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In this issue: Productivity in the pharmaceutical industry

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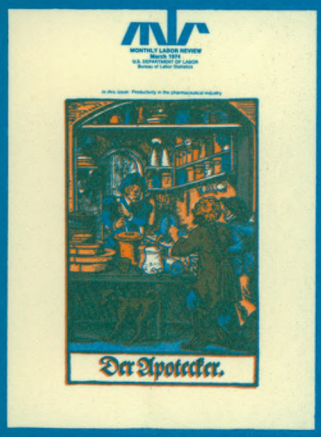

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Labor Month in Review

LIKE THE SPACE PROGRAM in the 1960's, the energy crisis and international trade problems are spawning their own terminology. Often it is less a matter of newly developed language than of forcing public awareness of "shop talk." In the 1974 Economic Report of the President, the Council of Economic Advisers discussed issues surrounding two terms likely to be encountered in the future: Maximum efficient rate of recovery or MER, and numeraire. Following are brief excerpts from these two passages.

MAXIMUM EFFICIENT RATE OF RECOVERY. Production of petroleum, and of associated natural gas, can be increased within a year by expanding output from existing oil fields. Part of this increase will result from the use of secondary and tertiary recovery methods. An additional increase can come from maintaining the production of stripper wells that would otherwise be abandoned. Some stripper wells can be reworked to yield a greater rate of flow.

In 1973 most wells in the United States were producing at 100 percent of the MER. In most States, the law does not permit production in excess of the MER, which is in principle the maximum rate at which oil can be extracted without seriously reducing the total amount of the resource that can ultimately be recovered from the field. But the MER is an imprecise figure. In many instances total output would be reduced by only a small amount if production went beyond the MER for 2 or 3 years. Moreover the MER should reflect economic as well as technological factors. The economically efficient rate of production is a function of market prices, both present and future. An increase in the value of oil today, relative to the expected future value, should lead to a more rapid rate of recovery today. In some cases, therefore, it would be in the national interest to adjust the MER's upward.

Progressively larger increases in the production of petroleum and associated natural gas can be expected after 1974. Increases in the price paid for the so-called new oil will stimulate exploration, mainly offshore, and an expansion in production. It is likely that offshore production of crude oil will begin to rise by 1976.

NUMERAIRE. The numeraire of the international monetary system is the common unit of account in terms of which the relative values of all currencies are measured. In addition to being a convenient measuring stick, the numeraire is usually also the unit value in terms of which the obligations of countries to the international monetary system and the claims of countries on the system are expressed.

Under the Bretton Woods system, gold served as the formal numeraire, though the dollar became the *de facto* numeraire. When the convertibility of the dollar into gold was suspended in August 1971, the tie between the dollar and gold was broken. It was thus no longer possible to assume that international obligations of countries to the International Monetary Fund, which in legal terms continued to be denominated in gold, would bear a fixed relationship to the dollar. It was also no longer possible to establish a firm relationship between the value of the Special Drawing Rights (SDR's), the internationally created reserve asset, and individual currencies.

There is wide agreement that the SDR should become the formal numeraire of the future international monetary system. In order to make the SDR the numeraire not only formally but also in practice, it will be necessary, however, to establish an agreed procedure for calculating the value of the SDR in terms of individual currencies. The most widely suggested idea is that SDR should be valued in terms of an average of the major currencies. □

Industrial use of petroleum: effect on employment

Input-output analysis indicates the range of petroleum requirements per worker in various industries; plastics, chemical, and aluminum industries lead

RONALD E. KUTSCHER AND CHARLES T. BOWMAN

WHAT EFFECT IS the current petroleum shortage having on employment in various industries, and what influence will the shortage have on future employment? No definitive answers to these questions are available as yet. However, a limited tool for analysis is provided by an input-output study that shows the amount of refined petroleum[1] used per worker in 1970 by each of 125 U.S. industries.

The data shown in table 1 are based on a 1970 input-output table developed by the Bureau of Labor Statistics and based on an earlier input-output table by the U.S. Department of Commerce.[2]. The data indicate a wide variation by industry in the use of refined petroleum products per worker. Direct use alone, for example, varies from nearly $3,700 a worker in the chemical products sector to $8 a worker in the apparel sector. Total requirements, covering both direct and indirect use, vary from almost $4,600 a worker in the plastics materials and synthetic rubber sector to $70 in the hospitals sector.

