1	135.1	135.5	136.6	137.6	138.5	139.7	141.5	143.1	144.0	145.6	147.1	148.3	150.2
All items (1957-59=100)	154.7	157.1	157.6	158.8	160.0	161.1	162.5	164.6	166.4	167.5	169.4	171.1	172.5	174.6
Food	141.4	149.4	148.3	148.4	150.0	151.3	153.7	157.6	159.1	158.6	159.7	160.3	160.5	162.8
Food at home	141.4	151.3	149.2	148.7	150.1	151.5	154.3	159.0	160.6	159.4	160.4	160.9	160.6	163.0
Food away from home	141.4	142.4	145.1	147.7	149.7	150.7	151.6	152.6	153.7	155.6	157.1	158.6	160.4	161.9
Housing	135.0	135.2	136.6	138.1	139.4	140.6	142.2	143.4	144.9	146.0	147.6	149.2	150.9	152.8
Rent	124.2	125.0	125.4	125.9	126.3	126.9	127.3	128.0	128.4	128.8	129.3	129.8	130.3	130.9
Homeownership	146.7	147.0	149.2	151.5	152.6	153.6	154.8	155.8	157.2	158.2	159.4	161.2	163.2	165.4
Apparel and upkeep	126.8	126.5	128.3	129.6	130.5	130.5	128.8	130.4	132.2	133.6	135.0	135.7	135.3	138.1
Transportation	123.8	124.5	123.9	125.0	125.8	126.7	128.1	129.3	132.0	134.4	137.6	140.7	142.6	143.4
Health and recreation	130.2	130.5	131.1	132.1	132.6	133.0	133.7	134.5	135.4	136.3	137.7	139.4	141.0	142.6
Medical care	137.7	137.6	138.3	140.6	140.9	141.4	142.2	143.4	144.8	145.6	147.2	149.4	151.4	152.7
Special groups														
All items less shelter	131.1	133.5	133.6	134.5	135.6	136.5	137.8	139.8	141.5	142.4	144.2	145.7	146.8	148.6
All items less food	130.7	130.9	131.8	133.1	134.0	134.8	135.6	136.8	138.4	139.7	141.5	143.3	144.7	146.5
All items less medical care	132.9	135.0	135.4	136.4	137.5	138.4	139.7	141.5	143.1	144.0	145.6	147.1	148.2	150.0
Appliances (including radio and TV)	105.5	105.3	105.5	105.7	105.8	105.7	106.0	106.2	106.5	106.9	107.5	108.3	109.3	110.8
Commodities	129.9	132.8	132.8	133.5	134.7	135.7	137.0	139.3	141.0	141.9	143.7	145.2	146.1	148.0
Nondurables	132.8	136.6	136.5	137.4	138.9	140.3	142.1	145.2	147.2	147.8	149.3	150.4	150.9	153.0
Durables	121.9	122.6	122.6	123.2	123.3	123.2	123.3	123.4	124.3	126.1	128.5	131.2	133.0	134.8
Services	139.1	139.3	140.6	142.2	143.0	143.8	144.8	145.8	147.0	147.9	149.4	150.9	152.5	154.2
Commodities less food	123.5	123.8	124.3	125.4	126.3	127.1	127.9	129.2	131.1	132.8	134.9	136.8	138.1	140.0
Nondurables less food	124.8	124.7	125.5	127.0	128.5	130.0	131.3	133.5	136.1	137.7	139.5	141.0	141.8	143.7
Apparel commodities	127.1	126.6	128.7	130.0	130.8	130.7	128.6	130.3	132.1	133.6	135.0	135.6	135.0	138.0
Apparel commodities less footwear	126.5	125.9	128.1	129.6	130.4	130.3	127.7	129.6	131.6	133.0	134.6	135.2	134.6	137.6
Nondurables less food and apparel	123.4	123.6	123.8	125.3	127.3	129.6	132.9	135.5	138.5	140.1	142.2	144.3	145.9	147.2
Household durables	118.8	119.6	120.1	120.4	120.8	121.0	121.8	122.5	123.7	125.1	126.5	128.2	129.5	131.5
Household furnishings	119.0	119.2	119.8	120.3	121.1	121.3	122.0	123.0	124.6	126.1	127.6	129.6	131.0	133.4
Services less rent	141.8	141.9	143.4	145.2	146.1	146.9	148.0	149.1	150.4	151.4	153.1	154.7	156.6	158.4
Household services less rent	146.8	146.8	149.3	151.7	153.2	154.3	155.8	157.1	158.8	160.1	162.1	164.0	166.5	169.0
Transportation services	136.9	137.1	137.2	137.4	137.4	138.1	138.8	139.1	139.6	140.1	140.5	141.5	142.3	142.7
Medical care services	144.3	144.3	145.1	147.8	148.2	148.7	149.7	151.1	152.7	153.6	155.4	158.0	160.2	162.8
Other services	131.6	132.1	133.3	134.0	134.8	135.3	135.9	136.8	137.6	138.4	140.2	141.1	142.2	143.0

## 23. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1973	1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>FOOD</b>	141.4	149.4	148.3	148.4	150.0	151.3	153.7	157.6	159.1	158.6	159.7	160.3	160.5	162.8
Food away from home	141.4	142.4	145.1	147.7	149.7	150.7	151.6	152.6	153.7	155.6	157.1	158.6	160.4	161.9
Restaurant meals	142.1	143.2	146.2	148.8	151.0	152.0	152.7	153.7	154.8	156.3	157.7	159.1	160.3	161.7
Snacks	138.0	138.2	139.7	142.6	143.4	144.3	146.1	147.3	148.1	152.4	154.2	155.9	160.9	163.0
Food at home	141.4	151.3	149.2	148.7	150.1	151.5	154.3	159.0	160.6	159.4	160.4	160.9	160.6	163.0
Cereals and bakery products	127.7	124.7	132.4	139.0	145.8	148.5	149.7	154.4	158.6	161.4	164.3	165.3	166.7	168.2
Flour	127.1	119.1	134.2	156.2	162.6	163.3	163.5	171.8	179.2	183.2	181.9	172.9	170.8	169.9
Cracker meal	144.5	143.8	146.6	151.8	155.6	157.4	158.8	170.7	173.9	176.6	184.5	188.7	190.6	194.6
Corn flakes	104.4	105.8	106.4	107.2	107.8	112.4	115.7	118.6	119.8	122.4	123.9	131.7	136.1	136.9
Rice	141.9	128.2	137.1	158.0	208.1	223.0	230.5	237.3	240.9	243.2	246.6	245.3	244.0	242.9
Bread, white	126.7	124.8	135.5	140.4	144.7	146.4	146.4	149.3	156.3	157.4	157.7	159.5	160.0	158.9
Bread, whole wheat	132.3	130.0	138.9	142.9	146.4	148.7	148.8	152.2	157.3	159.8	162.6	161.8	163.5	166.0
Cookies	115.0	113.0	117.4	120.2	120.0	121.4	122.5	127.0	126.1	131.7	141.0	140.8	143.7	151.2
Layer cake	129.0	126.9	134.4	137.4	138.7	139.6	139.7	142.7	146.9	149.1	152.5	154.3	156.3	160.5
Cinnamon rolls	130.7	128.4	135.2	139.0	143.5	143.7	144.1	147.5	150.1	154.9	158.3	160.2	163.0	167.3
Meats, poultry, and fish	160.4	184.0	180.2	170.7	167.4	165.8	169.2	174.2	171.6	164.4	158.6	155.1	154.6	162.1
Meats	161.1	180.0	180.8	172.7	169.2	167.6	169.9	176.3	173.1	164.8	158.7	154.8	154.0	162.8
Beef and veal	163.8	175.4	177.0	170.6	167.7	165.7	168.6	181.3	178.4	170.0	165.8	163.9	161.0	169.8
Steak, round	158.9	170.8	171.5	160.0	158.9	156.0	161.2	176.5	170.9	163.1	160.2	159.6	158.7	166.8
Steak, sirloin	150.3	160.0	159.5	153.2	149.5	145.9	148.9	161.0	158.4	151.9	151.1	152.7	151.7	162.8
Steak, porterhouse	152.0	161.2	160.9	154.5	150.5	149.0	150.8	160.7	158.4	154.2	152.8	154.7	154.1	164.8
Rump roast	154.9	165.0	165.5	156.8	155.6	152.6	157.4	171.7	166.9	160.1	157.6	156.7	155.8	162.4
Rib roast	162.0	170.6	172.1	167.4	164.0	163.3	165.2	174.3	170.5	165.0	163.4	162.1	161.9	170.4
Chuck roast	171.1	190.5	191.8	177.8	170.2	168.1	169.9	192.8	189.7	172.4	163.9	160.1	160.7	172.0
Hamburger	173.7	188.9	193.2	188.3	183.7	182.0	184.1	198.4	196.1	182.9	175.3	171.8	164.0	171.4
Beef liver	157.5	163.0	165.8	170.1	169.7	170.8	171.1	173.1	175.6	174.9	168.1	156.0	151.7	155.9
Veal cutlets	188.7	195.5	195.6	196.4	196.7	195.9	198.0	202.6	203.7	199.6	198.2	197.9	195.7	199.8
Pork	161.7	197.0	191.3	177.2	172.2	170.1	173.5	174.0	169.0	158.2	148.8	141.2	145.9	158.8
Chops	154.7	195.0	168.4	156.6	156.4	152.2	161.6	162.9	157.5	148.7	142.7	138.8	152.8	157.8
Loin roast	162.6	211.7	183.5	168.7	167.3	163.3	172.0	173.4	169.5	156.3	150.5	144.0	158.6	164.6
Pork sausage	179.1	209.6	223.3	211.3	200.6	195.0	194.4	193.9	190.3	180.2	171.9	161.9	158.5	169.7
Ham, whole	152.3	174.4	182.2	167.2	169.0	176.2	178.1	170.2	167.4	159.8	143.2	135.8	131.7	145.8
Picnic	168.2	198.0	203.5	188.8	181.8	179.9	182.5	180.6	177.5	168.3	151.6	142.1	144.4	151.8
Bacon	161.1	195.7	202.3	185.7	173.7	171.9	169.2	174.4	166.7	151.7	143.6	133.4	132.4	161.3
Other meats	154.4	166.3	174.4	171.0	168.5	168.2	168.1	168.8	167.6	162.8	157.1	154.1	150.2	155.0
Lamb chops	145.3	154.7	154.5	145.9	143.5	147.7	149.0	153.9	155.6	151.8	151.0	147.7	160.0	160.3
Frankfurters	162.3	180.1	191.7	184.0	178.2	175.1	174.6	175.9	173.8	167.5	157.2	151.5	143.3	153.9
Ham, canned	149.1	157.6	165.8	170.4	171.6	172.1	174.1	171.3	167.9	163.3	156.6	148.9	141.8	146.1
Bologna sausage	162.8	175.5	187.8	183.8	179.6	178.2	176.3	176.8	176.2	168.6	162.3	158.1	154.3	160.6
Salami sausage	154.5	165.0	172.5	171.6	170.1	168.2	167.0	166.7	166.3	163.1	159.2	155.7	152.1	156.1
Liverwurst	152.8	165.8	175.4	171.6	169.1	169.3	168.4	168.8	166.5	163.1	156.5	153.0	149.5	152.8
Poultry	154.8	225.4	185.9	157.7	149.7	145.9	157.0	154.7	152.0	147.0	138.7	135.8	136.2	140.1
Frying chicken	158.1	244.5	193.0	154.6	144.7	141.2	156.9	155.6	152.3	147.2	138.3	135.7	137.1	141.8
Chicken breasts	147.8	202.7	168.0	149.2	144.7	141.9	147.0	147.3	146.6	143.9	140.7	138.3	138.9	142.7
Turkey	146.7	158.7	170.8	180.8	178.5	172.3	168.2	158.5	156.8	149.4	138.8	134.2	129.8	129.9
Fish	162.8	165.2	167.1	170.8	175.8	178.1	180.4	182.6	185.2	186.9	187.1	187.1	188.2	187.4
Shrimp, frozen	157.0	159.2	162.7	167.4	172.9	175.6	176.3	179.2	179.2	177.0	171.9	169.3	168.9	163.8
Fish, fresh or frozen	188.9	194.2	195.2	200.2	207.4	209.1	212.9	214.9	214.9	216.9	217.1	215.3	216.4	216.7
Tuna fish, canned	143.5	144.9	146.0	147.8	150.6	153.2	156.7	160.5	163.3	166.9	168.5	169.6	170.9	170.4
Sardines, canned	162.4	163.1	164.9	168.4	173.1	174.9	176.3	176.7	183.9	187.2	191.2	194.7	196.9	198.6
Dairy products	127.9	126.6	130.3	137.3	141.2	144.9	146.3	149.3	151.5	153.7	154.6	153.8	151.6	150.7
Milk, fresh, grocery	127.3	125.9	129.0	136.7	142.2	146.5	147.8	151.0	153.7	155.8	156.5	155.5	152.5	150.9
Milk, fresh, delivered <sup>1</sup>	130.7	129.2	132.0	139.0	143.2	146.4	146.4	146.4	146.4	146.4	146.4	146.4	146.4	146.4
Milk, fresh, skim	135.5	134.6	138.0	147.0	150.9	155.4	157.1	161.4	164.1	166.7	167.9	167.8	165.1	164.2
Milk, evaporated	134.3	135.5	136.0	141.2	147.1	151.4	154.7	160.3	164.4	167.7	171.1	172.3	174.7	178.5
Ice cream	113.1	111.5	115.1	119.6	122.5	123.7	124.4	125.0	125.3	127.5	130.4	133.1	134.2	134.6
Cheese, American process	138.5	137.5	139.1	145.7	153.1	158.5	162.3	168.3	171.0	173.8	174.4	171.7	166.2	163.2
Butter	110.7	107.1	120.7	128.0	121.1	122.6	121.0	117.2	115.2	115.7	113.6	109.9	109.0	109.2
Fruits and vegetables	142.5	152.6	137.3	138.8	143.7	145.3	149.7	155.9	162.5	163.0	177.7	183.1	178.7	168.2
Fresh fruits and vegetables	150.8	168.4	141.3	141.6	145.1	144.0	148.5	154.5	162.3	159.6	181.8	190.3	182.9	162.9
Fresh fruits	138.7	149.4	141.3	140.8	139.9	136.1	138.5	138.9	135.9	140.7	148.9	168.0	164.7	165.7
Apples	144.9	168.1	154.7	137.4	142.2	147.9	150.6	152.4	154.9	158.8	163.8	168.0	189.2	186.1
Bananas	106.2	117.6	110.7	111.1	107.3	100.4	107.1	106.6	91.8	93.2	120.2	149.1	125.1	122.2
Oranges	140.5	147.5	147.5	157.7	155.3	141.6	139.9	139.6	138.9	136.5	146.6	149.5	148.3	156.6
Orange juice, fresh	132.6	132.8	133.4	132.3	133.5	133.9	134.1	133.4	136.6	136.9	138.1	139.0	138.4	141.0
Grapes <sup>1</sup>	147.1	183.8	178.6	185.7	138.7	133.0	136.7	135.6	132.8	132.1	138.1	147.0	154.1	170.3
Strawberries <sup>1</sup>	165.5	157.9	140.5	159.1	170.5	---	---	---	---	---	155.7	122.0	132.3	206.7
Watermelon <sup>1</sup>	131.7	---	---	---	---	---	---	---	---	---	---	---	---	---
Watermelon <sup>1</sup>	153.5	129.1	---	---	---	---	---	---	---	---	---	---	168.2	176.8
Fresh vegetables	160.7	183.8	141.5	142.4	149.4	150.6	156.7	167.2	183.6	175.1	208.3	208.4	197.6	161.0
Potatoes	187.9	252.4	177.3	169.1										