Such wide variations in the relationship between petroleum use and employment underscores the need to identify potential problem areas. Some of the information needed to assess the effects of petroleum shortages on employment is available from this study. However, there are a number of limitations to these results which should be recognized in order to place them in proper perspective.

Direct petroleum purchases

An input-output table shows what each industry in the economy buys from and sells to every other industry in the economy and what all industries sell to final users (consumers and governments). The 1970 table provides a number of ways of looking at the use of refined petroleum products by the economy. When employment [3] in each sector is also considered, further analytical relationships can be constructed. The data presented from these different analytical viewpoints are shown in table 1 for all industries.

In 1970, slightly over one-half of all U.S. petroleum—from both domestic and imported sources—was used by industry (not only in manufacturing, but also transportation, services, agriculture, and so on) and 38 percent by consumers in the form of gasoline, heating oil, and related products; the rest went to exports and to Federal, State, and local governments.

In input-output terminology, "direct" use covers all materials initially required in the industry producing the product or service. The extent of petroleum use by an industry can result from the overall size of the industry or the critical importance of petroleum in the production process, or a combination of both factors. Retail trade and manufactured food products use a large amount of petroleum because of the sheer size of these industries. For others, such as chemical products and air transportation, the importance of petroleum as a fuel or raw material is the major reason for their use of large amounts of refined petroleum products.

Within the industrial sector, direct use of refined petroleum products in 1970 varied from billions of dollars for the largest users (table 2), down to radio and TV broadcasting, with less than $1.4 million. Purchases listed here cover all refined petroleum products, from jet fuels to greases. The purchase price is valued at the site of production; therefore, it excludes transportation and distribution costs to the user. The value

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Table 1. Use of refined petroleum products and employment, by industry, 1970

[Numbers in parentheses indicate ranking in column]

Industry	Purchases of petroleum products by consuming industry				Total requirements for petroleum products [2]		Private employment (in thousands)[3]
	Total		Per $100 of production [1]	Per worker	Per $100 of production	Per worker	
	Value (in millions)	Percent distribution					
Agriculture, forestry, and fisheries:							
1. Livestock and livestock products	$208.1 (17)	.67	$0.54 (46)	$143 (47)	$2.35 (29)	$619 (41)	1,458 (11)
2. Crops and other agricultural products	1,044.5 (4)	3.38	3.49 (5)	532 (20)	5.05 (7)	770 (33)	1,964 (4)
3. Forestry and fisheries	38.4 (50)	.12	1.77 (18)	641 (13)	2.77 (21)	1,002 (20)	60 (110)
4. Agriculture, forestry, and fishery services	4.2 (112)	.01	.37 (54)	14 (119)	3.66 (14)	141 (109)	296 (51)
Mining:							
5. Iron ore mining	14.8 (74)	.05	1.18 (23)	527 (21)	2.52 (26)	1,136 (15)	28 (120)
6. Copper ore mining	3.3 (115)	.01	.33 (60)	88 (60)	1.16 (89)	304 (87)	38 (117)
7. Other nonferrous metal ore mining	4.9 (106)	.02	.46 (49)	164 (41)	1.34 (74)	479 (54)	30 (119)
8. Coal mining	29.1 (57)	.09	.59 (42)	190 (39)	1.15 (91)	367 (68)	153 (80)
9. Crude petroleum	93.8 (28)	.30	.60 (41)	320 (26)	1.52 (56)	818 (28)	293 (54)
10. Stone and clay mining and quarrying	53.5 (39)	.17	2.26 (14)	540 (19)	3.26 (18)	781 (32)	99 (97)
11. Chemical and fertilizer mining	8.9 (89)	.03	1.10 (24)	469 (23)	2.49 (28)	1,059 (19)	19 (121)
Construction:							
12. New residential construction	216.9 (15)	.70	.65 (36)	198 (37)	1.83 (42)	561 (47)	1,095 (18)
13. New nonresidential construction	238.5 (14)	.77	.77 (32)	255 (33)	1.86 (40)	617 (42)	934 (20)
14. New public utilities construction	159.6 (20)	.52	1.08 (25)	345 (25)	2.18 (32)	698 (35)	463 (36)
15. New highway construction	326.7 (11)	1.06	3.34 (7)	1,138 (7)	4.58 (8)	1,562 (9)	287 (58)
16. All other new construction	208.5 (16)	.67	3.02 (9)	965 (8)	4.20 (9)	1,341 (11)	216 (66)
17. Maintenance construction	561.6 (8)	1.82	1.87 (17)	483 (22)	2.93 (20)	756 (34)	1,163 (17)
Manufacturing:							
18. Guided missiles and space vehicles	9.3 (86)	.03	.29 (62)	95 (57)	.99 (102)	321 (83)	98 (99)
19. Other ordnance	11.9 (80)	.04	.28 (71)	83 (61)	1.19 (86)	357 (71)	144 (84)
20. Food products	298.0 (12)	.96	.29 (64)	164 (42)	1.92 (38)	1,086 (18)	1,815 (6)
21. Tobacco manufacturing	3.0 (116)	.01	.04 (122)	37 (100)	1.07 (96)	1,115 (16)	83 (105)
22. Broad and narrow fabrics, yarn and thread mills	26.0 (62)	.08	.17 (95)	44 (90)	1.67 (47)	442 (59)	595 (30)
23. Miscellaneous textile and floor coverings	13.4 (78)	.04	.28 (70)	102 (53)	2.52 (27)	918 (22)	132 (88)
24. Hosiery and knit goods	9.0 (88)	.03	.16 (96)	36 (101)	1.51 (57)	334 (78)	249 (59)
25. Apparel	10.2 (84)	.03	.05 (119)	8 (122)	1.07 (95)	170 (102)	1,216 (15)
26. Miscellaneous fabricated textile products	2.7 (118)	.01	.06 (118)	16 (117)	1.54 (54)	408 (62)	172 (76)
27. Logging, sawmills and planing mills	55.5 (38)	.18	.71 (33)	159 (43)	1.80 (43)	401 (64)	350 (43)
28. Millwork and plywood and miscellaneous wood products	11.2 (81)	.04	.16 (97)	38 (99)	1.46 (62)	335 (77)	298 (50)
29. Household furniture	6.3 (100)	.02	.11 (114)	19 (116)	1.45 (64)	255 (93)	331 (46)