## 23. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1973	1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>FOOD—Continued</b>														
Spinach.....	158.8	170.5	163.7	163.2	159.4	162.6	165.2	171.2	174.6	175.4	172.2	177.2	178.7	172.8
Tomatoes.....	136.5	142.0	103.1	111.2	135.3	138.2	160.1	173.7	166.4	135.2	179.2	180.8	166.9	128.3
Processed fruits and vegetables.....	130.2	129.1	131.2	134.7	141.6	147.2	151.5	158.0	162.8	168.0	171.6	172.3	172.6	176.0
Fruit cocktail, canned.....	130.2	129.4	130.1	132.6	135.9	137.7	138.7	141.3	143.8	145.3	147.1	148.9	153.6	164.1
Pears, canned.....	125.1	125.7	125.5	127.1	129.3	130.2	131.0	132.6	134.0	135.2	137.7	136.7	139.8	148.4
Pineapple-grapefruit drink.....	119.7	119.9	120.4	121.5	121.5	121.5	122.7	123.9	124.5	125.1	127.5	129.7	132.7	142.2
Orange juice concentrate, frozen.....	137.0	135.8	136.3	136.4	138.1	138.9	139.3	139.4	140.0	139.7	140.6	141.2	140.9	141.6
Lemonade concentrate, frozen.....	120.3	119.2	119.8	121.1	122.5	123.2	123.7	125.1	126.8	130.4	131.8	132.9	135.3	148.0
Beets, canned.....	139.1	143.9	145.8	145.6	146.5	146.0	148.6	149.5	152.3	154.9	157.0	158.6	160.1	166.8
Peas, green, canned.....	110.6	110.4	111.2	112.5	113.6	114.4	115.6	117.5	119.1	119.7	122.3	124.6	128.0	138.2
Tomatoes, canned.....	125.2	125.6	126.2	127.3	130.8	131.9	133.6	136.1	138.1	141.7	144.7	145.6	147.2	151.5
Dried beans.....	171.8	157.8	172.0	194.0	241.6	286.5	315.1	360.5	389.1	421.3	439.4	433.9	418.1	389.6
Broccoli, frozen.....	122.1	123.2	123.1	124.5	125.8	126.2	127.2	129.1	131.2	132.6	134.0	134.5	135.8	136.9
Other food at home.....	130.3	135.6	135.9	137.2	137.9	141.2	143.9	148.0	150.2	151.8	151.2	154.4	158.4	166.4
Eggs.....	160.2	198.4	188.4	179.2	169.1	182.7	191.0	194.1	175.8	160.4	133.2	128.4	127.8	146.0
Fats and oils:														
Margarine.....	133.4	131.4	147.1	158.1	161.0	160.7	163.7	172.0	183.1	190.1	192.0	195.2	194.4	205.2
Salad dressing, Italian.....	112.1	110.8	111.4	114.9	117.3	118.5	119.4	119.3	121.9	123.9	126.3	128.2	129.5	129.6
Salad or cooking oil.....	133.4	129.4	136.1	153.9	158.6	159.8	160.6	166.2	181.0	193.6	193.2	192.6	192.2	203.0
Sugar and sweets.....	128.3	128.8	129.6	131.2	135.6	138.4	140.3	149.5	162.0	169.6	175.9	184.1	195.1	203.4
Sugar.....	124.9	124.6	127.0	132.3	136.6	138.8	140.5	147.1	172.4	190.2	205.9	234.7	266.2	288.9
Grape jelly.....	134.1	135.1	135.0	135.6	140.2	141.7	142.9	144.6	146.6	152.0	157.9	162.7	175.7	185.9
Chocolate bar.....	135.6	137.6	138.6	138.5	139.0	139.9	141.0	164.7	183.1	187.9	190.0	191.0	191.6	192.6
Syrup, chocolate flavored.....	117.6	116.9	117.1	118.0	126.2	133.2	136.9	141.1	147.6	151.1	153.9	155.2	156.6	157.6
Nonalcoholic beverages.....	130.2	131.9	132.1	133.2	134.2	135.4	137.3	139.1	142.0	145.7	149.3	153.8	158.1	168.5
Coffee, can and bag.....	135.0	138.6	139.0	140.4	141.2	142.1	145.3	147.5	150.1	153.8	156.6	160.4	163.4	166.1
Coffee, instant.....	131.4	133.2	133.3	132.9	134.9	135.6	137.8	140.1	143.9	148.8	153.4	158.4	161.1	168.5
Tea.....	111.1	111.1	111.1	111.6	111.9	113.4	114.2	114.6	115.5	116.0	117.3	119.0	120.4	123.2
Carbonated drink, cola flavored.....	131.7	131.3	131.2	133.2	134.4	135.6	136.4	137.6	141.4	146.5	152.5	158.6	165.8	174.8
Carbonated drink, fruit flavored.....	131.6	131.6	132.1	132.9	134.3	136.4	136.6	139.1	142.3	146.7	151.5	158.1	166.8	173.8
Prepared and partially prepared foods.....	119.0	118.4	119.6	120.9	123.3	125.0	126.8	130.4	132.7	134.1	133.1	142.3	146.5	151.8
Bean soup, canned.....	120.0	118.2	121.0	123.1	126.7	128.4	133.6	142.3	145.7	146.3	156.1	166.8	174.5	180.5
Chicken soup, canned.....	107.7	105.8	107.8	110.1	115.1	116.8	117.4	120.9	123.2	123.8	127.1	129.1	131.7	133.3
Spaghetti, canned.....	123.9	124.0	124.4	125.0	125.9	126.5	129.0	131.6	133.4	132.2	134.1	139.1	145.1	150.7
Mashed potatoes, instant.....	117.6	118.2	118.7	119.2	120.4	121.7	123.3	126.7	127.1	128.7	132.1	137.2	142.3	145.5
Potatoes, French fried, frozen.....	115.4	114.8	116.5	118.1	120.7	123.4	124.1	125.3	129.0	135.5	143.7	146.3	153.1	164.5
Baby food, can or jar.....	114.5	114.9	115.4	116.6	118.5	120.3	121.6	127.1	130.8	132.0	132.9	136.8	140.5	142.0
Sweet pickle relish.....	132.2	131.2	131.3	132.6	134.8	137.7	139.2	140.9	142.1	142.3	141.3	140.7	140.8	146.8
Pretzels.....	118.3	117.6	119.4	120.0	122.0	123.0	124.0	127.8	129.3	130.8	137.4	142.0	143.9	151.2
<b>HOUSING</b>														
Shelter.....	135.0	135.2	136.6	138.1	139.4	140.6	142.2	143.4	144.9	146.0	147.6	149.2	150.9	152.8
Rent, residential.....	140.7	141.1	142.9	144.7	145.6	146.4	147.4	148.3	149.4	150.2	151.3	152.8	154.4	156.1
Homeownership.....	124.3	125.0	125.4	125.9	126.3	126.9	127.3	128.0	128.4	128.8	129.3	129.8	130.3	130.9
Mortgage interest rates.....	146.7	147.0	149.2	151.5	152.6	153.6	154.8	155.8	157.2	158.2	159.4	161.2	163.2	165.4
Property taxes.....	123.2	121.8	127.6	132.7	134.2	134.8	135.1	134.8	134.0	134.1	134.9	136.8	139.7	142.1
Property insurance premiums.....	152.3	152.6	152.7	152.7	153.6	151.6	151.9	151.5	151.2	151.0	149.9	149.9	149.8	150.3
Maintenance and repairs.....	124.4	124.2	123.9	123.8	123.7	123.6	123.8	123.8	124.0	124.7	124.6	124.1	124.1	124.1
Commodities.....	151.0	153.0	153.9	154.6	155.3	156.7	158.3	159.9	162.2	165.0	167.6	171.2	174.1	176.4
Exterior house paint.....	136.2	139.8	139.9	140.0	140.2	140.7	142.0	143.1	145.1	148.2	150.5	153.1	154.9	155.9
Interior house paint.....	120.0	120.3	120.5	120.8	122.2	122.4	123.7	124.6	127.4	130.1	132.3	135.5	136.3	142.1
Services.....	120.3	120.0	121.3	122.4	121.5	121.1	123.0	124.3	125.1	127.2	128.1	131.1	133.5	135.6
Repainting living and dining rooms.....	157.3	158.7	159.9	161.0	161.8	163.9	165.3	167.1	169.6	172.2	175.0	179.0	182.4	185.3
Reshingling roofs.....	170.4	172.2	173.4	174.7	175.3	176.0	176.8	177.2	179.8	181.2	184.4	188.4	192.4	194.8
Replacing roofs.....	164.4	165.6	166.4	167.1	168.3	171.1	173.8	176.9	180.5	184.3	190.3	196.1	200.3	204.3
Replacing sinks.....	144.8	146.6	146.9	147.9	149.0	153.8	155.2	157.6	159.5	162.8	165.1	169.6	172.9	175.9
Repairing furnaces.....	155.2	156.1	158.0	159.1	159.3	160.8	161.7	162.7	166.5	169.1	171.5	174.0	177.0	180.8
Fuel and utilities.....	162.7	163.5	166.5	167.5	168.5	166.8	167.9	169.7	170.7	171.7	172.7	175.1	177.4	178.6
Fuel oil and coal.....	126.9	126.3	126.8	128.6	132.1	135.9	140.8	143.5	144.9	146.9	148.6	149.4	150.9	152.6
Fuel oil, #2.....	136.0	132.8	133.6	141.1	155.6	172.8	194.6	202.0	201.5	206.5	211.0	214.2	218.5	220.9
Gas and electricity.....	134.5	132.0	132.4	140.0	154.2	171.8	194.5	202.1	201.5	205.9	210.2	213.8	217.7	219.1
Gas.....	126.4	125.8	126.5	127.4	129.8	131.0	134.3	137.3	140.0	141.9	143.9	144.5	146.2	148.5
Electricity.....	127.9	126.7	127.3	128.4	132.3	133.1	135.1	136.9	138.4	139.6	141.3	141.1	143.3	146.0
Other utilities.....	124.9	125.0	125.8	126.5	127.5	129.0	133.5	137.7	141.4	144.1	146.3	147.7	148.9	150.8
Residential telephone.....	116.5	117.0	117.1	117.5	117.5	120.5	120.9	121.0	121.0	121.1	121.1	121.1	121.2	121.2
Residential water and sewerage.....	146.1	147.1	147.1	147.4	148.5	149.1	149.2	150.5	151.2	154.2	153.9	154.4	154.7	156.3
Household furnishings and operations.....	124.9	125.3	126.1	126.7	127.5	128.0	129.0	130.1	132.6	134.0	137.0	139.2	141.4	143.9
House furnishings.....	119.0	119.2	119.8	120.3	121.1	121.3	122.0	123.0	124.6	126.1	127.6	129.6	131.0	133.4
Textiles.....	116.2	114.8	116.3	117.6	119.7	120.1	119.5	122.4	125.9	127.5	129.1	131.1	131.6	133.3
Sheets, percale or muslin.....	118.6	114.9	119.4	121.7	123.3	121.9	118.3	124.5	130.2	133.8	133.2	137.5	135.4	133.1
Curtains, tailored, polyester marquisette.....	114.9	115.4	114.7	119.9	118.5	121.2	121.4	122.1	122.9	125.3	125.3	125.3	126.6	131.2
Bedsprings, chiefly cotton.....	112.4	109.3	109.8	112.4	115.2	116.3	115.0	117.6	126.1	130.6	134.1	135.9	137.7	138.9
Drapery fabric, cotton or rayon/acetate.....	128.5	129.0	129.8	130.4	133.1									

## 23. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1973	1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>HOUSING—Continued</b>														
Furniture and bedding.....	125.3	126.2	127.0	127.3	128.2	128.5	129.3	129.7	131.4	132.9	134.7	136.3	136.5	137.6
Bedroom furniture, chest and dresser <sup>2</sup> .....	109.6	110.7	111.6	112.0	112.9	113.4	114.2	114.8	115.8	117.4	119.0	120.7	121.9	123.4
Dining room chairs <sup>2</sup> .....	108.8	109.4	110.4	111.4	112.3	112.6	113.5	114.0	115.8	117.5	119.4	120.7	122.3	122.2
Sofas, upholstered.....	123.7	124.6	125.3	125.2	126.1	126.3	126.3	125.5	126.6	127.9	128.9	130.8	132.1	132.5
Sofas, convertible.....	119.9	120.4	121.7	121.8	122.3	123.2	124.0	124.9	125.7	126.8	127.9	128.0	129.4	131.0
Bedding, mattress, and box springs <sup>3</sup> .....	107.6	108.9	109.4	109.6	109.9	109.9	110.8	111.8	112.8	114.1	115.6	118.1	119.3	121.4
Crisbs.....	124.1	126.3	127.2	127.5	127.7	126.9	128.2	130.1	132.6	132.9	135.1	137.0	138.3	138.1
Cocktail table <sup>4</sup> .....	104.4	105.2	105.6	106.2	107.4	107.6	109.7	109.7	110.5	111.0	113.3	115.7	116.1	117.7
Recliner, upholstered <sup>4</sup> .....	99.8	99.6	99.6	100.1	101.8	101.4	102.2	101.9	103.7	104.3	105.1	105.1	106.9	108.4
Floor coverings.....	108.2	108.4	109.1	109.4	109.6	109.7	110.4	111.2	112.5	114.0	115.1	117.0	119.7	122.2
Broadloom carpeting, manmade fibers.....	102.8	103.1	103.9	104.2	104.1	104.1	104.4	105.2	106.5	108.1	109.0	111.0	112.7	114.6
Vinyl sheet goods.....	121.5	121.6	122.1	122.9	124.3	124.5	124.8	125.5	125.3	126.0	127.3	127.9	132.0	135.3
Vinyl asbestos tile.....	119.9	120.1	120.1	120.2	120.4	120.8	124.2	124.9	127.4	129.6	131.2	134.3	139.8	144.0
Appliances (excluding radio and TV).....	109.8	109.6	109.8	110.0	110.2	110.1	110.6	110.7	111.1	111.6	112.4	113.7	115.0	117.1
Washing machines, automatic.....	111.0	111.0	111.1	111.0	111.2	111.3	111.7	111.9	112.1	112.8	113.5	114.7	116.2	118.8
Vacuum cleaners.....	104.1	104.0	104.3	104.4	104.6	103.9	104.1	104.3	104.4	104.5	105.6	107.3	108.0	108.8
Refrigerator-freezers, electric.....	108.3	107.9	108.2	108.5	108.6	108.4	108.7	109.0	109.2	109.4	110.2	111.4	113.2	116.2
Ranges, freestanding, gas or electric.....	110.3	110.3	110.3	110.8	110.7	110.4	110.2	110.5	111.2	111.4	112.4	113.9	114.7	117.3
Clothes dryers, electric.....	114.4	114.1	114.5	114.5	114.8	114.9	114.9	114.9	115.4	116.4	117.5	113.2	121.3	123.4
Air conditioners, demountable <sup>1</sup> .....	110.1	109.9	-----	-----	-----	-----	-----	-----	-----	112.4	112.6	113.9	114.2	113.7
Room heaters, electric, portable <sup>1</sup> .....	108.7	-----	-----	108.6	109.5	109.8	111.2	111.0	112.2	-----	-----	-----	-----	-----
Garbage disposal units.....	111.9	112.0	112.4	112.5	112.5	112.4	113.3	113.8	113.9	114.6	114.9	115.9	117.1	119.4
Other house furnishings:														
Dinnerware, fine china.....	131.0	132.2	133.2	133.0	134.4	135.4	137.5	138.6	140.1	140.7	141.6	144.5	149.4	156.1
Flatware, stainless steel.....	132.0	132.4	133.3	133.5	132.9	132.7	134.0	136.4	140.3	143.7	144.2	145.3	149.1	152.9
Table lamps, with shade.....	128.2	129.6	128.4	127.9	127.9	127.9	128.8	129.7	130.3	131.5	132.4	134.5	136.0	138.3
Housekeeping supplies:														
Laundry soaps and detergents.....	113.4	113.4	113.9	115.2	116.1	117.4	118.9	120.4	121.6	122.1	125.1	128.3	132.3	137.3
Paper napkins.....	138.6	139.3	139.6	139.2	139.1	140.5	143.3	145.8	148.1	152.4	158.7	163.2	167.2	171.0
Toilet tissue.....	128.4	130.0	130.7	131.2	132.1	132.9	135.7	137.9	142.3	145.2	151.8	154.3	157.0	158.1
Housekeeping services:														
Domestic service, general housework.....	147.3	146.7	151.4	152.3	153.3	153.4	154.1	155.5	156.3	158.6	173.8	176.4	185.6	187.3
Baby sitter service.....	142.8	143.2	144.8	145.8	146.3	146.9	147.4	148.7	148.7	149.8	163.8	167.8	172.4	174.6
Postal charges.....	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6
Laundry, flatwork.....	148.9	149.7	152.0	153.1	154.2	155.7	157.9	159.0	161.9	165.1	168.0	170.8	172.4	173.9
Licensed day care service, preschool child.....	130.5	131.0	133.0	133.9	135.2	135.9	136.3	136.6	137.5	138.1	139.3	140.7	142.0	144.6
Washing machine repair.....	148.7	150.1	150.5	151.0	151.4	153.4	154.7	157.0	159.6	160.6	162.2	164.1	165.3	168.4
<b>APPAREL AND UPKEEP</b> .....	126.8	126.5	128.3	129.6	130.5	130.5	128.8	130.4	132.2	133.6	135.0	135.7	135.3	138.1
<b>Men's and boys'</b> .....	126.4	126.3	127.3	128.3	128.9	129.1	127.7	129.2	131.8	134.2	135.7	137.0	136.0	138.4
<b>Men's:</b>														
Topcoats wool or all weather coats, polyester blend <sup>1</sup> .....	132.2	-----	132.5	133.9	137.1	136.5	135.1	134.4	134.6	132.7	135.4	135.5	-----	140.4
Suits, year-round weight.....	133.1	132.4	133.9	135.8	135.4	136.1	131.8	130.7	132.7	135.4	164.2	164.5	137.2	131.1
Suits, tropical weight <sup>1</sup> .....	143.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	133.3
Jackets, lightweight.....	118.2	118.4	119.8	119.9	119.9	120.5	121.3	122.1	122.1	123.2	124.5	125.2	125.5	127.1
Slacks, wool, manmade fibers or blends.....	116.1	114.4	116.9	117.8	118.0	117.1	116.0	117.9	116.4	116.4	115.9	115.8	115.7	116.7
Slacks, cotton, manmade fibers or blends.....	140.3	137.4	137.1	138.3	138.9	138.6	139.3	140.7	141.1	140.6	141.7	143.2	141.0	140.8
Trousers, work.....	120.2	121.6	122.5	123.1	123.6	124.1	123.9	128.0	130.3	134.6	139.1	138.8	142.2	142.6
Shirt, work.....	120.9	122.3	123.1	123.4	124.4	126.0	127.4	130.1	132.7	135.0	139.0	141.6	143.6	146.2
Shirts, business or dress.....	113.9	114.0	116.2	116.8	117.6	117.8	115.9	116.5	118.3	121.5	122.1	122.4	122.0	125.2
T-shirts.....	122.0	123.3	124.1	124.3	124.4	124.7	127.1	131.3	135.6	139.0	140.1	142.7	143.5	144.3
Socks.....	117.3	117.8	118.0	117.8	118.0	118.1	118.6	119.3	119.8	120.2	120.7	121.3	122.0	123.3
Handkerchiefs.....	120.7	121.1	122.1	122.7	123.6	124.5	125.8	131.1	133.5	137.0	139.6	142.9	144.4	147.1
<b>Boys':</b>														
Coats, all purpose, cotton or cotton blend <sup>1</sup> .....	123.6	-----	-----	126.0	123.6	123.5	112.6	113.1	111.5	-----	-----	-----	-----	-----
Sport coats, wool or blend <sup>1</sup> .....	121.7	-----	-----	122.5	122.1	122.7	120.8	-----	-----	-----	-----	-----	-----	-----
Dungarees, cotton or blend.....	137.0	140.0	141.2	142.3	143.1	143.2	143.8	148.3	150.4	153.4	157.5	-----	163.8	166.1
Undershorts, cotton.....	123.6	124.4	125.0	125.8	126.4	127.0	128.3	131.8	135.1	137.7	139.1	141.6	142.5	145.3
<b>Women's and girls'</b> .....	127.3	126.0	129.5	131.4	132.2	131.8	127.8	130.1	131.6	132.4	133.7	133.6	132.9	136.6
<b>Women's:</b>														
Coats, heavyweight, wool or wool blend <sup>1</sup> .....	137.0	-----	138.4	142.3	143.6	139.2	125.6	-----	-----	-----	-----	-----	-----	-----
Skirts, winter weight.....	145.0	-----	-----	148.7	155.5	153.0	144.1	140.3	-----	-----	-----	-----	-----	-----
Skirts, summer weight.....	124.3	117.4	-----	-----	-----	-----	-----	-----	135.1	139.6	142.2	139.1	130.9	133.4
Blouses.....	126.2	126.0	127.7	129.2	128.5	128.8	127.4	129.0	131.6	132.9	134.0	133.5	131.7	135.1
Dresses, street, chiefly manmade fiber.....	135.8	136.3	138.4	139.9	139.8	140.7	139.0	139.8	138.7	138.8	139.4	138.7	138.4	139.3
Slips, nylon.....	111.2	111.3	111.6	111.4	111.6	111.6	112.0	113.1	113.9	114.8	114.8	114.7	114.9	116.9
Panties, acetate or nylon.....	120.0	120.0	120.3	121.1	121.8	122.3	122.5	123.1	124.2	125.2	126.0	127.8	128.9	131.2
Girdles, manmade blend.....	118.7	119.4	119.8	119.6	120.1	120.0	119.1	121.2	121.7	122.8	123.3	122.3	122.5	124.4
Brassieres, nylon.....	124.6	125.8	124.4	124.9	127.0	128.1	127.6	128.4	129.6	130.7	131.3	131.8	132.5	135.1
Hose or panty hose, nylon, seamless.....	94.0	93.9	94.3	93.5	92.2	92.0	92.0	91.6	91.8	92.0	92.1	92.1	92.2	92.4
Anklets or knee-length socks, various fibers.....	114.1	113.4	114.3	114.4	114.5	113.0	115.6	117.3	118.3	118.5	120.6	121.7	124.3	126.6
Gloves, fabric, nylon.....	112.3	112.0	113.1	113.3	114.4	114.4	114.3	115.9	119.1	121.4	121.2	121.7	121.4	122.4
Handbags, rayon faille or plastic.....	151.6	153.7	155.3	157.2	158.0	158.9	154.8	155.9	159.6	161.2	163.2	162.2	162.7	167.1

See footnotes at end of table.

## 23. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1973	1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>APPAREL AND UPKEEP—Continued</b>														
Girls':														
Raincoats, vinyl plastic or chiefly cotton <sup>1</sup> .....	117.0	-----	-----	122.7	124.3	121.0	118.7	117.5	115.2	-----	-----	-----	-----	-----
Skirts, wool or wool blend <sup>1</sup> .....	121.0	-----	121.0	127.6	125.6	126.1	115.2	-----	-----	-----	-----	-----	-----	134.2
Dresses, cotton manmade fibers or blends.....	122.9	122.2	117.2	124.7	125.6	124.4	119.0	122.8	124.1	127.1	127.5	132.7	133.0	137.4
Slacks.....	141.9	-----	140.4	142.7	146.2	146.3	146.7	149.3	-----	-----	-----	-----	-----	163.5
Slips, cotton blend.....	109.6	110.0	110.2	109.9	109.9	109.7	110.4	111.3	112.5	113.7	114.9	-----	116.8	118.3
Handbags.....	129.6	130.2	133.4	135.7	137.3	136.1	134.0	137.7	142.8	144.3	147.5	145.6	146.0	147.9
Footwear.....	130.2	130.6	131.3	132.0	132.6	132.6	133.0	133.5	134.9	136.3	137.4	137.4	136.9	139.9
Men's:														
Shoes, street (oxford or buckle strap).....	132.6	133.8	133.5	134.4	135.3	136.0	136.0	136.4	137.9	138.9	141.2	141.9	142.8	144.1
Shoes, work, high.....	135.9	138.8	139.7	140.4	141.0	141.1	141.6	142.6	144.2	146.0	147.2	148.2	148.6	150.9
Women's:														
Shoes, street, pump.....	129.4	129.2	130.3	131.5	131.9	131.1	130.6	130.6	132.8	135.0	135.8	134.9	131.3	136.3
Shoes, evening, pump.....	124.5	124.8	125.5	125.6	126.3	125.6	126.5	126.7	127.0	127.8	128.2	127.9	127.3	129.2
Shoes, casual, pump.....	130.2	129.6	131.2	132.2	132.5	133.0	134.0	133.5	136.1	137.2	138.1	138.5	135.4	139.4
Houseslippers, scuff.....	128.7	128.7	129.8	130.0	130.6	130.7	131.0	131.4	131.7	132.1	133.5	133.8	134.9	137.4
Children's:														
Shoes, oxford.....	132.7	132.9	134.2	134.4	134.3	134.6	134.6	135.4	136.4	137.4	138.0	138.3	139.6	141.9
Sneakers, boys', oxford type.....	125.9	125.8	125.5	126.8	127.8	127.5	128.0	129.8	133.5	135.8	137.5	138.0	138.7	141.1
Dress shoes, girls', strap or pump.....	133.6	133.2	134.0	134.7	135.6	136.6	138.8	139.6	139.7	141.5	141.6	141.0	140.6	146.8
Miscellaneous apparel:														
Diapers, cotton gauze or disposable.....	118.9	119.1	119.2	119.4	121.1	121.7	122.6	126.5	130.5	134.2	145.7	150.8	159.1	163.2
Yard goods, polyester blend.....	125.2	124.7	126.5	131.9	134.8	135.5	137.3	140.0	144.8	146.3	151.5	157.3	159.7	160.7
Apparel services:														
Drycleaning, men's suits and women's dresses.....	122.0	122.2	123.4	124.2	125.9	126.6	127.7	129.2	130.7	131.8	133.7	135.1	136.3	138.1
Automatic laundry service.....	117.7	118.1	118.3	118.6	119.1	119.5	120.6	121.0	121.5	122.1	124.1	124.2	125.1	125.1
Laundry, men's shirts.....	129.0	129.7	130.3	131.7	132.5	133.7	136.0	136.8	137.7	138.7	140.1	143.1	145.3	146.6
Tailoring charges, hem adjustment.....	138.9	139.5	140.5	142.6	142.4	143.7	143.7	144.5	144.7	145.8	146.7	147.5	148.2	148.4
Shoe repairs, women's heel lift.....	122.1	122.5	123.8	124.4	125.0	126.7	127.2	128.1	128.1	128.9	130.3	131.3	132.0	132.6
<b>TRANSPORTATION</b>														
Private.....	123.8	124.5	123.9	125.0	125.8	126.7	128.1	129.3	132.0	134.4	137.6	140.7	142.6	143.4
Automobiles, new:														
Automobiles, used.....	121.5	122.3	121.6	122.9	123.8	124.6	126.2	127.5	130.4	133.1	136.6	139.8	141.9	142.8
Gasoline, regular and premium.....	111.1	110.6	109.1	111.9	112.2	112.0	112.9	112.7	112.8	113.3	114.6	116.4	118.0	118.1
Motor oil, premium.....	117.6	121.3	120.3	118.5	116.1	112.6	107.0	103.0	102.2	110.7	121.9	133.6	140.2	144.7
Tires, new, tubeless.....	118.1	118.7	117.8	121.8	126.3	131.9	140.1	147.8	158.7	161.4	165.4	166.9	167.7	166.5
Auto repairs and maintenance.....	127.9	128.4	128.7	129.2	130.4	132.1	134.9	137.6	140.0	142.8	145.7	145.2	147.3	148.5
Auto insurance rates.....	110.6	109.1	108.8	108.3	109.9	110.3	110.3	110.7	113.0	114.1	116.3	118.9	120.9	122.1
Auto registration.....	142.2	142.9	143.8	144.4	144.9	145.9	147.3	148.9	150.3	151.8	153.1	154.3	157.0	159.0
Public.....	138.0	138.2	138.0	137.5	137.4	137.4	137.7	137.7	138.0	138.6	138.6	138.2	138.4	138.2
Local transit fares.....	123.6	123.7	123.7	123.7	123.7	123.7	128.9	128.9	128.9	128.9	128.9	128.9	128.9	128.9
Taxicab fares.....	144.8	144.9	145.5	145.2	144.6	146.5	146.0	146.2	146.6	146.3	146.3	148.6	148.6	148.7
Railroad fares, coach.....	150.1	150.3	150.6	150.2	149.2	149.2	148.4	148.7	148.7	148.4	148.3	147.5	147.5	147.6
Airplane fares, chiefly coach.....	137.8	138.3	138.3	138.3	138.3	145.3	145.3	145.3	145.4	145.4	145.4	154.1	154.1	154.1
Bus fares, intercity.....	122.8	122.6	122.6	122.6	122.6	126.7	126.8	127.0	127.1	127.1	127.1	140.5	140.5	140.6
Health and recreation.....	134.7	134.5	137.1	137.1	137.1	141.4	141.4	141.4	141.5	141.5	141.4	148.2	148.2	148.2
Public.....	145.7	145.9	145.9	145.9	145.9	150.9	150.9	150.9	150.9	150.9	150.9	159.5	159.5	159.5
<b>HEALTH AND RECREATION</b>														
Medical care.....	130.2	130.5	131.1	132.1	132.6	133.0	133.7	134.5	135.4	136.3	137.7	139.4	141.0	142.6
Drugs and prescriptions:														
Over-the-counter items.....	137.7	137.6	138.3	140.6	140.9	141.4	142.2	143.4	144.8	145.6	147.2	149.4	151.4	153.7
Multiple vitamin concentrates.....	105.9	105.9	106.1	106.2	106.2	106.3	106.7	107.0	107.3	107.6	108.0	108.7	109.5	110.6
Aspirin compounds.....	112.4	112.4	112.6	112.8	112.8	113.0	113.5	113.8	114.3	114.6	115.6	116.6	117.5	118.9
Liquid tonics.....	94.9	94.8	95.3	95.2	95.7	95.8	96.2	95.4	96.3	96.4	96.3	96.7	97.6	97.4
Adhesive bandages, package.....	117.7	117.3	117.4	117.7	117.8	118.0	118.2	118.4	118.3	118.5	119.5	120.4	122.5	125.1
Cold tablets or capsules.....	101.6	101.6	101.8	101.8	101.9	102.2	102.5	103.4	103.6	104.0	104.9	105.7	106.4	107.2
Cough syrup.....	126.6	126.3	126.6	127.6	127.8	128.4	128.9	129.7	130.5	130.8	133.1	135.2	136.7	139.0
Prescriptions.....	114.5	115.0	114.9	114.8	114.5	114.6	115.2	115.4	115.8	115.7	115.7	115.8	116.1	116.6
Anti-infectives.....	115.2	115.6	115.6	115.7	115.4	115.1	116.0	116.6	117.6	118.5	119.5	121.0	121.2	123.0
Sedatives and hypnotics.....	100.5	100.5	100.7	100.5	100.6	100.7	101.1	101.3	101.5	101.6	101.6	102.0	102.7	103.6
Ataractics.....	71.1	70.9	70.7	70.2	70.0	69.9	69.0	68.3	68.0	68.1	67.7	67.8	68.7	69.1
Anti-spasmodics.....	129.4	129.5	130.3	130.6	130.8	131.5	133.4	135.1	136.5	137.5	137.3	138.0	140.5	143.7
Cough preparations.....	103.8	103.8	103.9	103.9	103.7	104.1	104.2	105.0	104.7	104.7	104.6	104.6	104.5	105.0
Cardiovasculars and antihypertensives.....	107.8	107.9	108.0	107.9	107.9	108.0	108.6	108.8	108.8	108.8	109.0	109.3	110.1	111.0
Analgesics, internal.....	136.9	137.8	138.4	138.4	139.0	139.5	140.6	142.6	143.2	143.2	144.1	145.5	147.3	149.5
Anti-obesity.....	113.0	112.9	113.6	113.7	114.0	114.1	114.1	113.9	113.9	114.0	114.2	115.0	115.5	116.0
Hormones.....	111.2	111.2	111.3	110.8	111.1	111.2	111.5	112.0	112.0	111.9	111.9	112.4	112.9	112.8
Professional services:	117.5	117.4	117.9	118.1	118.9	119.0	119.8	120.0	120.2	120.8	121.3	121.1	121.4	122.1
Physicians' fees.....	91.6	91.4	91.4	91.5	91.4	91.3	92.8	92.9	93.6	93.8	94.1	95.0	94.9	95.7
General physician, office visits.....	138.2	138.6	139.6	139.9	140.3	140.8	141.3	142.6	145.0	145.8	147.7	150.3	152.3	154.3
General physician, house visits.....	139.5	139.8	141.2	141.6	141.9	142.8	143.4	144.7	148.1	149.1	150.7	154.1	156.0	158.1
Obstetrical cases.....	141.7	141.9	143.4	143.6	143.7	142.7	143.1	143.3	145.3	145.9	147.9	151.2	152.6	154.1
Pediatric care, office visits.....	138.1	138.7	139.1	139.6	139.9	140.1	140.4	142.0	143.0	144.1	145.7	147.2	151.0	152.4
Psychiatrist, office visits.....	140.5	141.5	141.8	142.0	142.1	142.5	143.4	146.2	147.8	148.4	150.9	152.4	154.2	155.8
Herniorrhaphy, adult.....	133.6	133.9	134.2	134.3	135.1	135.0	135.1	135.9	136.8	136.9	139.6	140.1	142.0	143.2
Tonsillectomy and adenoidectomy.....	131.3	131.8	132.0	132.1	132.5	132.8	132.9	134.1	134.8	135.3	136.3	137.6	139.2	140.5
Professional services.....	132.8	133.3	133.5	133.9	135.0	135.2	135.9	137.0	137.6	138.0	141.0	142.5	145.4	148.2

See footnotes at end of table.



## 23. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1973	1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>HEALTH AND RECREATION—Continued</b>														
Dentists' fees.....	136.4	136.7	137.0	138.2	138.4	138.6	140.3	140.7	141.5	142.9	143.8	145.7	147.4	149.6
Fillings, adult, amalgam, one surface.....	138.7	139.1	139.5	140.4	140.7	140.8	142.7	143.1	144.2	145.8	147.0	149.0	150.2	153.2
Extractions, adult.....	135.4	135.9	136.1	137.4	137.5	137.9	140.3	140.7	141.1	142.6	143.3	145.3	147.3	148.5
Dentures, full uppers.....	132.6	132.8	132.9	134.3	134.6	134.9	135.5	135.7	136.3	137.2	137.8	139.4	141.7	143.3
Other professional services:														
Examination, prescription, and dispensing of eyeglasses.....	129.5	130.6	130.9	131.2	131.8	132.1	132.5	133.7	134.3	135.2	138.0	139.0	139.7	140.5
Routine laboratory tests, urinalysis.....	122.8	123.8	124.0	124.2	124.5	124.7	125.2	127.8	128.3	129.0	131.2	133.0	136.2	140.2
Hospital service charges <sup>a</sup> .....	105.6	106.0	106.3	107.0	107.2	107.6	108.3	109.4	110.2	110.7	112.0	113.6	115.3	117.8
Semiprivate rooms.....	182.1	182.5	183.6	185.2	185.8	186.4	188.4	190.3	191.4	192.0	194.5	198.4	202.6	207.3
Operating room charges.....	179.1	179.7	180.2	181.5	182.2	183.8	184.4	188.4	189.7	191.4	192.2	196.9	199.5	205.8
X-ray, diagnostic series, upper G.I.....	131.8	132.1	132.3	133.0	133.3	133.3	133.5	134.9	135.6	137.2	137.9	138.3	140.1	143.7
Laboratory test, urinalysis <sup>b</sup> .....	104.3	105.2	105.6	105.7	105.8	106.5	106.9	108.2	108.4	108.0	108.9	110.3	111.2	114.8
Anti-infective, tetracycline, HCL <sup>c</sup> and Mepro-bamate.....	97.6	97.4	97.1	97.0	96.0	96.6	96.4	96.7	100.3	100.1	105.4	104.1	104.5	104.6
Tranquilizer, chlordiazepoxide, HCL <sup>d</sup> .....	104.3	105.3	105.3	105.3	106.2	106.2	106.2	106.5	107.1	107.7	107.9	108.5	108.7	109.2
Electrocardiogram <sup>e</sup> .....	104.7	104.7	104.9	105.4	105.2	105.5	106.0	108.8	109.3	109.3	109.7	111.6	112.1	114.2
Intravenous solution, saline <sup>f</sup> .....	103.9	103.8	103.8	104.6	104.7	105.0	105.3	106.4	107.2	107.3	107.7	108.0	108.9	110.2
Physical therapy, whirlpool bath <sup>g</sup> .....	106.2	107.9	108.0	107.2	107.3	107.5	108.0	109.2	110.9	112.7	113.4	114.1	115.8	119.2
Oxygen, inhalation therapy <sup>h</sup> .....	103.9	103.8	103.8	105.5	106.9	106.7	107.4	107.8	108.2	108.4	108.8	110.2	111.6	113.3
<b>Personal care</b>														
Toilet goods.....	125.2	125.7	126.3	127.3	128.1	129.2	129.8	130.8	131.8	133.1	134.9	136.5	137.8	139.3
Toothpaste, standard dentifrice.....	120.0	120.1	120.4	121.1	122.1	123.3	124.1	125.4	126.5	128.2	130.2	132.4	134.1	136.0
Toilet soap, hard milled.....	109.8	109.3	110.2	110.5	110.1	109.3	108.3	108.7	110.1	111.7	112.6	113.8	114.7	115.5
Hand lotions, liquid.....	128.8	128.4	129.9	130.2	136.3	141.2	145.4	148.2	150.5	155.6	163.1	172.3	178.2	184.5
Shaving cream, aerosol.....	126.6	127.0	126.7	126.9	126.5	126.9	127.1	127.8	129.7	130.3	131.4	133.3	134.2	136.1
Face powder, pressed.....	108.7	108.7	108.8	109.3	109.2	109.1	108.5	109.4	109.3	109.6	109.0	109.9	110.4	111.4
Deodorants, aerosol.....	145.6	148.2	148.4	149.4	149.8	150.0	150.0	150.5	150.8	152.6	153.0	154.0	156.4	157.4
Cleansing tissues.....	104.8	105.2	104.7	105.1	105.4	105.0	105.2	105.4	106.0	106.5	104.9	103.4	103.7	105.6
Home permanent wave sets.....	126.0	124.7	124.5	127.8	129.4	133.9	136.4	140.7	142.6	146.6	151.9	154.6	156.1	160.3
Personal care services.....	109.5	109.3	109.3	109.4	109.2	109.3	109.5	109.8	110.3	109.5	110.9	111.9	112.3	112.6
Men's haircuts.....	130.6	131.6	132.6	133.9	134.4	135.3	135.8	136.6	137.4	138.3	139.9	140.8	141.7	142.8
Beauty shop services.....	132.9	133.9	135.3	136.8	136.9	138.0	138.7	139.4	139.9	140.8	142.1	143.5	144.7	146.2
<b>Reading and recreation</b>														
Recreational goods.....	125.9	126.1	126.8	127.2	127.5	127.6	128.3	128.9	129.5	130.4	132.0	133.5	134.6	135.2
TV sets, portable and console.....	109.2	109.5	109.7	110.1	110.2	110.3	110.9	111.4	112.3	112.9	113.7	114.3	115.1	116.0
TV replacement tubes.....	98.0	97.4	97.8	97.9	97.9	97.8	97.8	97.9	98.0	98.1	98.3	98.5	98.6	99.1
Radios, portable and table model.....	134.7	134.8	135.6	135.4	135.4	135.3	135.5	136.0	137.1	138.1	139.1	139.6	139.9	139.9
Tape recorders, portable.....	99.4	99.4	99.6	100.2	99.8	99.8	99.6	100.2	100.7	101.3	101.4	101.5	102.1	102.8
Phonograph records, stereophonic.....	93.4	93.8	93.9	94.7	94.4	94.2	94.2	94.6	94.9	94.9	95.2	95.1	95.4	95.5
Movie cameras, Super 8, zoom lens.....	108.5	108.3	108.5	108.7	108.8	109.0	109.8	110.0	110.3	110.7	110.7	111.3	113.4	114.1
Film, 35mm, color.....	89.5	90.2	90.5	90.6	90.7	90.7	91.0	91.2	90.9	91.4	91.6	91.6	91.9	92.4
Bicycle, boys'.....	107.8	107.5	107.8	107.6	107.6	107.6	108.4	108.7	108.7	109.5	111.3	112.7	113.5	114.2
Tricycles.....	122.2	124.2	124.1	124.7	125.1	125.2	125.2	125.7	128.7	129.9	132.3	133.0	135.5	137.0
Recreational services.....	115.6	116.1	116.5	116.9	116.9	117.3	118.0	119.6	120.6	121.1	121.9	123.6	124.0	125.9
Indoor movie admissions.....	132.3	132.9	133.2	133.4	134.2	134.1	134.6	135.3	135.7	136.6	139.7	140.3	141.6	141.8
Drive-in movie admissions, adult.....	147.3	148.8	149.3	149.2	149.5	149.0	149.8	150.3	151.3	152.2	160.4	157.8	160.0	160.1
Bowling fees, evening.....	150.0	151.3	150.5	150.3	151.1	151.4	151.8	154.0	153.7	155.5	157.8	164.1	167.3	167.7
Golf greens fees <sup>i</sup> .....	123.9	122.4	123.3	125.4	127.7	127.9	128.4	129.1	129.3	129.9	129.4	129.2	129.4	129.8
TV repairs, picture tube replacement.....	136.6	138.0	138.4	137.6						145.8	147.3	147.4	147.8	
Film developing, color.....	99.9	100.4	100.8	100.6	100.3	100.4	100.5	100.4	100.5	100.6	101.1	101.5	101.6	102.1
Film developing, black and white.....	116.0	116.1	116.2	115.6	115.9	115.5	115.8	115.7	116.4	116.0	117.2	117.7	118.9	118.6
<b>Reading and education:</b>														
Newspapers, street sale and delivery.....	135.8	136.4	136.4	136.6	137.2	137.9	140.8	142.5	144.1	147.0	150.2	157.4	160.3	160.8
Piano lessons, beginner.....	126.9	126.4	128.4	129.0	129.7	129.9	130.9	131.4	131.7	132.2	132.2	132.7	133.4	134.2
<b>OTHER GOODS AND SERVICES</b>														
Tobacco products.....	129.0	129.4	129.9	130.3	130.8	131.3	131.8	132.3	132.8	133.6	134.4	135.8	137.7	139.4
Cigarettes, nonfilter tip, regular size.....	137.0	137.8	138.0	138.2	138.3	138.5	138.7	139.0	139.4	139.6	140.6	142.8	144.9	146.2
Cigarettes, filter, king.....	138.7	139.5	139.7	139.9	140.0	140.1	140.3	140.5	140.9	141.1	142.3	144.8	146.6	148.0
Cigarettes, filter, 10's.....	139.1	140.1	140.2	140.4	140.5	140.5	140.8	141.0	141.3	141.5	142.4	144.5	147.1	148.4
Cigars, domestic, regular.....	112.9	113.2	113.2	113.6	114.4	115.3	116.1	116.7	117.6	118.1	118.7	119.4	119.9	120.8
<b>Alcoholic beverages</b>														
Beer.....	122.5	122.4	123.2	123.7	124.3	125.3	125.9	126.6	127.1	128.3	129.1	130.0	131.8	134.2
Whiskey, spirit blended and straight bourbon.....	115.6	115.1	116.2	116.5	117.1	117.7	118.2	119.4	120.1	121.6	123.6	124.6	126.2	130.1
Wine, dessert and table.....	109.2	109.0	109.5	109.5	109.4	109.5	109.6	109.7	109.8	109.8	109.7	109.7	110.5	111.3
Beer, away from home.....	135.2	136.9	137.3	138.7	140.6	141.8	143.4	144.4	145.0	145.8	146.1	146.6	147.4	148.3
Financial and miscellaneous personal expenses:	135.2	135.1	135.6	136.5	137.2	139.0	139.8	140.1	140.5	142.1	142.1	143.6	146.6	148.6
Funeral services, adult.....	126.4	127.6	128.5	128.9	129.5	129.8	130.3	131.9	132.9	133.5	134.0	134.9	135.4	136.3
Bank service charges, checking accounts.....	106.3	107.0	107.0	104.7	104.7	104.8	105.2	105.2	103.7	103.3	103.3	103.2	103.4	104.8
Legal services, will.....	161.8	163.4	164.6	168.1	168.8	168.9	168.4	168.8	172.7	173.1	173.5	175.5	177.8	177.9

<sup>1</sup> Priced only in season.<sup>2</sup> March 1970=100.<sup>3</sup> June 1970=100.<sup>4</sup> December 1971=100.<sup>5</sup> Discontinued.<sup>6</sup> January 1972=100.