30. Other furniture	4.1 (113)	.01	.14 (104)	28 (107)	1.31 (78)	264 (92)	145 (83)
31. Paper products	143.1 (22)	.46	.82 (30)	297 (29)	2.24 (31)	815 (29)	481 (34)
32. Paperboard	43.8 (45)	.14	.65 (35)	195 (38)	2.29 (30)	683 (38)	225 (63)
33. Publishing	24.8 (63)	.08	.17 (92)	41 (94)	1.19 (87)	279 (89)	610 (28)
34. Printing	30.4 (56)	.10	.27 (73)	54 (80)	1.59 (51)	317 (84)	563 (31)
35. Chemical products	1,592.3 (1)	5.15	8.66 (2)	3,669 (1)	9.18 (2)	3,887 (2)	434 (40)
36. Agricultural chemicals	31.3 (55)	.10	1.35 (20)	569 (16)	5.76 (6)	2,426 (6)	55 (111)
37. Plastic materials and synthetic rubber	188.9 (18)	.61	3.39 (6)	1,782 (4)	8.72 (3)	4,584 (1)	106 (96)
38. Synthetic fibers	6.0 (102)	.02	.17 (94)	53 (82)	3.73 (12)	1,186 (13)	112 (94)
39. Drugs	18.8 (68)	.06	.28 (69)	128 (49)	1.71 (46)	788 (31)	147 (82)
40. Cleaning and toilet preparations	73.5 (33)	.24	.99 (26)	579 (15)	3.41 (17)	1,991 (8)	127 (91)
41. Paint	120.7 (25)	.39	3.62 (4)	1,724 (5)	7.02 (4)	3,340 (5)	70 (108)
42. Petroleum products	2,437.9 (4)	7.89					191 —
43. Rubber products	15.7 (72)	.05	.18 (88)	54 (79)	2.11 (34)	628 (40)	288 (57)
44. Plastic products	14.8 (73)	.05	.20 (87)	50 (84)	3.66 (13)	933 (21)	294 (53)
45. Leather, footwear, and leather products	6.7 (97)	.02	.13 (107)	21 (115)	.97 (103)	160 (103)	322 (48)
46. Glass	11.0 (82)	.04	.23 (80)	59 (76)	1.33 (76)	337 (76)	186 (72)
47. Cement, clay, and concrete products	76.3 (31)	.25	.94 (28)	262 (31)	2.12 (33)	592 (43)	291 (55)
48. Miscellaneous stone and clay products	45.5 (44)	.15	1.26 (22)	256 (32)	2.76 (22)	560 (48)	178 (74)
49. Blast furnaces and basic steel products	139.3 (23)	.45	.55 (44)	222 (35)	1.43 (67)	579 (44)	628 (26)
50. Iron and steel foundries, forging, and miscellaneous products	38.3 (51)	.12	.60 (39)	129 (48)	1.52 (55)	327 (80)	296 (52)
51. Primary copper metals	21.6 (65)	.07	.51 (47)	1,200 (6)	.96 (104)	2,276 (7)	18 (122)
52. Primary aluminum	88.2 (29)	.29	2.59 (13)	2,844 (3)	3.54 (16)	3,885 (3)	31 (118)
52. Other primary nonferrous metal and secondary nonferrous	10.7 (83)	.03	.28 (68)	269 (30)	1.36 (71)	1,283 (12)	40 (116)
54. Copper rolling and drawing	5.5 (105)	.02	.18 (89)	125 (51)	1.23 (83)	846 (23)	44 (115)
55. Aluminum rolling and drawing	4.6 (108)	.01	.13 (105)	65 (72)	3.07 (19)	1,501 (10)	70 (107)
56. Other nonferrous rolling and drawing	6.2 (101)	.02	.12 (109)	63 (73)	1.33 (75)	692 (36)	99 (98)
57. Miscellaneous nonferrous metal products	7.1 (94)	.02	.30 (61)	77 (65)	1.56 (52)	406 (63)	92 (102)
58. Metal containers	6.7 (98)	.02	.16 (100)	76 (66)	1.64 (49)	809 (30)	88 (103)
59. Heating apparatus and plumbing fixtures	4.7 (107)	.02	.23 (81)	58 (77)	1.44 (65)	364 (69)	81 (106)
60. Fabricated structural metal	32.1 (54)	.10	.29 (63)	74 (67)	1.50 (59)	380 (66)	434 (39)
61. Screw machine products	23.7 (64)	.08	.35 (59)	70 (71)	1.34 (73)	268 (91)	340 (44)
62. Other fabricated metal products	45.9 (43)	.15	.39 (51)	101 (54)	1.51 (58)	387 (65)	454 (37)
63. Engines, turbines, and generators	17.0 (71)	.05	.37 (53)	154 (44)	1.13 (92)	467 (55)	110 (95)