## 24. Consumer Price Index, by population size and by region

[1967=100]

Population size group and region		Annual average		1971		1972				1973				1974	
		1972	1973	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
<b>POPULATION SIZE GROUP<sup>1</sup></b>															
<b>All items:</b>															
3.5 million or more.....	(A-1).....	127.5	135.6	124.2	124.8	126.3	127.1	128.9	129.6	132.4	134.9	138.0	141.1	145.9	149.4
1.4 to 3.5 million.....	(A-2).....	125.5	133.0	122.6	123.5	124.2	125.1	126.4	127.6	130.0	132.1	135.4	138.0	142.3	146.3
250,000-1.4 million.....	(B).....	124.7	132.4	121.6	122.7	123.4	124.5	125.5	126.7	129.2	131.7	134.8	137.6	141.9	146.0
50,000-250,000.....	(C).....	123.9	131.7	120.8	121.8	122.6	123.8	124.6	125.7	128.2	131.3	134.1	137.1	141.8	146.1
2,500-50,000.....	(D).....	122.9	130.7	120.1	121.0	121.9	122.8	123.5	124.7	127.0	130.0	133.1	136.6	141.2	146.1
<b>Food:</b>															
3.5 million or more.....	(A-1).....	125.6	143.1	121.1	122.0	124.4	125.1	126.9	128.0	136.3	141.5	150.1	153.0	160.7	161.9
1.4 to 3.5 million.....	(A-2).....	123.2	141.1	118.6	120.2	121.9	122.4	124.7	125.8	134.3	139.5	148.0	150.8	158.2	159.4
250,000-1.4 million.....	(B).....	122.7	140.4	118.0	119.5	121.6	122.1	123.9	125.3	133.8	139.0	147.0	150.1	158.1	159.2
50,000-250,000.....	(C).....	122.3	140.4	117.8	119.0	121.4	121.4	123.6	124.6	133.5	138.9	147.7	150.1	158.1	158.5
2,500-50,000.....	(D).....	122.0	140.1	117.8	119.0	120.8	121.7	122.9	124.5	132.8	138.5	147.2	150.8	158.8	160.8
<b>Housing:</b>															
3.5 million or more.....	(A-1).....	131.4	137.8	127.2	128.3	129.9	131.2	132.8	133.8	135.1	136.9	138.9	143.6	148.4	151.5
1.4 to 3.5 million.....	(A-2).....	128.9	134.2	125.7	126.8	127.5	128.7	129.8	131.2	132.2	132.6	135.7	138.6	142.8	147.3
250,000-1.4 million.....	(B).....	128.9	134.6	125.5	127.2	127.9	128.5	129.7	130.8	131.9	133.2	136.6	139.7	143.2	147.4
50,000-250,000.....	(C).....	127.7	133.9	123.9	125.2	126.1	127.9	128.6	129.6	130.8	133.3	135.4	139.3	144.1	149.4
2,500-50,000.....	(D).....	126.5	132.1	123.1	124.2	125.5	126.3	127.2	128.2	129.2	130.9	133.6	138.2	142.6	148.3
<b>Apparel and upkeep:</b>															
3.5 million or more.....	(A-1).....	121.3	126.2	121.3	120.9	121.6	120.4	123.8	123.8	124.8	125.2	127.8	128.5	131.5	133.3
1.4 to 3.5 million.....	(A-2).....	123.3	127.9	121.3	123.3	122.2	122.7	123.5	125.4	125.0	127.4	129.1	132.2	133.3	137.2
250,000-1.4 million.....	(B).....	123.0	128.6	120.4	122.0	121.1	123.0	122.8	126.4	126.2	128.2	129.6	132.1	133.5	137.0
50,000-250,000.....	(C).....	123.0	127.7	120.1	122.1	120.6	123.6	123.1	126.2	124.5	128.2	128.3	131.7	132.4	138.0
2,500-50,000.....	(D).....	121.8	125.7	119.1	121.7	120.6	122.2	121.3	123.8	122.4	126.3	126.6	129.5	130.1	135.2
<b>Transportation:</b>															
3.5 million or more.....	(A-1).....	125.5	129.4	123.4	123.3	124.1	124.9	126.7	127.3	127.3	130.2	129.5	132.3	136.8	144.8
1.4 to 3.5 million.....	(A-2).....	121.1	124.2	120.1	120.3	119.6	120.8	122.2	122.5	122.5	124.9	124.4	126.4	131.5	140.0
250,000-1.4 million.....	(B).....	117.4	121.4	116.1	116.3	115.5	117.6	118.6	118.8	119.0	122.4	121.6	124.4	130.0	139.3
50,000-250,000.....	(C).....	116.4	119.8	115.8	115.6	115.3	116.5	117.0	117.2	117.4	120.8	119.9	123.0	128.8	137.6
2,500-50,000.....	(D).....	116.1	121.1	115.4	115.0	114.7	116.0	117.0	117.3	117.5	120.9	120.5	123.4	129.3	138.7
<b>Health and recreation:</b>															
3.5 million or more.....	(A-1).....	128.2	132.6	125.1	125.4	126.8	128.2	129.1	129.7	131.0	132.3	133.5	135.6	138.3	143.2
1.4 to 3.5 million.....	(A-2).....	126.4	130.4	124.1	124.3	125.3	126.3	127.2	128.1	129.0	130.2	131.2	132.8	135.1	138.6
250,000-1.4 million.....	(B).....	125.9	130.0	123.4	123.8	124.9	125.9	126.5	127.3	128.4	130.0	130.8	132.8	135.3	138.7
50,000-250,000.....	(C).....	125.2	128.9	123.3	123.7	124.2	125.1	125.7	126.6	127.2	128.6	129.9	131.4	133.6	136.7
2,500-50,000.....	(D).....	123.3	127.1	121.4	121.7	122.7	123.3	123.8	124.4	125.4	126.8	128.1	130.1	132.0	136.1
<b>REGION<sup>2</sup></b>															
<b>All items:</b>															
Northeast.....		128.5	136.7	124.9	125.8	127.2	128.2	129.7	130.7	133.4	136.1	138.9	142.5	147.4	150.8
North Central.....		124.0	131.5	121.2	122.0	122.9	123.9	124.8	125.8	128.2	130.9	134.0	136.6	141.2	145.3
South.....		124.8	133.0	121.8	122.9	123.5	124.6	125.6	126.6	129.3	132.1	135.8	138.8	143.5	148.0
West.....		122.1	129.3	119.2	119.9	120.8	121.7	123.0	124.2	126.3	128.7	131.4	134.0	137.7	142.4
<b>Food:</b>															
Northeast.....		125.8	143.0	121.7	122.8	124.8	125.0	127.1	128.2	136.6	141.3	149.3	152.9	161.1	162.4
North Central.....		122.8	141.2	118.2	119.0	121.8	122.6	123.5	125.2	133.8	139.5	148.7	151.5	159.7	160.5
South.....		123.6	142.9	118.9	120.2	122.4	122.6	125.3	126.2	135.4	141.0	151.1	153.1	160.8	160.9
West.....		120.4	136.7	115.4	117.4	118.8	120.1	121.6	123.0	130.4	136.0	142.3	145.6	152.0	155.2
<b>Housing:</b>															
Northeast.....		133.2	140.4	128.4	129.7	131.5	133.0	134.5	135.9	137.3	139.5	141.5	146.9	152.1	155.5
North Central.....		126.0	130.4	123.0	124.3	125.1	125.9	126.7	127.4	128.1	129.5	131.8	134.4	138.6	142.9
South.....		129.4	135.6	125.8	127.4	128.1	129.2	130.3	131.3	132.4	134.0	137.7	141.8	146.4	151.9
West.....		127.1	133.0	124.1	124.9	125.9	126.7	128.0	129.3	130.6	131.6	134.6	138.2	140.7	145.2
<b>Apparel and upkeep:</b>															
Northeast.....		123.6	127.9	121.8	122.7	122.6	122.4	124.4	125.9	125.8	127.3	129.1	131.2	133.7	135.7
North Central.....		122.4	127.1	120.4	121.7	120.9	121.9	122.7	125.1	124.7	126.6	128.3	130.4	131.2	135.2
South.....		122.3	127.7	120.1	121.4	120.5	122.5	122.5	125.1	125.0	127.9	128.6	131.5	132.6	137.4
West.....		120.9	124.6	118.8	120.1	120.1	120.7	121.1	122.5	122.4	124.5	125.8	127.1	129.4	133.7
<b>Transportation:</b>															
Northeast.....		125.5	128.6	123.2	123.5	124.1	125.6	126.5	126.7	126.8	129.3	128.4	131.4	135.4	142.9
North Central.....		119.4	123.7	119.0	118.5	117.7	119.5	120.5	120.6	121.3	124.7	124.0	127.1	132.4	141.6
South.....		116.4	120.0	115.3	116.0	115.0	116.8	116.8	117.2	117.5	120.9	120.2	123.5	129.7	139.2
West.....		116.1	120.2	114.5	113.6	114.3	115.2	117.7	118.7	117.8	121.3	120.8	122.1	128.3	137.3
<b>Health and recreation:</b>															
Northeast.....		129.4	133.6	126.4	126.8	128.1	129.6	130.4	131.1	132.1	133.5	134.4	136.2	138.7	143.0
North Central.....		126.4	130.6	123.8	124.1	125.4	126.4	127.1	127.9	128.9	130.4	131.5	133.6	136.3	139.9
South.....		125.7	129.8	124.0	124.1	124.8	125.8	126.3	126.9	128.1	129.5	130.8	132.9	135.3	139.6
West.....		120.1	124.1	118.3	118.5	119.3	120.0	120.7	121.5	122.6	123.7	125.1	126.6	128.5	132.2

<sup>1</sup> Based on 1960 Census of Population.<sup>2</sup> Regional data exclude Anchorage (Alaska) and Honolulu (Hawaii).

## 25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area <sup>1</sup>	Annual average 1973	1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>All Items</b>														
U.S. city average <sup>2</sup>	133.1	135.1	135.5	136.6	137.6	138.5	139.7	141.5	143.1	144.0	156.6	147.1	148.3	150.2
Atlanta, Ga.	133.7	-----	137.0	-----	-----	138.9	-----	-----	144.1	-----	-----	147.5	-----	-----
Baltimore, Md.	134.9	-----	137.5	-----	-----	140.7	-----	-----	147.3	-----	-----	151.7	-----	-----
Boston, Mass.	134.7	-----	-----	138.7	-----	-----	142.0	-----	-----	145.3	-----	-----	149.9	-----
Buffalo, N.Y.	134.8	136.6	-----	-----	138.6	-----	-----	144.2	-----	-----	147.7	-----	151.8	-----
Chicago, Ill.-Northwestern Ind.	132.0	134.5	134.6	135.7	136.1	136.8	138.7	140.6	142.1	143.0	144.1	145.9	140.5	148.3
Cincinnati, Ohio-Kentucky	132.1	-----	134.4	-----	-----	136.6	-----	-----	141.3	-----	-----	146.1	-----	-----
Cleveland, Ohio	134.1	135.9	-----	-----	137.5	-----	-----	142.1	-----	-----	146.2	-----	150.1	-----
Dallas, Tex.	132.0	133.7	-----	-----	135.6	-----	-----	139.6	-----	-----	143.3	-----	147.9	-----
Detroit, Mich.	134.5	136.8	137.3	137.9	139.0	140.0	141.5	143.8	144.9	145.5	146.6	148.7	149.8	151.3
Honolulu, Hawaii	128.3	-----	129.6	-----	-----	132.8	-----	-----	137.7	-----	-----	141.4	-----	-----
Houston, Tex.	132.3	-----	-----	136.2	-----	-----	139.1	-----	-----	143.1	-----	-----	148.2	-----
Kansas City, Mo.-Kansas	130.3	-----	132.5	-----	-----	134.4	-----	-----	138.6	-----	-----	143.6	-----	-----
Los Angeles-Long Beach, Calif.	129.2	130.9	131.2	132.3	133.6	134.1	135.2	136.2	137.6	139.2	140.6	141.8	143.3	145.4
Milwaukee, Wis.	131.5	133.2	-----	-----	135.7	-----	-----	139.0	-----	-----	142.1	-----	145.9	-----
Minneapolis-St. Paul, Minn.	133.0	-----	-----	136.3	-----	-----	140.3	-----	-----	145.2	-----	-----	149.0	-----
New York, N.Y.-Northeastern N.J.	139.7	141.7	142.3	143.1	144.4	145.9	146.8	149.0	150.8	150.9	152.5	153.8	154.6	157.0
Philadelphia, Pa.-N.J.	145.5	137.1	138.1	139.4	140.5	141.4	142.8	144.9	147.0	148.2	149.5	151.1	152.1	153.8
Pittsburgh, Pa.	132.9	-----	-----	136.6	-----	-----	139.3	-----	-----	144.2	-----	-----	148.6	-----
Portland, Oreg.-Wash. <sup>3</sup>	127.3	-----	-----	130.8	-----	-----	133.8	-----	-----	139.2	-----	-----	143.7	-----
St. Louis, Mo.-Ill.	129.3	-----	132.3	-----	-----	133.8	-----	-----	138.2	-----	-----	141.4	-----	-----
San Diego, Calif.	132.5	134.4	-----	-----	136.5	-----	-----	140.2	-----	-----	145.3	-----	150.3	-----
San Francisco-Oakland, Calif.	131.5	-----	134.5	-----	-----	135.2	-----	-----	139.2	-----	-----	144.1	-----	-----
Scranton, Pa. <sup>3</sup>	134.7	136.3	-----	-----	139.7	-----	-----	143.5	-----	-----	148.1	-----	(*)	-----
Seattle, Wash.	127.5	128.8	-----	-----	131.4	-----	-----	135.8	-----	-----	139.5	-----	143.2	-----
Washington, D.C.-Md.-Va.	135.0	136.4	-----	-----	139.4	-----	-----	144.0	-----	-----	147.7	-----	152.9	-----
<b>Food</b>														
U.S. city average <sup>3</sup>	141.4	149.4	148.3	148.4	150.0	151.3	153.7	157.6	159.1	158.6	159.7	160.3	160.5	162.8
Atlanta, Ga.	144.0	152.9	151.2	152.5	152.7	154.1	156.1	160.2	162.8	162.0	162.7	162.5	162.7	166.3
Baltimore, Md.	143.8	151.3	151.6	151.4	153.8	155.2	156.6	158.8	161.4	161.6	162.2	161.9	163.1	165.5
Boston, Mass.	140.1	146.4	145.4	147.9	149.5	150.4	153.2	156.7	157.9	157.3	158.9	159.8	161.6	162.8
Buffalo, N.Y.	141.0	149.1	147.1	147.3	149.1	149.4	151.8	156.4	157.8	157.4	159.7	159.8	159.9	161.2
Chicago, Ill.-Northwestern Ind.	142.7	152.8	149.9	151.1	150.8	152.0	155.3	159.2	159.4	158.4	158.8	160.1	160.4	161.4
Cincinnati, Ohio-Kentucky	142.9	152.1	150.2	149.9	150.6	151.9	152.8	158.0	160.0	159.7	161.7	162.1	163.2	165.0
Cleveland, Ohio	142.1	152.0	150.1	147.8	149.2	151.7	153.6	158.7	158.2	156.8	159.9	158.8	159.2	162.7
Dallas, Tex.	140.1	149.2	148.2	144.9	146.8	148.2	150.7	154.7	155.7	154.1	155.4	155.4	155.7	159.5
Detroit, Mich.	143.6	154.6	152.9	152.1	153.3	154.3	158.2	162.5	163.2	161.8	162.4	162.8	162.6	164.2
Honolulu, Hawaii	135.2	136.1	138.9	141.6	144.4	146.1	147.7	152.5	155.4	156.1	156.3	156.6	156.9	160.3
Houston, Tex.	143.3	151.8	151.3	151.8	152.1	153.3	155.6	160.6	161.4	161.1	161.5	161.4	162.7	166.0
Kansas City, Mo.-Kansas	141.4	149.5	148.9	149.1	149.9	151.8	153.3	157.4	159.6	159.8	160.6	160.4	160.7	163.9
Los Angeles-Long Beach, Calif.	136.5	141.9	142.5	141.9	144.7	146.4	149.7	151.1	151.8	153.0	154.2	155.3	155.5	157.6
Milwaukee, Wis.	138.4	145.8	144.8	145.6	147.7	148.8	151.0	154.5	156.1	154.8	156.2	156.2	154.8	158.5
Minneapolis-St. Paul, Minn.	142.0	149.1	148.7	149.1	150.1	151.9	154.1	158.3	160.8	160.3	161.5	162.1	162.9	165.4
New York, N.Y.-Northeastern N.J.	145.4	152.7	152.1	152.1	154.1	155.3	157.9	162.3	163.1	162.5	162.8	164.3	165.0	167.8
Philadelphia, Pa.-N.J.	142.7	150.5	149.3	149.5	152.1	153.1	156.7	160.8	163.0	162.4	163.0	163.2	164.5	166.3
Pittsburgh, Pa.	141.7	150.9	149.6	149.4	151.4	152.0	155.1	160.4	162.7	161.1	162.7	162.8	162.9	164.6
Portland, Oreg.-Wash. <sup>3</sup>	133.7	-----	139.5	-----	-----	143.8	-----	-----	152.2	-----	-----	154.8	-----	-----
St. Louis, Mo.-Ill.	140.2	149.8	148.1	147.4	148.5	150.1	152.6	156.3	158.5	156.8	157.9	157.7	157.6	159.8
San Diego, Calif.	139.6	146.2	146.4	144.1	146.5	147.7	151.1	154.2	154.0	153.2	157.4	158.3	159.2	162.7
San Francisco-Oakland, Calif.	138.0	144.4	144.9	143.0	143.6	145.6	146.8	150.5	151.6	152.3	153.6	154.9	154.8	157.1
Scranton, Pa. <sup>3</sup>	141.9	149.7	-----	-----	150.5	-----	-----	157.4	-----	-----	159.3	-----	(*)	-----
Seattle, Wash.	136.3	142.5	140.0	141.1	143.4	145.4	146.8	150.9	153.5	152.5	155.1	155.4	155.3	157.2
Washington, D.C.-Md.-Va.	145.5	152.6	151.6	153.8	155.3	156.8	160.5	163.3	163.3	163.5	164.2	163.9	164.4	168.2

<sup>1</sup> The areas listed include not only the central city but the entire urban portion of the Standard Metropolitan Statistical Area, as defined for the 1960 Census of Population; except that the Standard Consolidated Area is used for New York and Chicago.

<sup>2</sup> Average of 56 "cities" (metropolitan areas and nonmetropolitan urban places beginning January 1966).

<sup>3</sup> Old series (old market basket components).

<sup>4</sup> Not available.

NOTE: All items indexes are computed monthly for 5 areas and once every 3 months on a rotating cycle for other areas.



26. Wholesale Price Index,<sup>1</sup> by group and subgroup of commodities

[1967 = 100 unless otherwise specified]

Code	Commodity group	Annual average 1973	1973					1974							
			Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
	All commodities	134.7	142.1	139.7	138.7	139.2	141.8	146.6	149.5	151.4	152.7	155.0	155.7	161.7	167.4
	All commodities (1957-59=100)	142.9	150.8	148.2	147.2	147.7	150.4	155.5	158.6	160.6	162.0	164.5	165.2	171.6	177.6
	Farm products and processed foods and feeds	159.1	184.5	173.5	166.8	164.4	168.0	177.8	180.6	176.2	169.6	167.4	161.7	172.7	183.4
	Industrial commodities	125.9	126.7	127.4	128.5	130.1	132.2	135.3	138.2	142.4	146.6	150.5	153.6	157.8	161.6
	<b>FARM PRODUCTS AND PROCESSED FOODS AND FEEDS</b>														
01	Farm products	176.3	213.3	200.4	188.4	184.0	187.2	202.6	205.6	197.0	186.2	180.8	168.6	180.8	189.2
01-1	Fresh and dried fruits and vegetables	168.1	162.2	149.0	162.1	168.2	171.6	184.5	214.5	210.6	226.9	235.8	204.4	186.9	162.6
01-2	Grains	183.6	266.4	231.5	229.0	220.8	248.7	270.8	278.1	263.0	213.0	210.4	224.3	247.1	277.7
01-3	Livestock	190.4	243.3	207.4	185.5	180.0	171.0	197.3	195.1	181.0	169.0	159.1	137.8	173.6	184.6
01-4	Live poultry	179.5	269.7	226.5	189.2	154.4	144.5	143.2	179.8	166.1	146.0	145.9	132.8	148.1	149.8
01-5	Plant and animal fibers	197.8	228.5	267.9	266.5	234.0	259.3	274.7	240.1	219.4	209.1	195.3	195.4	188.0	181.5
01-6	Fluid milk	145.0	143.4	158.7	168.2	177.2	177.2	184.6	186.2	185.8	184.6	178.5	164.7	157.6	158.2
01-7	Eggs	165.7	209.6	191.5	177.7	181.2	190.6	197.8	186.8	167.8	158.7	125.0	124.7	132.0	149.6
01-8	Hay, hayseeds, and oilseeds	220.1	293.6	304.5	211.1	194.3	210.5	216.9	218.2	218.9	196.4	194.4	191.2	216.1	264.6
01-9	Other farm products	147.4	150.4	153.2	154.7	152.6	149.1	153.4	155.7	159.3	164.1	166.8	163.4	159.9	162.6
02	Processed foods and feeds	148.1	166.2	156.3	153.1	151.9	155.7	162.1	164.7	163.0	159.1	158.9	157.4	167.6	179.7
02-1	Cereal and bakery products	134.4	136.2	147.7	150.5	156.2	160.1	166.3	165.9	172.3	167.1	167.1	166.0	168.9	169.3
02-2	Meats, poultry, and fish	167.5	198.3	187.3	170.2	165.0	164.9	177.8	179.7	165.5	157.6	153.4	141.8	167.2	169.7
02-3	Dairy products	131.1	131.3	137.2	139.6	139.9	142.3	145.1	147.6	151.2	154.1	146.9	142.9	141.7	142.4
02-4	Processed fruits and vegetables	129.6	129.3	130.0	135.0	136.3	137.8	139.3	140.7	141.2	142.8	145.2	140.7	157.7	162.7
02-5	Sugar and confectionery	132.3	135.7	136.9	139.8	143.8	142.0	151.8	167.1	190.2	189.8	215.8	138.4	143.6	146.2
02-6	Beverages and beverage materials	121.7	121.2	121.6	123.0	123.8	124.4	125.6	126.0	129.3	132.3	134.5	242.1	276.2	364.6
02-7	Animal fats and oils	230.4	428.9	264.7	308.8	247.8	264.8	277.5	317.1	314.1	281.6	264.1	242.1	313.8	386.0
02-72	Crude vegetable oils	174.6	284.6	195.2	223.0	164.7	232.5	227.5	287.8	246.0	235.2	259.6	245.8	268.9	325.3
02-73	Refined vegetable oils	154.4	164.8	164.8	180.5	159.1	208.6	225.8	267.2	236.5	225.1	248.3	245.8	210.6	218.5
02-74	Vegetable oil end products	143.6	161.6	160.1	167.6	164.8	168.7	177.2	192.8	206.1	192.2	210.8	210.6	156.6	160.3
02-8	Miscellaneous processed foods	123.3	128.5	128.1	129.3	129.4	130.7	134.3	139.8	146.9	149.5	152.8	156.6	160.3	165.2
02-9	Manufactured animal feeds	198.7	261.8	190.1	184.5	183.3	201.0	203.3	190.8	181.1	166.2	155.2	152.5	156.2	217.1
	<b>INDUSTRIAL COMMODITIES</b>														
03	Textile products and apparel	123.8	125.2	126.8	128.5	130.0	131.4	133.8	135.2	136.1	137.5	139.1	141.7	142.1	142.3
03-1	Cotton products	143.6	147.3	153.1	155.5	161.2	165.3	171.5	173.0	173.7	175.1	174.9	181.8	184.7	180.9
03-2	Wool products	128.2	134.9	133.7	130.2	128.9	128.7	128.6	129.7	127.9	127.9	121.1	119.6	119.2	117.7
03-3	Manmade fiber textile products	121.8	123.7	126.7	127.7	128.6	129.7	130.7	132.8	133.6	135.2	138.1	140.7	140.3	138.9
03-5	Apparel	119.0	119.3	119.5	121.5	121.9	122.2	123.7	124.6	125.2	127.0	128.0	129.7	130.5	132.4
03-6	Textile housefurnishings	113.3	112.2	112.3	115.2	119.1	126.4	133.0	133.5	135.2	136.7	143.6	145.6	147.1	147.4
03-7	Miscellaneous textile products	124.7	124.3	121.4	127.0	132.0	131.9	139.0	148.4	163.5	176.3	187.1	187.2	170.6	178.4
04	Hides, skins, leather, and related products	143.1	143.0	143.8	143.8	143.0	141.9	142.6	143.4	143.4	145.4	146.3	146.0	146.6	146.2
04-1	Hides and skins	253.9	261.6	257.3	256.3	239.8	227.3	220.9	222.0	201.7	211.2	218.6	207.2	215.5	204.3
04-2	Leather	160.1	157.5	162.8	160.7	160.4	156.1	155.7	155.1	156.7	158.4	159.3	156.6	155.3	154.4
04-3	Footwear	130.5	129.7	130.3	131.0	131.9	132.5	134.0	134.9	135.9	138.1	138.7	139.5	139.8	140.7
04-4	Other leather and related products	129.8	130.6	130.4	130.5	130.1	130.3	131.9	133.1	135.5	135.0	135.0	136.8	137.1	137.1
05	Fuels and related products and power	134.3	135.2	137.4	139.3	144.1	151.5	162.5	177.4	189.0	197.9	204.3	210.5	221.7	226.0
05-1	Coal	218.1	214.2	222.6	224.1	239.0	240.7	249.3	252.9	259.3	303.7	307.7	321.5	344.0	357.7
05-2	Coke	166.6	167.2	167.3	167.3	167.3	170.0	174.1	173.7	184.9	215.3	241.9	248.9	255.6	269.9
05-3	Gas fuels	126.7	130.4	132.2	133.4	133.1	137.6	137.1	146.4	148.6	149.0	150.0	151.4	187.4	189.9
05-4	Electric power	129.3	129.1	130.9	132.1	133.5	135.9	137.5	142.2	148.9	153.4	159.7	164.7	167.6	170.6
05-61	Crude petroleum	126.0	125.8	133.3	133.3	139.3	146.2	178.4	201.7	201.7	201.7	201.7	201.7	224.4	225.2
05-7	Petroleum products, refined	128.7	130.3	131.2	134.0	140.3	151.7	166.4	187.8	206.3	215.8	224.4	232.2	239.4	243.9
06	Chemicals and allied products	110.0	111.0	111.5	112.7	113.5	115.6	118.2	120.2	127.3	132.3	137.0	142.8	148.4	158.5
06-1	Industrial chemicals	103.4	103.5	104.3	105.3	105.4	105.9	108.1	110.2	122.0	130.9	138.2	146.9	155.5	167.8
06-21	Prepared paint	122.2	121.0	121.2	126.0	128.1	128.6	130.1	130.1	132.5	135.4	136.0	146.5	149.7	152.3
06-22	Paint materials	113.2	115.7	116.2	116.8	117.1	123.6	128.7	132.6	139.5	145.9	147.5	147.4	155.4	155.9
06-3	Drugs and pharmaceuticals	104.3	104.3	104.7	104.7	104.9	105.1	105.3	105.7	106.2	107.6	109.1	111.3	112.7	115.3
06-4	Fats and oils, inedible	228.3	273.2	279.5	273.0	241.8	286.0	298.0	335.7	372.4	385.4	359.3	361.3	347.4	380.2
06-5	Agricultural chemicals and chemical products	96.6	95.9	95.9	95.9	104.9	106.1	112.3	113.1	118.1	118.2	118.3	120.2	131.0	142.0
06-6	Plastic resins and materials	92.1	93.3	93.1	92.4	93.1	93.0	93.7	96.3	116.0	123.9	128.0	140.8	147.5	160.7
06-7	Other chemicals and allied products	118.1	118.2	118.3	121.2	122.1	124.6	127.1	127.3	128.2	131.5	141.2	144.8	148.5	160.4
07	Rubber and plastic products	112.4	113.1	112.8	114.0	114.8	116.5	117.7	119.8	123.8	129.4	133.7	135.6	139.5	143.4
07-1	Rubber and rubber products	118.1	118.9	118.4	120.2	121.2	123.5	124.7	127.1	131.4	133.2	135.7	136.9	140.4	143.3
07-11	Crude rubber	111.9	118.1	113.4	111.4	113.9	125.8	126.9	127.0	131.6	132.8	144.5	145.5	142.2	145.8
07-12	Tires and tubes	111.4	110.4	110.4	115.1	116.3	116.3	118.0	121.2	128.8	129.6	129.9	131.0	136.9	138.2
07-13	Miscellaneous rubber products	124.8	125.4	125.8	126.4	126.8	128.2	129.0	131.3	133.0	135.7	137.4	138.6	142.2	146.2
07-21	Plastic construction products <sup>1</sup>	94.1	94.0	94.0	94.7	94.4	94.8	95.4	96.5	100.6	110.7	118.8	120.3	125.6	128.9
07-22	Unsupported plastic film and sheeting <sup>2</sup>	100.3	100.8	100.9	101.1	101.4	102.2	104.1	105.9	109.4	120.7	128.9	131.6	135.3	141.7
07-23	Laminated plastic sheets, high pressure <sup>2</sup>	97.8	98.1	98.5	97.7	99.5	99.9	99.3	101.0	102.0	112.7	112.5	117.6	122.6	125.3
08	Lumber and wood products	177.2	178.8	181.9	180.3	184.7	186.1	183.7	184.1	191.3	200.2	198.0	192.2	188.6	183.7
08-1	Lumber	205.2	210.8	216.9	214.5	211.1	214.8	213.3	212.6	221.4	230.9	227.3	220.2	214.2	206.7
08-2	Millwork	144.2	148.												

## 26. Continued—Wholesale Price Index, by group and subgroup of commodities

Code	Commodity group	Annual average 1973	1973					1974							
			Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>INDUSTRIAL COMMODITIES—Continued</b>															
09	Pulp, paper, and allied products.....	122.1	123.3	124.4	125.8	127.6	128.7	131.8	132.9	137.2	144.4	146.6	147.5	153.3	162.9
09-1	Pulp, paper, and products, excluding building paper and board.....	122.5	123.7	124.8	126.1	127.9	129.1	132.2	133.3	137.7	145.2	147.4	148.4	154.3	164.3
09-11	Woodpulp.....	128.3	133.3	133.3	145.7	146.2	149.3	150.0	150.0	177.7	196.8	200.4	205.7	247.2	251.9
09-12	Wastepaper.....	197.4	187.6	230.5	252.9	293.2	304.9	314.2	330.4	336.8	328.7	284.9	274.8	270.6	261.2
09-13	Paper.....	121.4	121.5	121.7	122.3	124.7	125.2	126.8	127.7	132.6	140.1	141.9	143.0	149.9	160.3
09-14	Paperboard.....	115.1	116.7	116.7	118.0	119.7	120.7	127.0	131.0	133.9	145.1	148.0	148.9	158.0	166.4
09-15	Converted paper and paperboard products.....	121.6	123.2	123.8	123.8	124.4	125.3	128.6	129.1	131.0	137.0	140.5	141.3	142.8	154.0
09-2	Building paper and board.....	112.8	112.8	115.9	117.7	118.8	120.1	121.7	121.8	123.4	123.7	125.4	124.9	124.4	125.1
10	<b>Metals and metal products.....</b>	132.8	133.7	134.4	135.9	138.5	141.8	145.0	148.0	154.7	161.2	168.7	174.0	180.3	185.6
10-1	Iron and steel.....	136.2	136.0	136.5	138.6	141.6	142.4	144.7	148.9	157.7	164.9	169.1	177.9	190.4	195.7
10-13	Steel mill products.....	134.1	134.3	134.3	135.3	135.3	135.3	138.1	139.0	146.6	150.5	162.4	169.8	181.4	187.9
10-2	Nonferrous metals.....	135.1	137.9	138.5	140.7	144.9	155.6	161.1	165.0	176.3	186.5	200.4	200.5	198.4	200.4
10-3	Metal containers.....	134.7	135.5	135.6	134.8	134.8	134.8	138.7	139.0	139.6	146.9	151.9	165.3	170.8	184.4
10-4	Hardware.....	124.7	124.5	126.8	127.7	128.2	129.1	130.2	130.9	131.4	132.1	135.5	138.0	139.7	142.8
10-5	Plumbing fixtures and brass fittings.....	125.8	126.4	127.2	127.8	129.1	130.2	133.5	134.7	136.0	140.6	145.4	148.1	152.1	157.6
10-6	Heating equipment.....	120.4	120.7	120.7	120.8	121.1	121.6	122.9	123.7	124.4	127.5	130.0	132.7	137.1	140.0
10-7	Fabricated structural metal products.....	127.4	127.8	128.7	129.6	130.9	131.8	135.4	136.8	140.3	144.0	151.8	158.8	165.3	175.1
10-8	Miscellaneous metal products.....	129.5	130.9	131.4	132.2	133.8	134.7	136.9	138.7	139.8	143.2	150.3	154.0	161.1	166.7
11	<b>Machinery and equipment.....</b>	121.7	122.3	122.6	123.1	123.8	124.6	126.0	127.0	129.0	130.8	134.1	137.2	140.3	144.3
11-1	Agricultural machinery and equipment.....	125.9	125.5	125.6	127.5	128.9	129.4	130.9	131.2	132.6	133.4	137.8	141.1	143.9	147.9
11-2	Construction machinery and equipment.....	130.7	131.4	131.4	132.5	132.7	134.1	135.9	137.0	138.6	140.1	145.1	148.9	151.4	161.3
11-3	Metalworking machinery and equipment.....	125.5	125.8	126.6	127.5	128.0	128.9	131.2	132.1	134.3	136.6	140.9	144.6	149.3	152.7
11-4	General purpose machinery and equipment.....	127.0	127.4	127.6	128.4	130.3	130.7	132.5	133.6	136.0	139.4	144.5	149.2	153.5	158.0
11-6	Special industry machinery and equipment.....	130.1	131.7	132.6	132.9	133.3	134.9	136.0	138.2	141.8	143.4	147.0	148.9	150.3	156.1
11-7	Electrical machinery and equipment.....	112.4	112.7	112.8	113.0	113.3	114.0	115.1	115.7	116.9	118.5	120.6	123.4	126.3	128.5
11-9	Miscellaneous machinery.....	124.0	124.7	125.0	125.2	125.6	126.3	127.8	128.5	130.8	132.4	134.3	137.0	139.5	143.5
12	<b>Furniture and household durables.....</b>	115.2	115.9	116.0	116.6	117.2	117.5	119.0	120.2	121.3	122.9	124.5	126.1	128.2	129.8
12-1	Household furniture.....	123.0	123.6	124.4	125.2	126.6	127.1	128.9	129.8	130.3	132.8	134.9	135.5	136.7	137.9
12-2	Commercial furniture.....	129.4	132.2	132.8	133.6	133.9	134.0	136.3	139.1	140.6	141.6	144.2	147.3	153.0	156.1
12-3	Floor coverings.....	102.2	102.7	102.6	103.3	103.4	103.6	106.1	106.8	107.7	110.5	111.2	114.4	115.9	119.2
12-4	Household appliances.....	108.5	109.0	109.0	109.1	109.5	109.8	111.3	111.6	112.5	113.2	114.0	115.4	116.7	118.3
12-5	Home electronic equipment.....	91.9	92.0	91.5	91.5	91.5	91.1	91.3	91.4	92.2	92.2	92.5	93.1	93.6	93.6
12-6	Other household durable goods.....	130.4	130.8	130.5	131.3	132.0	132.9	133.9	136.6	139.3	142.4	145.3	146.9	151.4	152.1
13	<b>Nonmetallic mineral products.....</b>	130.2	130.0	129.9	130.9	131.5	132.6	138.7	142.1	144.2	146.7	150.7	152.3	156.4	157.6
13-11	Flat glass.....	121.4	117.9	118.2	118.2	120.6	123.6	124.6	124.6	124.6	124.6	125.3	128.0	128.6	128.6
13-2	Concrete ingredients.....	131.2	131.7	131.7	131.9	132.0	132.1	138.9	139.9	146.2	143.3	145.2	146.0	153.5	154.0
13-3	Concrete products.....	131.7	132.3	132.5	133.6	134.1	134.5	139.8	142.3	144.7	145.3	147.7	149.9	155.2	156.4
13-4	Structural clay products excluding refractories.....	123.3	123.9	123.9	124.6	124.6	124.8	127.2	128.3	130.8	131.5	132.7	134.2	135.2	137.3
13-5	Refractories.....	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	137.8	137.8
13-6	Asphalt roofing.....	135.5	136.3	136.3	136.8	139.7	139.7	150.5	159.9	171.5	192.0	200.1	202.2	206.5	210.9
13-7	Gypsum products.....	120.9	122.5	122.0	122.4	122.0	123.3	127.9	130.0	129.6	132.7	133.3	137.6	138.8	142.9
13-8	Glass containers.....	138.9	137.4	137.1	143.5	143.5	143.5	143.5	143.5	145.6	146.8	157.3	157.7	157.7	157.7
13-9	Other nonmetallic minerals.....	128.4	128.0	127.3	127.3	127.7	131.7	150.7	167.0	171.0	177.1	189.2	190.6	195.4	198.2
14	<b>Transportation equipment<sup>3</sup>.....</b>	115.1	115.1	114.5	115.9	116.1	117.3	118.6	118.9	119.1	119.4	121.4	122.8	125.1	126.7
14-1	Motor vehicles and equipment.....	119.2	119.0	118.3	120.0	120.1	121.4	122.9	123.1	123.2	123.3	124.9	126.1	128.5	130.1
14-4	Railroad equipment.....	134.7	135.2	136.1	136.2	136.7	138.6	140.2	141.0	144.7	148.5	153.7	163.7	168.2	174.5
15	<b>Miscellaneous products.....</b>	119.7	121.0	121.1	121.0	121.3	121.6	123.5	124.6	125.8	128.2	133.2	134.3	135.2	135.4
15-1	Toys, sporting goods, small arms, ammunition.....	117.9	117.8	118.3	119.2	119.9	120.0	124.4	126.3	127.3	128.1	129.3	130.7	132.0	135.8
15-2	Tobacco products.....	121.9	122.5	122.5	122.7	122.8	123.0	123.0	123.4	123.6	123.8	133.2	134.8	134.8	135.2
15-3	Notions.....	114.3	113.6	113.6	115.5	117.1	118.0	118.9	118.9	121.9	126.0	137.0	141.1	143.8	145.4
15-4	Photographic equipment and supplies.....	108.4	108.5	108.6	108.6	108.7	109.2	110.1	110.6	110.6	117.0	117.0	118.6	118.6	118.6
15-9	Other miscellaneous products.....	125.4	129.5	129.5	127.8	128.2	128.5	132.1	133.4	136.2	143.4	144.3	145.1	145.9	142.9

<sup>1</sup> December 1969 = 100.<sup>2</sup> December 1970 = 100.<sup>3</sup> December 1968 = 100.

## 27. Wholesale Price Index for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity group	Annual average 1973	1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
All commodities—less farm products.....	129.9	133.8	132.6	132.9	134.0	136.4	140.1	142.9	146.1	148.8	151.9	154.2	159.4	164.7
All foods.....	146.9	160.2	156.4	154.1	153.4	156.0	163.9	170.4	168.7	166.9	167.7	163.4	172.6	176.9
Processed foods.....	144.4	158.4	155.9	152.5	151.1	153.5	160.9	165.9	164.9	161.8	163.0	161.0	172.6	179.1
Textile products, excluding hard and bast fiber products.....	128.7	131.4	134.5	135.6	138.2	140.8	144.0	145.6	146.2	146.8	148.9	152.4	153.3	151.3
Hosiery.....	96.4	96.2	96.4	96.5	96.7	97.6	98.9	99.4	100.2	100.0	102.2	102.4	102.5	102.5
Underwear and nightwear.....	113.6	113.6	114.3	115.1	116.2	116.2	124.3	125.7	126.3	126.9	130.1	131.7	132.4	132.9
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns.....	106.9	106.9	107.2	108.5	109.8	110.9	113.1	114.4	112.6	117.0	121.8	135.5	141.2	150.0
Pharmaceutical preparations.....	104.3	104.5	104.4	104.4	104.7	104.7	104.9	105.4	105.7	105.6	107.3	109.0	110.0	110.6
Lumber and wood products, excluding millwork and other wood products.....	192.5	192.8	197.0	194.3	200.6	202.4	198.5	198.6	208.5	220.2	215.1	205.6	200.7	193.6
Special metals and metal products <sup>1</sup> .....	128.2	128.7	128.9	130.5	132.3	134.8	137.4	139.5	143.8	148.1	153.6	157.5	162.4	166.5
Fabricated metal products.....	128.2	128.9	129.7	130.4	131.5	132.3	135.0	136.4	138.2	141.7	143.2	153.7	159.6	167.0
Copper and copper products.....	140.2	145.3	145.3	147.7	153.5	158.4	161.1	162.8	176.3	184.8	204.2	202.7	194.8	190.5
Machinery and motive products.....	121.1	121.4	121.4	122.3	122.7	123.7	125.1	125.8	127.2	128.5	131.3	133.7	136.6	139.7
Machinery and equipment, except electrical.....	127.1	127.8	128.2	128.9	129.7	130.6	132.3	133.5	135.9	137.9	141.9	145.2	148.3	153.3
Agricultural machinery, including tractors.....	126.3	125.9	125.9	128.0	129.4	129.9	131.3	131.6	133.3	133.9	138.0	142.1	145.0	149.6
Metalworking machinery.....	128.3	128.6	129.9	131.1	131.7	133.0	136.0	137.2	140.1	143.0	147.7	149.4	153.7	156.3
Numerically controlled machine tools (Dec. 1971 = 100).....	109.8	109.7	110.6	111.0	111.4	113.5	116.1	118.3	122.1	123.4	128.7	131.4	133.1	135.8
Total tractors.....	129.1	128.9	128.9	130.7	131.6	132.8	134.4	135.2	136.3	136.9	141.9	146.5	149.2	159.5
Agricultural machinery and equipment less parts.....	125.9	125.5	125.6	127.5	128.9	129.4	131.1	131.5	133.0	133.7	137.7	141.6	144.6	149.0
Farm and garden tractors less parts.....	125.9	125.4	125.5	127.4	128.7	129.2	130.5	130.6	132.2	132.5	135.6	141.0	144.5	143.6
Agricultural machinery excluding tractors less parts.....	126.6	126.3	126.2	128.4	130.0	130.4	132.3	132.6	134.0	135.0	139.7	142.8	145.4	150.3
Industrial valves.....	126.9	127.2	127.7	129.4	132.3	132.6	138.7	144.9	155.1	161.5	164.7	171.1	175.1	175.1
Industrial fittings.....	127.4	127.3	127.3	129.5	132.5	132.5	140.9	141.4	145.7	151.9	161.5	163.9	163.9	146.4
Abrasive grinding wheels.....	127.8	127.9	127.9	128.8	128.9	132.2	132.2	135.6	135.6	135.6	145.9	145.9	145.9	168.4
Construction materials.....	138.5	138.9	140.1	140.4	142.4	143.5	145.7	143.0	151.7	156.8	160.7	163.1	166.1	149.0

<sup>1</sup> Metals and metal products, agricultural machinery and equipment, and motor vehicles and equipment.

## 28. Wholesale Price Index, by durability of product

[1967 = 100]

Commodity group	Annual average 1973	1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
All commodities.....	134.7	142.1	139.7	138.7	139.2	141.8	146.6	149.5	151.4	152.7	155.0	155.7	161.7	167.4
Total durable goods.....	127.9	128.5	128.9	129.7	131.1	132.7	134.8	136.5	139.8	143.4	147.3	150.0	153.5	156.4
Total nondurable goods.....	139.9	152.3	147.8	145.5	145.4	148.6	155.5	159.3	160.1	159.7	160.8	160.1	168.0	175.6
Total manufactures.....	129.2	133.4	131.8	132.0	132.8	135.1	138.6	140.9	143.6	146.0	149.3	151.5	156.4	161.8
Durable.....	127.4	128.0	128.3	129.0	130.1	131.6	133.8	135.0	137.9	141.1	145.6	148.4	151.7	154.8
Nondurable.....	131.0	138.8	135.3	135.0	135.5	138.6	143.4	146.8	149.4	150.9	153.1	154.5	161.1	168.8
Total raw or slightly processed goods.....	162.5	185.9	178.9	172.2	171.5	174.8	186.5	192.4	190.1	185.9	182.9	176.6	187.9	194.8
Durable.....	149.4	151.1	153.2	162.5	178.2	183.3	181.8	203.6	229.7	250.3	225.8	223.8	232.6	228.0
Nondurable.....	163.2	187.8	180.3	172.7	171.1	174.3	186.7	191.8	187.9	182.3	180.5	174.0	185.4	192.9



## 29. Wholesale Price Index, by stage of processing

[1967 = 100]

Commodity group	Annual average 1973	1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
All commodities.....	134.7	142.1	139.7	138.7	139.2	141.8	146.6	149.5	151.4	152.7	155.0	155.7	161.7	167.4
<b>RAW MATERIALS</b>														
Crude materials for further processing.....	173.9	207.5	197.1	185.7	182.7	186.4	201.3	205.6	200.6	192.9	186.5	178.5	194.5	203.5
Foodstuffs and feedstuffs.....	179.9	226.2	205.2	189.2	184.2	185.3	203.2	207.2	197.6	182.6	176.9	164.6	184.9	196.5
Nonfood materials except fuel.....	161.5	172.7	184.7	180.8	180.8	190.5	201.4	206.8	210.4	214.1	203.7	202.3	210.0	213.1
Manufacturing.....	165.4	177.7	190.9	186.7	186.7	197.3	209.1	215.1	218.9	222.9	211.0	209.4	217.8	221.1
Construction.....	124.9	125.3	125.4	125.4	125.4	125.8	128.0	128.4	129.1	130.9	134.4	135.5	136.8	137.7
Crude fuel.....	164.5	164.4	169.2	169.9	175.0	179.5	182.4	186.3	190.3	205.4	207.4	213.6	222.0	228.4
Manufacturing industries.....	153.2	153.8	157.8	158.3	161.5	166.6	168.3	172.3	175.9	186.0	187.8	192.5	198.3	203.1
Nonmanufacturing industries.....	179.4	178.4	184.3	185.2	192.7	196.5	201.0	204.9	209.4	231.0	233.3	241.3	253.2	261.8
<b>INTERMEDIATE MATERIALS</b>														
Intermediate materials, supplies and components.....	131.6	135.8	133.7	134.3	135.4	138.5	142.0	144.6	149.1	152.8	157.6	160.9	166.3	174.0
Materials and components for manufacturing.....	127.7	130.6	130.7	131.7	132.6	135.4	138.9	141.6	146.8	150.9	156.6	160.7	166.7	172.7
Materials for food manufacturing.....	146.0	163.5	157.6	158.7	156.0	162.6	173.5	184.0	186.4	180.4	187.0	191.5	205.9	221.2
Materials for nondurable manufacturing.....	121.2	123.4	124.9	126.0	127.0	129.3	132.6	135.0	140.8	146.4	150.2	154.1	159.8	166.0
Materials for durable manufacturing.....	133.7	134.5	135.0	135.9	137.8	141.7	144.7	146.5	154.0	161.1	169.6	174.7	180.2	184.9
Components for manufacturing.....	121.4	122.0	122.3	122.9	123.8	124.5	126.1	127.2	129.4	131.1	135.2	138.2	141.6	145.6
Materials and components for construction.....	136.7	137.3	138.3	138.7	140.7	142.0	145.0	147.0	151.1	156.0	160.7	163.0	166.6	169.3
Processed fuels and lubricants.....	131.5	132.2	133.7	136.3	139.2	146.4	153.8	168.8	181.4	188.9	197.5	202.1	213.7	218.9
Manufacturing industries.....	131.3	131.3	133.0	134.8	136.2	140.4	143.2	151.5	160.6	166.1	173.7	176.4	187.4	192.4
Nonmanufacturing industries.....	130.6	131.9	133.1	136.6	141.1	151.4	163.5	185.3	201.4	210.9	220.5	227.0	239.0	244.5
Containers.....	129.2	130.3	130.6	131.4	131.5	132.0	134.8	135.1	136.8	141.8	146.7	150.9	153.0	163.8
Supplies.....	140.6	156.3	140.3	139.2	139.7	144.2	146.3	144.7	144.4	143.4	143.6	144.3	147.9	167.6
Manufacturing industries.....	121.1	122.1	122.7	123.1	123.6	124.3	126.5	127.4	129.5	133.6	137.6	139.5	142.1	148.2
Nonmanufacturing industries.....	150.7	174.0	149.3	147.4	148.2	154.5	156.5	153.6	152.1	148.5	146.8	146.9	150.9	177.6
Manufactured animal feeds.....	201.5	266.9	193.0	187.3	185.6	201.7	203.5	192.3	184.1	168.2	156.6	153.1	157.4	222.5
Other supplies.....	123.7	125.6	126.0	126.1	128.0	129.3	131.5	132.6	134.4	136.8	140.0	141.8	145.6	153.2
<b>FINISHED GOODS</b>														
Finished goods (including raw foods and fuels)....	127.9	131.9	131.2	131.2	132.0	133.6	137.4	140.1	141.0	142.1	143.8	144.0	148.1	150.6
Consumer goods.....	129.2	134.2	133.2	133.0	133.8	135.5	139.9	143.2	143.8	144.7	146.0	145.4	149.9	152.1
Foods.....	146.4	158.6	156.1	153.6	153.7	155.7	162.7	167.0	164.6	163.1	162.4	162.4	164.6	167.7
Crude.....	160.2	165.2	164.2	170.6	178.0	180.5	188.7	199.3	193.5	198.8	193.9	175.0	167.3	161.1
Processed.....	143.9	157.4	154.9	150.6	149.3	151.3	158.1	161.2	159.4	156.6	156.7	153.8	164.5	169.3
Other nondurable goods.....	120.5	120.9	121.2	122.6	124.4	126.6	130.2	134.0	137.8	141.2	144.3	147.7	150.6	153.0
Durable goods.....	115.8	116.3	115.8	116.7	117.0	117.9	119.6	120.2	120.9	122.0	123.7	125.0	126.8	127.3
Producer finished goods.....	123.5	123.9	124.2	125.1	125.7	126.7	128.3	129.3	130.9	132.4	135.9	138.7	141.5	145.2
Manufacturing industries.....	125.0	125.8	126.5	127.1	127.7	128.8	130.4	131.8	134.2	136.0	139.7	142.5	145.6	149.5
Nonmanufacturing industries.....	122.3	122.4	122.5	123.6	124.1	125.2	126.9	127.5	128.6	129.8	133.1	135.9	138.5	142.1
<b>SPECIAL GROUPINGS</b>														
Crude materials for further processing, excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco.....	155.2	156.0	161.0	164.7	174.2	179.8	188.2	202.7	212.2	224.8	216.5	217.5	228.9	229.5
Intermediate materials, supplies and components, excluding intermediate materials for food manufacturing and manufactured animal feeds.....	128.1	129.3	130.1	131.0	132.4	134.8	137.9	140.6	145.8	150.8	156.1	159.6	164.5	169.6
Consumer finished goods, excluding consumer foods....	118.6	119.0	119.0	120.2	121.4	123.1	125.6	128.4	131.0	133.5	136.0	138.6	141.1	142.7

30. Price indexes for the output of selected SIC industries<sup>1</sup>

[1967 = 100 unless otherwise specified]

1963 SIC code	Industry	Annual average 1973	1973					1974							
			Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>MINING</b>															
1111	Anthracite.....	166.8	170.4	172.6	172.6	175.1	178.8	178.8	188.2	188.2	211.0	211.0	211.0	249.3	256.4
1211	Bituminous coal.....	222.5	218.1	226.8	228.4	244.3	245.9	255.2	258.4	265.2	311.4	315.9	330.8	351.9	366.2
1311	Crude petroleum and natural gas.....	122.7	127.5	133.9	133.9	138.5	145.3	170.5	189.7	190.3	190.4	190.7	191.1	209.1	210.1
1421	Crushed and broken stone.....	122.7	123.0	123.0	123.0	123.1	123.1	126.3	126.6	126.6	129.4	132.9	133.8	135.3	135.8
1442	Construction sand and gravel.....	127.6	128.2	128.3	128.3	128.3	129.1	130.6	131.6	133.3	134.0	137.5	139.0	140.3	141.4
<b>MANUFACTURING</b>															
2011	Meat slaughtering plants.....	168.0	201.4	185.1	169.4	162.7	165.2	184.9	182.5	167.5	159.4	155.6	143.4	173.3	181.0
2013	Meat processing plants.....	169.5	219.1	192.2	179.8	176.6	173.7	176.9	178.4	164.1	155.1	144.2	134.7	159.1	164.4
2015	Poultry dressing plants.....	175.6	246.1	213.9	184.1	155.2	149.2	147.9	177.1	165.9	144.2	149.6	137.6	149.4	150.4
2021	Creamery butter.....	131.7	132.3	151.4	152.7	139.1	141.4	139.0	139.4	144.4	154.4	136.3	131.8	131.5	139.5
2022	Natural and processed cheese (12/72=100).....	112.3	112.3	121.8	128.3	131.3	132.5	135.7	137.6	138.7	137.9	121.2	110.9	110.9	111.5
2024	Ice cream and frozen desserts (12/72=100).....	103.3	102.7	106.0	108.1	108.6	109.1	109.7	110.4	111.1	114.4	116.0	117.2	117.5	117.8
2025	Fluid milk (12/73=100).....	-----	-----	-----	-----	-----	100.0	102.5	104.4	106.5	107.2	107.0	106.3	104.3	
2031	Canned and cured seafoods (12/73=100).....	-----	-----	-----	-----	-----	100.0	103.5	107.4	106.9	107.3	106.5	107.1	107.0	
2033	Canned fruits and vegetables.....	123.6	123.5	124.1	128.8	130.1	131.0	132.6	134.5	136.0	137.2	139.6	143.2	153.5	158.5
2034	Dried and dehydrated fruits and vegetables (12/73=100).....	-----	-----	-----	-----	-----	100.0	100.5	101.3	101.6	104.4	106.5	107.7	107.6	
2036	Fresh or frozen packaged fish.....	200.2	204.6	221.3	220.5	236.2	237.5	225.0	229.0	214.6	223.6	208.5	200.7	196.9	192.0
2041	Flour mills (12/71=100).....	140.5	160.9	156.6	159.4	166.7	176.6	192.0	194.2	190.6	165.0	155.1	156.6	166.3	180.2
2042	Prepared animal feeds (12/71=100).....	162.2	189.1	164.4	166.6	163.2	170.0	180.8	178.2	172.8	163.1	153.3	151.3	153.4	193.8
2044	Rice milling.....	207.0	193.6	216.5	261.3	333.2	339.8	339.8	339.8	339.8	339.8	339.8	293.8	293.8	272.4
2051	Bread and related products (12/73=100).....	-----	-----	-----	-----	-----	100.0	100.8	103.0	106.5	107.6	108.4	109.1	102.9	109.8
2052	Biscuits, crackers, and cookies.....	129.7	128.0	134.8	138.0	138.1	141.2	144.8	147.3	152.4	154.4	163.8	163.8	163.9	170.7
2061	Raw cane sugar.....	140.5	147.3	149.2	152.2	151.9	153.1	168.2	171.9	265.6	246.1	310.2	367.4	354.4	428.2
2062	Cane sugar refining.....	136.1	140.1	141.3	144.8	150.0	138.3	150.2	171.4	206.2	210.7	248.5	296.2	318.7	347.3
2063	Beet sugar.....	128.9	128.4	129.7	139.6	144.3	140.0	145.7	170.8	208.8	212.0	260.9	303.7	323.1	345.0
2073	Chewing gum.....	126.2	126.2	126.2	126.2	126.3	126.3	126.3	126.4	126.4	126.4	126.5	126.6	132.4	132.4
2082	Malt liquors.....	111.6	111.4	111.9	112.3	112.6	113.1	115.0	115.1	116.2	118.7	117.7	119.0	122.8	125.5
2083	Malt.....	121.3	(b)	123.7	150.9	150.9	163.2	163.2	171.4	177.2	190.6	204.2	204.2	204.2	204.2
2084	Wines and brandy.....	133.5	133.9	133.9	139.3	139.3	140.2	140.2	145.2	145.3	145.7	146.1	146.4	148.9	150.3
2086	Bottled and canned soft drinks (12/73=100).....	-----	-----	-----	-----	-----	100.0	100.2	100.3	101.8	106.1	108.1	115.8	123.9	125.4
2091	Cottonseed oil mills.....	177.4	218.2	186.3	164.5	164.7	203.6	199.5	185.0	175.1	168.4	177.6	169.6	188.3	251.3
2092	Soybean oil mills.....	258.1	412.9	239.8	230.3	200.4	246.6	230.3	244.7	213.8	182.7	182.8	178.8	211.8	299.4
2094	Animal and marine fats and oils.....	271.8	362.2	284.4	258.4	240.8	310.3	331.3	308.6	289.5	283.9	265.1	259.9	238.3	291.2
2095	Roasted coffee (12/72=100).....	104.7	106.0	105.8	106.2	107.3	108.2	109.5	109.7	117.7	118.5	121.7	123.2	127.1	125.6
2096	Shortening and cooking oils.....	147.1	168.3	163.6	171.8	167.0	174.6	182.2	199.4	211.2	198.2	214.7	214.9	224.4	263.9
2098	Macaroni and noodle products.....	126.6	123.9	144.5	153.2	152.1	152.2	152.2	152.3	171.7	173.3	173.4	171.0	171.0	171.0
2111	Cigarettes.....	122.9	123.5	123.5	123.5	123.5	123.5	123.5	124.1	124.1	124.2	135.2	137.1	137.1	137.2
2121	Cigars.....	111.6	112.3	112.3	112.9	114.2	115.6	115.6	115.6	116.4	116.9	116.9	117.5	117.7	118.5
2131	Chewing and smoking tobacco.....	129.4	131.0	131.0	132.8	131.8	131.8	131.8	131.8	132.7	134.9	136.1	136.2	136.2	140.7
2211	Weaving mills, cotton (12/72=100).....	110.0	111.6	113.7	115.3	118.8	122.4	126.1	127.0	128.1	129.7	132.1	140.5	143.6	141.3
2254	Knit underwear mills.....	113.8	114.3	114.4	114.7	115.2	115.3	123.9	124.1	124.9	125.0	129.6	131.4	131.7	132.5
2272	Tufted carpets and rugs.....	100.5	101.2	101.1	101.6	101.7	101.9	104.2	104.5	105.6	108.2	108.9	110.7	111.8	112.4
2281	Yarn mills, except wool (12/71=100).....	124.8	128.0	141.2	143.3	146.2	147.6	155.9	157.3	157.6	158.1	158.2	154.8	153.5	148.3
2297	Scouring and combing plants (12/73=100).....	-----	-----	-----	-----	-----	100.0	100.1	104.8	104.6	80.8	80.8	80.6	80.6	75.8
2311	Men's and boys' suits and coats.....	139.2	140.1	140.8	142.9	142.9	143.7	145.2	145.2	145.3	147.0	147.8	149.1	151.4	156.5
2321	Men's dress shirts and nightwear.....	119.3	118.7	119.1	123.9	124.1	124.3	128.4	130.0	132.0	133.2	134.0	135.9	136.8	138.0
2322	Men's and boys' underwear.....	119.7	120.0	120.0	124.5	124.6	124.7	133.5	141.9	142.4	142.5	145.7	147.7	147.7	150.8
2327	Men's and boys' separate trousers.....	110.1	111.6	111.6	112.2	112.4	112.5	114.0	114.5	114.7	115.7	121.2	121.2	121.5	122.3
2328	Work clothing.....	124.2	125.2	125.4	125.8	128.8	129.5	131.0	137.0	140.7	155.1	156.6	156.9	157.4	160.2
2337	Women's suits, coats and skirts (12/71=100).....	101.3	101.4	101.4	101.5	101.6	101.6	101.6	101.6	101.6	101.6	101.6	107.8	108.2	108.3
2341	Women's and children's underwear (12/72=100).....	102.7	102.7	103.3	105.3	106.2	106.2	108.9	109.1	109.4	113.2	113.9	115.8	116.0	116.4
2381	Fabric dress and work gloves.....	134.8	134.7	135.3	139.2	141.3	141.3	151.5	159.4	159.5	164.6	173.8	180.2	184.1	188.5
2421	Sawmills and planing mills (12/71=100).....	142.8	145.9	150.4	148.7	146.7	149.0	147.9	146.9	153.8	161.1	158.4	152.9	148.3	142.6
2426	Hardwood dimension and flooring.....	168.3	182.2	185.4	186.4	188.3	189.5	189.9	190.5	186.5	186.8	185.9	185.9	184.4	181.9
2431	Millwork plants (12/71=100).....	116.1	119.6	120.2	120.7	121.0	121.1	121.7	122.0	124.1	127.5	129.9	132.1	131.3	130.6
2432	Veneer and plywood plants (12/71=100).....	136.8	121.9	120.4	116.9	149.2	145.9	134.8	137.3	149.4	168.0	158.3	140.0	138.0	132.0
2442	Wirebound boxes and crates (12/67=100).....	143.7	142.8	148.8	155.1	156.3	156.3	156.3	160.9	164.6	166.5	172.3	175.0	175.2	175.5
2511	Wood furniture, not upholstered (12/71=100).....	107.7	108.9	109.6	110.1	110.9	111.2	112.9	113.9	114.4	116.3	118.5	119.0	120.1	120.3
2512	Wood furniture, upholstered (12/71=100).....	105.8	106.6	106.8	107.2	109.2	109.2	110.2	110.4	110.8	113.9	116.4	116.4	116.7	117.2
2515	Mattresses and bedspreads.....	114.4	114.3	114.5	114.9	115.4	116.7	120.1	120.2	120.3	120.7	122.7	123.4	126.0	128.1
2521	Wood office furniture.....	126.1	126.0	127.8	129.5	130.1	130.5	132.3	135.1	138.4	138.9	141.5	144.8	151.5	153.9
2611	Pulp mills (12/73=100).....	-----	-----	-----	-----	-----	100.0	100.8	100.9	117.0	129.3	132.5	135.8	159.7	164.3
2647	Sanitary paper products.....	124.7	124.8	125.2	125.2	127.7	128.4	132.3	133.0	134.4	143.8	149.7	151.3	133.2	135.1
2652	Set-up paperboard boxes (12/72=100).....	107.6	107.3	109.8	110.5	113.6	114.2	116.9	120.6	120.9	128.1	130.6	125.5	130.0	135.4
2654	Sanitary food containers.....	110.2	110.6	110.9	111.5	111.8	112.6	113.8	114.8	118.0	122.5	125.1	125.1	130.0	135.4
2812	Alkalies and chlorine (12/73=100).....	-----	-----	-----	-----	-----	100.0	101.0	102.2	106.2	109.9	113.9	120.1	126.7	135.4
2819	Inorganic chemicals, n.e.c														

## 30. Continued—Price indexes for the output of selected SIC industries

1963 SIC code	Industry	Annual average 1973	1973					1974							
			Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
<b>MANUFACTURING—Continued</b>															
3121	Industrial leather belting and packing.....	145.3	145.7	146.0	146.7	148.2	147.9	149.0	151.5	153.6	154.6	152.7	159.1	161.1	161.2
3141	Shoes, except rubber (12/71=100).....	111.4	110.5	111.2	111.7	112.5	112.9	114.0	114.7	115.6	117.5	118.0	118.7	119.0	119.8
3211	Flat glass (12/71=100).....	99.8	98.3	98.5	98.5	101.0	102.6	103.0	103.0	103.0	103.0	103.4	104.6	104.7	104.8
3221	Glass containers.....	138.9	137.4	137.1	143.5	143.5	143.5	143.5	145.6	145.6	146.7	157.3	157.7	157.7	157.8
3241	Cement, hydraulic.....	137.2	137.9	137.9	138.2	138.3	138.3	149.5	151.2	151.7	155.5	155.8	156.2	169.8	169.9
3251	Brick and structural clay tile.....	131.9	132.2	132.2	133.5	133.5	133.8	136.0	137.6	140.3	141.8	142.4	142.7	142.7	146.7
3255	Clay refractories.....	138.6	138.6	138.6	138.6	138.6	138.6	138.7	138.7	138.7	138.7	138.7	138.7	140.5	140.5
3259	Structural clay products n.e.c.....	112.4	112.9	113.0	113.2	113.2	113.4	116.5	117.7	122.4	123.1	126.8	129.5	132.5	132.9
3261	Vitreous plumbing fixtures.....	121.0	121.8	121.8	122.0	122.0	122.2	124.2	124.3	124.7	127.5	132.9	134.4	136.9	138.5
3262	Vitreous china food utensils.....	146.9	148.3	148.3	148.3	148.3	152.6	153.7	155.4	155.4	155.4	170.1	170.1	170.1	170.1
3263	Fine earthenware food utensils.....	143.2	143.7	143.7	143.7	143.7	143.9	146.6	147.9	147.9	147.9	148.7	148.7	154.7	154.7
3271	Concrete block and brick.....	135.1	136.0	136.1	137.9	137.9	139.3	142.7	143.3	145.9	145.9	151.0	151.1	152.8	155.3
3273	Ready mixed concrete.....	133.0	133.6	133.8	135.0	135.4	135.6	141.5	144.2	145.8	146.7	149.0	151.4	157.7	158.3
3275	Gypsum products.....	120.9	122.5	122.0	122.4	122.0	123.3	127.9	130.2	129.7	132.7	133.5	137.8	139.0	143.0
3291	Abrasive products (12/71=100).....	104.7	105.0	105.4	106.0	106.4	106.5	108.7	108.6	111.4	112.5	113.7	120.0	121.7	122.8
3312	Blast furnace and steel mills.....	134.3	134.5	134.6	135.5	135.7	135.9	138.3	139.1	146.7	151.7	163.8	173.4	184.8	192.3
3315	Steel wire drawing, etc.....	135.7	136.6	136.7	136.8	136.8	136.8	142.2	145.7	153.6	160.1	178.5	183.3	191.7	203.2
3316	Cold finishing of steel shapes.....	132.3	132.4	132.4	134.0	134.0	134.0	135.9	136.5	140.9	144.5	155.7	162.2	172.1	177.9
3317	Steel pipe and tube.....	134.5	135.1	135.1	135.1	135.2	135.2	138.1	140.1	146.5	155.1	168.1	175.1	182.7	189.2
3321	Gray iron foundries (12/68=100).....	125.9	126.0	126.2	128.3	132.1	133.5	134.3	134.9	136.3	142.1	146.9	152.0	161.4	164.0
3322	Malleable iron foundries (12/73=100).....	100.0	100.0	100.0	100.0	100.0	100.0	102.4	102.5	103.9	110.1	111.7	120.6	122.8	123.3
3333	Primary zinc.....	150.1	150.5	150.4	153.2	156.6	214.6	228.7	226.0	226.4	246.3	252.4	254.8	255.8	272.6
3334	Primary aluminum.....	101.3	98.5	102.9	105.8	109.8	114.4	118.9	118.9	139.5	147.8	149.3	153.2	156.4	165.4
3339	Primary nonferrous metals, n.e.c.....	164.4	166.6	168.6	173.4	173.8	188.8	206.2	260.8	263.8	266.2	308.9	292.7	280.0	291.1
3341	Secondary nonferrous metals (12/71=100).....	126.5	134.3	134.5	136.7	141.2	152.9	161.4	167.5	180.0	203.9	214.7	216.4	213.9	210.9
3351	Copper rolling and drawing.....	141.0	140.6	143.2	145.6	152.4	158.1	162.9	163.3	176.1	186.5	198.8	202.0	197.4	189.4
3352	Aluminum rolling and drawing (12/68=100).....	109.2	109.0	109.7	110.2	111.1	113.6	118.7	119.9	125.5	134.8	137.8	142.9	149.3	157.1
3356	Rolling, drawing, and extruding of metals, excluding copper, aluminum (12/71=100).....	110.0	111.1	111.6	112.0	112.6	116.4	118.5	119.6	121.7	124.1	133.8	139.5	143.4	152.7
3411	Metal cans.....	135.6	136.9	136.9	135.8	135.8	135.9	140.5	140.7	148.8	153.0	165.1	170.8	185.1	185.1
3423	Hand and edge tools (12/67=100).....	131.6	131.6	132.9	133.5	134.1	134.8	137.4	138.1	139.5	140.1	145.4	149.3	153.1	158.0
3425	Hand saws and saw blades (12/72=100).....	100.9	101.1	101.6	101.6	101.9	102.4	103.2	103.8	105.8	106.1	108.8	109.8	111.8	113.5
3431	Metal plumbing fixtures.....	125.2	126.1	126.2	126.3	126.8	128.9	129.5	131.6	134.1	138.6	141.4	147.0	148.7	160.5
3452	Bolts, nuts, rivets, and washers (12/73=100).....	100.0	100.1	101.8	102.4	100.0	100.0	101.1	101.8	102.4	107.8	116.0	119.2	122.3	129.4
3491	Metal barrels, drums, and pails (12/73=100).....	100.0	100.1	101.5	103.9	106.0	101.1	101.5	103.9	106.0	113.4	128.0	131.3	139.6	139.6
3493	Steel barrels.....	121.5	120.9	122.9	124.2	124.2	125.0	125.9	126.3	129.7	130.9	131.3	131.6	136.2	139.1
3494	Valves and pipe fittings (12/71=100).....	104.9	105.0	105.2	106.6	108.7	109.0	111.8	113.8	117.1	122.4	127.2	131.3	135.2	138.6
3496	Collapsible tubes.....	127.0	127.1	127.3	127.7	130.3	131.0	132.4	135.0	134.9	140.0	142.2	145.4	146.2	151.0
3498	Fabricated pipe and fittings.....	143.5	146.7	146.7	146.7	148.2	149.2	149.2	149.4	152.9	157.0	165.5	176.2	183.8	208.5
3519	Internal combustion engines.....	124.0	124.2	124.2	125.6	126.8	127.0	128.7	129.6	131.3	131.9	135.1	137.6	141.8	146.6
3532	Mining machinery and equipment (12/72=100).....	102.7	103.9	104.2	104.7	104.7	105.0	109.2	110.9	112.5	114.5	117.3	119.4	121.5	126.8
3533	Oil field machinery and equipment.....	133.4	134.4	134.4	134.5	134.6	136.3	138.4	138.9	141.8	147.8	153.2	157.0	160.0	163.5
3534	Elevators and moving stairways.....	123.5	123.3	123.3	124.7	124.7	124.8	124.6	124.6	127.4	128.2	129.1	140.1	142.0	144.6
3535	Conveyors and conveying equipment (12/71=100).....	104.3	104.3	104.5	104.7	105.6	106.1	107.0	107.2	107.4	111.8	112.3	116.1	118.6	119.6
3537	Industrial trucks and tractors.....	128.0	128.9	128.9	129.4	129.7	130.9	131.2	131.5	132.9	134.2	141.2	142.5	145.2	148.2
3541	Metal-cutting machine tools (12/71=100).....	108.5	108.8	109.8	111.1	111.9	113.2	115.1	116.5	118.6	120.8	124.9	127.3	130.0	132.8
3542	Metal-forming machine tools (12/71=100).....	108.5	108.7	110.3	111.6	111.8	112.6	116.1	116.7	120.4	123.0	126.7	127.8	133.4	136.1
3552	Textile machinery (12/69=100).....	116.0	116.6	116.7	116.8	118.5	118.9	120.7	120.9	121.7	122.3	125.8	126.7	128.2	132.6
3553	Woodworking machinery (12/72=100).....	101.9	102.3	102.4	103.1	103.8	104.2	104.9	106.1	107.4	108.2	110.9	111.8	113.8	119.2
3555	Printing trades machinery and equipment (12/72=100).....	103.6	105.4	105.5	105.8	105.9	105.9	106.0	108.5	110.7	111.8	113.1	114.4	115.4	117.0
3562	Ball and roller bearings.....	120.8	121.9	121.9	121.9	122.1	122.7	125.1	125.2	125.8	126.1	134.0	137.3	142.4	145.4
3572	Typewriters.....	106.3	106.7	106.8	106.8	106.8	107.7	107.9	108.1	109.1	109.1	109.3	111.2	112.0	114.6
3576	Scales and balances.....	121.7	122.0	122.0	123.5	123.6	124.5	126.6	126.6	126.5	128.8	129.1	132.0	135.2	137.3
3611	Electric measuring instruments and test equipment (12/71=100).....	100.7	100.6	100.6	100.6	101.0	101.0	101.7	102.4	104.6	104.4	106.6	106.2	107.4	108.4
3612	Transformers.....	98.5	99.1	99.9	99.2	99.7	100.8	103.8	104.0	106.3	108.2	110.3	115.3	123.4	123.9
3613	Switchgear and switchboards.....	114.1	114.0	114.8	115.0	115.6	116.4	118.6	119.6	121.2	124.3	130.5	134.1	136.5	139.3
3623	Electric welding apparatus (12/72=100).....	103.6	104.2	104.3	105.7	106.2	107.7	109.4	109.7	109.7	113.5	119.7	130.7	148.4	152.8
3624	Carbon and graphite products (12/67=100).....	119.4	119.9	120.0	120.0	120.0	120.1	120.1	120.1	124.7	128.5	132.4	133.4	138.8	143.7
3633	Household laundry equipment (12/73=100).....	100.0	100.0	100.0	100.0	100.0	100.0	100.7	100.8	101.1	102.1	102.2	103.3	104.0	105.5
3634	Electric housewares and fans (12/71=100).....	100.1	100.2	100.1	100.0	100.1	100.4	101.1	101.5	103.1	103.8	104.5	107.1	107.4	108.2
3635	Household vacuum cleaners.....	100.6	98.7	98.7	98.7	99.0	99.1	99.9	99.9	101.9	103.2	106.3	107.0	107.4	108.8
3641	Electric lamps.....	120.2	120.5	120.5	120.5	122.1	123.8	124.1	124.5	124.5	124.8	125.0	127.5	133.5	134.9
3642	Lighting fixtures (12/71=100).....	103.8	104.2	104.3	104.8	105.2	105.5	109.8	109.9	111.2	112.7	116.7	118.3	122.5	127.1
3644	Noncurrent carrying devices (12/72=100).....	103.0	103.3	103.4	104.8	105.3	105.9	109.3	110.9	112.8	119.7	125.6	130.9	141.8	149.8
3652	Phonograph records.....	115.2	115.4	115.4	115.4	115.4	115.4	115.4	115.4	116.6	116.6	116.6	117.1	117.1	122.7
3671	Electron tubes, receiving type.....	144.2	144.2</												



## PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and gross national product supplied by the U.S. Department of Commerce and the Federal Reserve Board.

### Definitions

**Output** is the constant dollar market value of final goods and services produced in a given period. Indexes of **output per man-hour**, or productivity, measure changes in the volume of goods and services produced per unit of labor. **Compensation per man-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 man-hour** is compensation per man-hour adjusted to eliminate the effect of changes in the Consumer Price Index.

**Unit labor costs** measure the labor compensation cost required to produce one unit of output and are derived by dividing compensation per man-hour by output per man-hour. **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 national 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.

### Notes on the data

Manufacturing data have been revised to reflect revisions in the Federal Reserve Board Index of Industrial Production. Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly measures have been adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and man-hour data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

### 31. Indexes of output per man-hour and related data, selected years, 1950-73

[1967=100]

Item	1950	1955	1960	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
<b>Total private:</b>													
Output per man-hour.....	59.7	69.9	78.2	91.1	94.2	98.0	100.0	102.9	103.3	104.4	108.9	113.2	116.5
Compensation per man-hour.....	42.8	55.9	71.7	84.9	88.4	94.5	100.0	107.6	115.8	124.6	133.1	142.1	153.5
Real compensation per man-hour.....	59.4	69.7	80.9	91.3	93.5	97.2	100.0	103.2	105.5	107.1	109.7	113.4	115.3
Unit labor costs.....	71.7	80.1	91.8	93.1	93.8	96.5	100.0	104.6	112.1	119.3	122.3	125.6	131.8
Unit nonlabor payments.....	69.7	79.4	86.0	93.4	96.4	98.4	100.0	102.0	102.4	104.4	111.8	115.5	123.5
Implicit price deflator.....	70.9	79.8	89.5	93.2	94.8	97.2	100.0	103.6	108.3	113.5	118.2	121.6	128.6
<b>Private nonfarm:</b>													
Output per man-hour.....	65.0	73.6	80.3	92.4	95.1	98.4	100.0	102.9	102.7	103.4	107.7	112.2	115.2
Compensation per man-hour.....	45.3	58.6	73.9	86.1	89.2	94.6	100.0	107.3	114.8	123.2	131.6	140.7	151.6
Real compensation per man-hour.....	62.9	73.0	83.4	92.6	94.4	97.3	100.0	102.9	104.6	105.9	108.5	112.3	113.9
Unit labor costs.....	69.7	79.6	92.0	93.2	93.9	96.2	100.0	104.3	111.8	119.1	122.3	125.4	131.6
Unit nonlabor payments.....	69.0	79.4	85.5	93.8	96.2	97.8	100.0	102.3	102.2	104.4	112.0	114.5	117.3
Implicit price deflator.....	69.4	79.5	89.6	93.4	94.8	96.8	100.0	103.5	108.1	113.5	118.4	121.2	126.2
<b>Manufacturing:</b>													
Output per man-hour.....	64.4	73.7	79.9	94.5	98.4	99.9	100.0	104.7	107.4	108.0	115.3	122.7	130.0
Compensation per man-hour.....	44.6	60.0	76.6	88.9	91.2	95.3	100.0	107.2	114.0	122.2	130.7	138.7	148.9
Real compensation per man-hour.....	61.8	74.8	86.3	95.7	96.5	98.0	100.0	102.9	103.8	105.1	107.7	110.7	111.9
Unit labor costs.....	69.2	81.3	95.8	94.0	92.7	95.4	100.0	102.3	106.2	113.2	113.3	113.0	114.6
Unit nonlabor payments.....	81.1	86.9	90.1	98.1	102.4	103.1	100.0	102.2	94.4	91.3	97.2	100.1	98.7
Implicit price deflator.....	72.9	83.1	94.1	95.3	95.6	97.7	100.0	102.3	102.6	106.5	108.3	109.7	109.7
<b>Nonfinancial corporations:</b>													
Output per man-hour.....	(1)	(1)	79.2	93.0	96.5	99.0	100.0	104.3	106.5	107.4	113.0	118.7	123.1
Compensation per man-hour.....	(1)	(1)	75.1	87.4	90.2	95.0	100.0	107.2	115.1	123.4	132.7	142.0	153.1
Real compensation per man-hour.....	(1)	(1)	84.7	94.0	95.4	97.7	100.0	102.9	104.8	106.1	109.4	113.3	115.0
Unit labor costs.....	(1)	(1)	94.8	93.9	93.4	95.9	100.0	102.8	108.1	114.9	117.4	119.6	124.4
Unit nonlabor payments.....	(1)	(1)	88.6	97.2	99.3	99.5	100.0	102.1	100.2	101.3	107.8	110.0	112.2
Implicit price deflator.....	(1)	(1)	92.6	95.1	95.6	97.2	100.0	102.5	105.3	110.0	113.9	116.1	120.0

<sup>1</sup> Not available.

## 32. Annual percent change in output per man-hour and related data, 1960-73

Item	Year											Annual rate of change	
	1960	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1950-73	1960-73
<b>Total private:</b>													
Output per man-hour.....	1.6	3.9	3.4	4.0	2.1	2.9	0.4	1.0	4.3	4.0	2.9	3.0	3.0
Compensation per man-hour.....	3.9	5.4	4.1	6.9	5.8	7.6	7.6	7.6	6.9	6.7	8.0	5.3	6.1
Real compensation per man-hour.....	2.3	3.7	2.4	3.9	2.9	3.2	2.1	1.5	2.5	3.4	1.7	3.0	2.8
Unit labor costs.....	2.2	1.1	.7	2.8	3.7	4.6	7.1	6.5	2.5	2.7	5.0	2.2	3.1
Unit nonlabor payments.....	-1	1.3	3.2	2.0	1.6	2.0	.3	2.0	7.1	3.3	7.0	2.2	2.5
Implicit price deflator.....	1.4	1.2	1.7	2.5	2.9	3.6	4.5	4.8	4.1	2.9	5.7	2.2	2.9
<b>Private nonfarm:</b>													
Output per man-hour.....	1.2	3.7	2.9	3.5	1.6	2.9	-.1	.7	4.1	4.2	2.7	2.6	2.6
Compensation per man-hour.....	4.1	4.7	3.7	6.1	5.7	7.3	7.0	7.3	6.9	6.9	7.8	5.0	5.8
Real compensation per man-hour.....	2.5	3.4	2.0	3.1	2.8	2.9	1.6	1.2	2.5	3.5	1.4	2.7	2.5
Unit labor costs.....	2.8	1.0	.8	2.5	4.0	4.3	7.2	6.6	2.7	2.5	5.0	2.3	3.0
Unit nonlabor payments.....	-1.0	1.7	2.6	1.7	2.2	2.3	-.1	2.2	7.3	2.3	2.5	2.2	2.3
Implicit price deflator.....	1.4	1.3	1.4	2.2	3.3	3.5	4.5	5.0	4.3	2.4	4.1	2.3	2.8
<b>Manufacturing:</b>													
Output per man-hour.....	1.8	4.9	4.1	1.6	.1	4.7	2.5	.6	6.8	6.4	5.9	3.0	3.4
Compensation per man-hour.....	4.2	4.6	2.6	4.5	5.0	7.2	6.3	7.2	6.9	6.1	7.4	4.9	5.3
Real compensation per man-hour.....	2.6	3.3	.8	1.6	2.0	2.9	.9	1.2	2.5	2.7	1.1	2.6	2.0
Unit labor costs.....	2.4	-.3	-1.4	2.9	4.9	2.3	3.8	6.6	.1	-.2	1.4	1.8	1.8
Unit nonlabor payments.....	-2.6	3.7	4.3	-.7	-1.6	2.1	-.7	3.3	5.2	3.1	-1.4	1.1	.5
Implicit price deflator.....	.9	.9	.4	1.7	2.8	2.3	.3	3.8	1.7	1.3	0	1.6	1.4
<b>Nonfinancial corporations:</b>													
Output per man-hour.....	1.5	4.8	3.7	2.6	1.0	4.3	2.1	.9	5.2	5.0	3.7	3.1	3.3
Compensation per man-hour.....	4.0	4.8	3.2	5.3	5.3	7.2	7.3	7.2	7.5	7.0	7.9	5.0	5.7
Real compensation per man-hour.....	2.3	3.5	1.5	2.4	2.4	2.9	1.9	1.2	3.1	3.6	1.5	2.7	2.4
Unit labor costs.....	2.5	0	-.5	2.6	4.3	2.8	5.2	6.3	2.2	1.9	4.1	1.9	2.3
Unit nonlabor payments.....	-1.4	2.9	2.2	.1	.5	2.1	-1.8	1.1	6.5	2.0	2.0	1.7	1.6
Implicit price deflator.....	1.1	1.1	.5	1.7	2.9	2.5	2.7	4.5	3.6	1.9	3.4	1.8	2.1

## 33. Indexes of output per man-hour, hourly compensation, unit costs, and prices, private economy, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes											
			1971		1972				1973				1974	
	1972	1973	IV	I	II	III	IV	I	II	III	IV	I	II	
<b>Total private:</b>														
Output per man-hour.....	113.2	116.5	110.1	111.2	112.7	113.7	115.2	117.0	116.6	116.1	116.1	114.0	114.4	114.4
Compensation per man-hour.....	142.1	153.5	135.8	139.0	141.1	142.8	145.4	149.9	152.1	154.2	157.3	159.8	165.2	165.2
Real compensation per man-hour.....	113.4	115.3	110.6	112.3	113.2	113.5	114.6	116.5	115.7	114.7	114.4	113.0	113.5	113.5
Unit labor costs.....	125.6	131.8	123.3	125.1	125.2	125.6	126.2	128.1	130.5	132.8	135.5	140.2	144.4	144.4
Unit nonlabor payments.....	115.5	123.5	112.8	113.3	114.4	116.1	117.9	119.5	121.8	125.0	127.8	130.9	132.8	132.8
Implicit price deflator.....	121.6	128.6	119.2	120.5	121.0	121.9	123.0	124.8	127.1	129.8	132.5	136.6	139.9	139.9
<b>Private nonfarm:</b>														
Output per man-hour.....	112.2	115.2	109.1	110.1	111.3	113.1	114.3	115.7	115.1	115.1	114.9	113.3	112.6	112.6
Compensation per man-hour.....	140.7	151.6	134.4	137.6	139.3	141.5	144.0	148.0	150.0	152.4	155.7	158.9	162.9	162.9
Real compensation per man-hour.....	112.3	113.9	109.5	111.2	111.7	112.5	113.5	115.0	114.1	113.4	113.2	112.4	111.9	111.9
Unit labor costs.....	125.4	131.6	123.2	125.0	125.1	125.2	126.0	127.9	130.3	132.4	135.5	140.2	144.6	144.6
Unit nonlabor payments.....	114.5	117.3	112.6	113.0	113.8	115.3	116.1	115.9	116.4	117.4	119.6	123.6	129.2	129.2
Implicit price deflator.....	121.2	126.2	119.2	120.4	120.8	121.4	122.3	123.4	125.0	126.7	129.5	133.9	138.8	138.8
<b>Manufacturing:</b>														
Output per man-hour.....	122.7	130.0	116.0	119.3	121.5	124.1	125.7	128.5	129.7	131.2	130.1	129.9	131.1	131.1
Compensation per man-hour.....	138.7	148.9	132.7	136.0	137.5	139.3	141.7	144.7	147.4	150.3	153.2	155.8	161.1	161.1
Real compensation per man-hour.....	110.7	111.9	108.2	110.0	110.3	110.7	111.7	112.5	112.1	111.8	111.4	110.2	110.6	110.6
Unit labor costs.....	113.0	114.6	114.4	114.0	113.2	112.2	112.7	112.6	113.7	114.5	117.8	120.0	122.8	122.8
<b>Nonfinancial corporations:</b>														
Output per man-hour.....	118.7	123.1	114.8	116.9	118.1	119.4	120.7	123.1	123.3	123.5	122.7	121.0	121.4	121.4
Compensation per man-hour.....	142.0	153.1	135.3	139.4	140.8	142.9	144.8	149.4	151.8	154.4	157.2	160.4	164.8	164.8
Real compensation per man-hour.....	113.3	115.0	110.3	112.7	113.0	113.6	114.1	116.1	115.4	114.9	114.2	113.5	113.2	113.2
Total unit costs.....	121.4	125.2	120.7	121.2	121.4	121.6	121.6	122.5	124.1	125.9	128.5	133.0	136.1	136.1
Unit labor costs.....	119.6	124.4	117.9	119.2	119.3	119.7	120.0	121.4	123.1	125.1	128.1	132.6	135.8	135.8
Unit nonlabor costs.....	126.9	127.7	129.2	127.2	127.7	127.3	126.8	125.7	127.1	128.3	129.9	134.2	137.3	137.3
Unit profits.....	86.7	90.8	79.7	84.0	84.9	86.6	91.1	91.9	91.3	90.2	89.7	86.8	87.0	87.0
Implicit price deflator.....	116.1	120.0	114.5	115.6	115.9	116.3	117.0	117.8	119.1	120.5	122.6	126.0	129.8	129.8

## 34. Percent change from preceding quarter and year in output per man-hour, hourly compensation, unit costs, and prices, private economy, seasonally adjusted at annual rate

[1967=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	IV 1972 to I 1973	I to II 1973	II to III 1973	III to IV 1973	IV 1973 to I 1974	I to II 1974	I 1972 to I 1973	II 1972 to II 1973	III 1972 to III 1973	IV 1972 to IV 1973	I 1973 to I 1974	II 1973 to II 1974
<b>Total private:</b>												
Output per man-hour .....	6.5	-1.6	-1.5	0	-7.1	r 1.4	5.3	3.5	2.1	0.8	-2.6	r -1.9
Compensation per man-hour .....	13.1	5.9	5.6	8.5	6.4	r 14.2	7.9	7.8	8.0	8.2	6.6	r 8.6
Real compensation per man-hour .....	6.9	-2.7	-3.3	-1.2	-4.5	r 1.5	3.7	2.2	1.0	-2	-3.0	r -1.9
Unit labor costs .....	6.1	7.6	7.3	8.4	14.6	r 12.6	2.4	4.2	5.7	7.4	9.4	r 10.7
Unit nonlabor payments .....	5.7	7.7	11.1	9.2	10.0	r 6.0	5.5	6.4	7.7	8.4	9.5	r 9.1
Implicit price deflator .....	6.0	7.6	8.7	8.7	12.9	r 10.1	3.6	5.0	6.4	7.7	9.5	r 10.1
<b>Private nonfarm:</b>												
Output per man-hour .....	5.2	-2.2	0	-7	-5.2	r -2.5	5.1	3.4	1.8	.5	-2.1	r -2.1
Compensation per man-hour .....	11.7	5.4	6.6	8.9	8.4	r 10.6	7.6	7.7	7.7	8.1	7.3	r 8.6
Real compensation per man-hour .....	5.5	-3.2	-2.4	-8	-2.7	r -1.7	3.4	2.1	.8	-3	-2.3	r -1.9
Unit labor costs .....	6.2	7.8	6.6	9.7	14.4	r 13.4	2.4	4.1	5.8	7.6	9.6	r 11.0
Unit nonlabor payments .....	-9	1.7	3.7	7.6	14.0	r 19.3	2.6	2.3	1.9	3.0	6.7	r 11.0
Implicit price deflator .....	3.6	5.6	5.6	9.0	14.2	r 15.4	2.4	3.5	4.4	5.9	8.5	r 11.0
<b>Manufacturing:</b>												
Output per man-hour .....	9.1	3.7	4.9	-3.4	-7	r 4.0	7.7	6.7	5.7	3.5	1.1	r 1.1
Compensation per man-hour .....	8.9	7.5	8.1	8.0	7.0	r 14.2	6.4	7.2	7.9	8.1	7.7	r 9.3
Real compensation per man-hour .....	2.9	-1.4	-0.9	-1.7	-4.1	r 1.6	2.3	1.6	1.0	-3	-2.0	r -1.3
Unit labor costs .....	-2	3.7	3.0	11.9	7.8	r 9.8	-1.2	-4	2.0	4.5	6.5	r 8.1
<b>Nonfinancial corporations:</b>												
Output per man-hour .....	8.2	.7	.6	-2.3	-5.5	p 1.2	5.3	4.4	3.4	1.7	-1.7	p -1.6
Compensation per man-hour .....	13.4	6.5	7.2	7.3	8.5	p 11.3	7.2	7.7	8.0	8.6	7.4	p 8.6
Real compensation per man-hour .....	7.2	-2.2	-1.9	-2.2	-2.6	p -1.0	3.0	2.2	1.1	.2	-2.2	p -1.9
Total unit costs .....	2.7	5.3	5.9	8.7	14.6	p 9.8	1.0	2.2	3.5	5.6	8.6	p 9.7
Unit labor costs .....	4.8	5.7	6.6	9.9	14.9	p 10.0	1.8	3.2	4.5	6.7	9.2	p 10.3
Unit nonlabor costs .....	-3.2	4.3	3.8	5.2	13.9	p 9.3	-1.2	-.5	.7	2.5	6.8	p 8.0
Unit profits .....	3.4	-2.6	-4.5	-2.5	-12.3	p 39.0	9.3	7.5	4.3	-1.6	-5.6	p 3.2
Implicit price deflator .....	2.8	4.4	4.6	7.4	11.4	p 12.6	2.0	2.8	3.6	4.8	6.9	p 9.0



## 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 negotiated changes** refer to those 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 changes (exclusive of potential

cost-of-living escalator adjustments) expressed at an average annual rate of change. **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.

**Average wage changes** 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 changes 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 changes in major collective bargaining settlements, 1968 to date

[In percent]

Sector and measure	Annual average						Quarterly average					
	1968	1969	1970	1971	1972	1973	1973				1974 <sup>a</sup>	
							I	II	III	IV	I	II
Wage and benefit changes, all industries:												
First-year changes.....	8.7	10.9	13.1	13.1	8.5	7.1	7.1	7.8	7.2	6.1	6.9	9.0
Annual rate over life of contract.....	6.5	8.2	9.1	8.8	7.4	6.1	5.6	6.7	6.3	5.6	5.9	7.5
Wage rate changes, all industries:												
First-year changes.....	7.4	9.2	11.9	11.6	7.3	5.8	5.5	6.2	5.8	5.5	6.2	9.2
Annual rate over life of contract.....	5.9	7.6	8.9	8.1	6.4	5.1	4.8	5.7	5.3	4.5	5.3	7.4
Manufacturing:												
First-year changes.....	7.0	7.9	8.1	10.9	6.6	5.9	6.6	6.2	5.9	5.5	6.1	8.5
Annual rate over life of contract.....	5.2	6.0	6.0	7.3	5.6	4.9	5.8	5.4	5.1	4.1	4.9	6.0
Nonmanufacturing (excluding construction):												
First-year changes.....	7.6	9.6	14.2	12.2	8.2	6.0	4.8	6.5	7.1	6.3	6.7	10.6
Annual rate over life of contract.....	5.9	7.4	10.2	8.6	7.3	5.4	4.0	6.1	6.4	6.0	5.8	8.7
Construction:												
First-year changes.....	8.7	13.1	17.6	12.6	6.9	5.0	4.8	5.4	4.6	4.9	5.2	9.4
Annual rate over life of contract.....	8.6	13.1	14.9	10.8	6.0	5.1	4.9	5.4	4.7	5.0	4.8	8.8

## 36. Wage rate changes going into effect in major collective bargaining units, 1968 to date

[In percent]

Sector and measure	Annual average						Quarterly changes					
	1968	1969	1970	1971	1972	1973	1973				1974 <sup>p</sup>	
							I	II	III	IV	I	II
Total effective wage rate change, all industries.....	6.0	6.5	8.8	9.2	6.6	7.0	1.2	1.9	2.3	1.2	1.2	2.4
Change resulting from—												
Current decisions.....	3.2	2.4	5.1	4.3	1.7	3.0	.3	1.0	.9	.5	.3	1.2
Prior settlement.....	2.4	3.8	3.1	4.2	4.2	2.7	.6	.7	.9	.3	.6	.8
Escalator provision.....	.3	.3	.6	.7	.7	1.3	.1	.3	.5	.3	.3	.4
Manufacturing.....	5.7	5.4	7.1	8.0	5.6	7.3	1.0	1.9	2.1	1.6	1.4	2.7
Nonmanufacturing.....	6.3	7.7	10.5	10.3	7.4	6.7	1.2	2.0	2.3	.8	1.1	2.1

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

## 37. Work stoppages, 1946 to date

Month and year	Number of stoppages		Workers involved		Man-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
1946.....	4,985		4,600		116,000	1.04
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	.15
1973: July.....	510	860	210	320	2,996	.19
August.....	500	860	160	310	2,571	.14
September.....	540	880	270	370	2,954	.20
October.....	520	890	190	300	2,484	.15
November.....	350	670	230	350	3,026	.18
December.....	210	480	90	180	2,135	.14
1974: <sup>p</sup> January.....	310	480	132	244	1,305	.08
February.....	350	560	102	134	1,142	.08
March.....	480	710	163	237	1,973	.12
April.....	550	840	211	331	3,542	.21
May.....	740	1,060	391	638	6,267	.36
June.....	640	1,050	474	790	7,345	.46
July.....	730	1,130	364	769	7,881	.46

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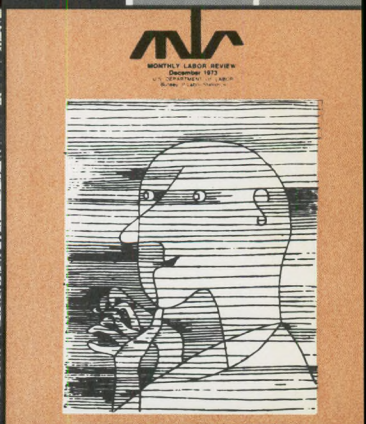
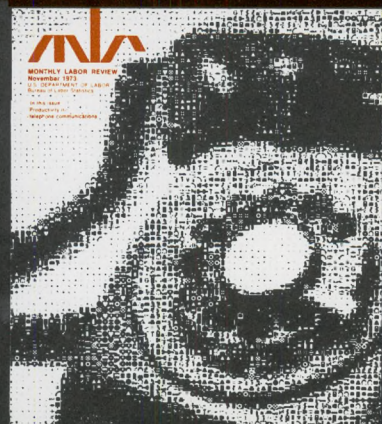
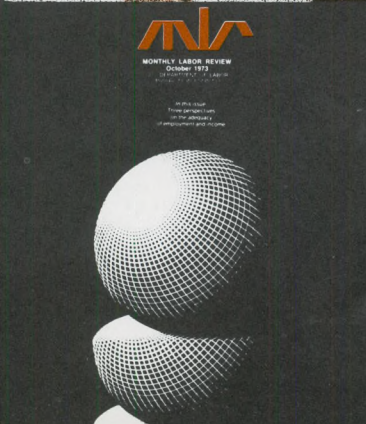
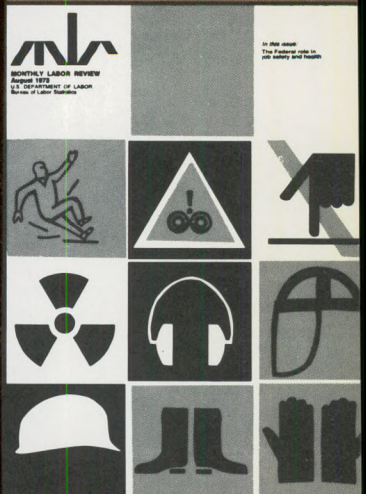
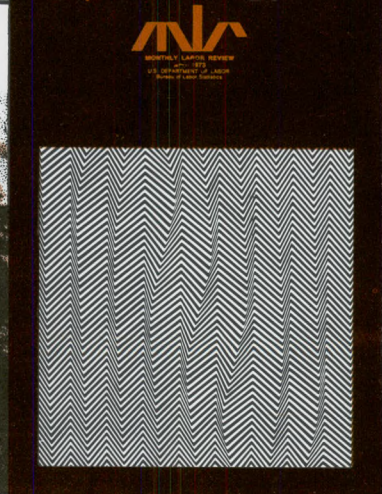
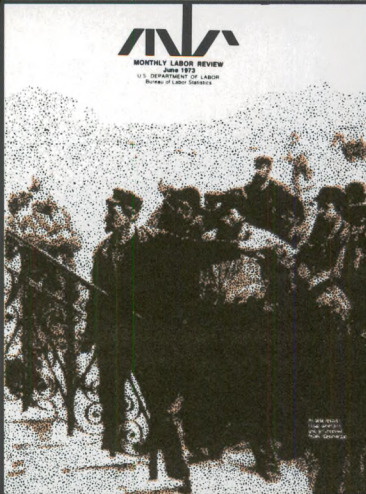
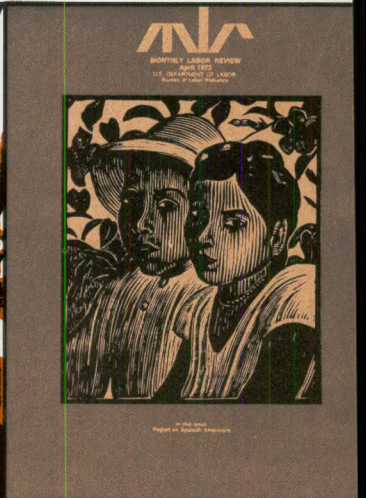
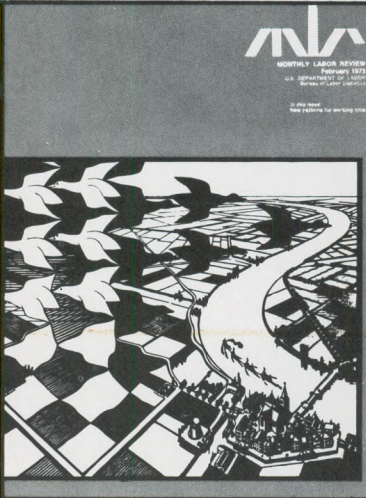
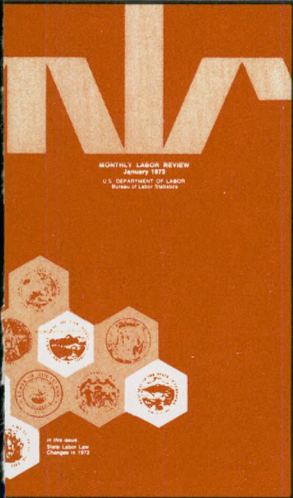
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