See footnotes at end of table.

Table 1. Continued—Use of refined petroleum products and employment by industry, 1970

Industry	Purchases of petroleum products by consuming industry		Total requirements for petroleum products [2]		Private employment (in thousands)[3]
	Total				
	Value (in millions)	Percent distribution	Per $100 of production [1]	Per worker	Per $100 of production	Per worker	
64. Farm machinery	$9.4 (85)	.03	$0.22 (83)	$72 (69)	$1.27 (81)	$428 (61)	130 (89)
65. Construction, mining, and oil field machinery	14.7 (75)	.05	.22 (82)	72 (70)	1.09 (93)	353 (72)	205 (68)
66. Material handling equipment	7.3 (93)	.02	.29 (66)	79 (63)	1.17 (88)	323 (82)	92 (101)
67. Metal working machinery	26.4 (61)	.09	.36 (56)	81 (62)	1.05 (97)	239 (96)	327 (47)
68. Special industry machinery	28.8 (59)	.09	.54 (45)	144 (46)	1.37 (70)	364 (70)	200 (71)
69. General industrial machinery	36.8 (52)	.12	.50 (48)	128 (50)	1.27 (82)	324 (81)	288 (56)
70. Machine shop products	7.0 (95)	.02	.17 (93)	28 (106)	.80 (112)	133 (111)	247 (60)
71. Computers and peripheral equipment	7.8 (91)	.03	.12 (108)	34 (102)	.71 (114)	197 (98)	233 (61)
72. Typewriters and other office machines	3.7 (114)	.01	.26 (77)	73 (68)	1.22 (85)	346 (74)	51 (114)
73. Service industry machines	14.4 (76)	.05	.26 (75)	97 (56)	1.47 (61)	559 (49)	148 (81)
74. Electric transmission and distribution equipment	18.2 (70)	.06	.38 (52)	89 (59)	1.33 (77)	310 (85)	204 (69)
75. Electric industrial apparatus	21.6 (66)	.07	.44 (50)	100 (55)	1.46 (63)	328 (79)	217 (65)
76. Household appliances	9.1 (87)	.03	.15 (101)	49 (86)	1.67 (48)	551 (50)	184 (73)
77. Electric lighting and wiring	36.5 (53)	.12	.79 (31)	183 (40)	1.93 (37)	448 (58)	200 (70)
78. Radio and tv receiving sets	5.7 (104)	.02	.15 (102)	43 (92)	1.87 (39)	536 (51)	133 (87)
79. Telephone and telegraph apparatus	4.4 (110)	.01	.11 (113)	27 (108)	.63 (116)	157 (104)	163 (79)
80. Radio and TV transmitting, signaling and detection equipment	13.8 (77)	.04	.15 (103)	41 (93)	.81 (111)	225 (97)	337 (45)
81. Electronic components	19.0 (67)	.06	.26 (76)	62 (83)	1.50 (60)	304 (86)	367 (41)
82. Miscellaneous electrical machinery	4.5 (109)	.02	.13 (106)	38 (97)	1.16 (90)	342 (75)	117 (92)
83. Motor vehicles	73.1 (34)	.24	.16 (99)	92 (58)	.92 (107)	536 (52)	798 (23)
84. Aircraft	52.8 (41)	.17	.27 (74)	79 (64)	.94 (105)	274 (90)	669 (25)
85. Ship and boat building and repair	6.6 (99)	.02	.21 (84)	38 (98)	1.08 (94)	194 (100)	175 (75)
86. Railroad and other miscellaneous transportation equipment	7.5 (92)	.02	.35 (58)	115 (52)	1.74 (45)	574 (45)	65 (109)
87. Transportation equipment, NEC	2.9 (117)	.01	.09 (117)	29 (104)	1.42 (68)	463 (56)	98 (100)
88. Professional, scientific and controlling instruments	8.2 (90)	.03	.21 (85)	39 (96)	1.04 (98)	193 (101)	214 (67)
89. Medical and dental instruments	2.2 (119)	.01	.11 (112)	26 (111)	1.22 (84)	294 (88)	84 (104)
90. Optical and ophthalmic equipment	1.5 (121)	.01	.16 (98)	29 (105)	1.42 (69)	254 (94)	53 (113)
91. Photographic equipment and supplies	4.4 (111)	.01	.10 (116)	39 (95)	1.34 (72)	521 (53)	112 (93)
92. Miscellaneous manufactured products	27.4 (60)	.09	.29 (67)	61 (75)	1.63 (50)	347 (73)	451 (38)
Transportation, communication, and public utilites:							
93. Railroad transportation	396.9 (10)	1.28	2.88 (12)	633 (14)	3.81 (10)	838 (25)	627 (27)
94. Local, suburban and interurban highway transportation	246.3 (13)	.80	6.05 (3)	802 (11)	6.30 (5)	836 (26)	307 (49)
95. Truck transportation	697.0 (7)	2.26	3.09 (8)	554 (18)	3.76 (11)	674 (39)	1,259 (13)
96. Water transportation	122.9 (24)	.40	2.94 (11)	561 (17)	3.58 (15)	684 (37)	219 (64)
97. Air transportation	1,132.0 (2)	3.66	10.56 (1)	3,198 (2)	11.94 (1)	3,616 (4)	354 (42)
98. Other transportation	39.9 (49)	.13	1.93 (16)	314 (28)	2.71 (24)	441 (60)	127 (90)
99. Communications, except radio and TV	150.0 (21)	.49	.63 (37)	152 (45)	1.02 (99)	247 (95)	990 (19)
100. Radio and TV broadcasting	1.4 (122)	.01	.04 (121)	10 (120)	.56 (118)	155 (106)	135 (86)
101. Electric utilities	415.0 (9)	1.34	1.93 (15)	863 (10)	2.55 (25)	1,141 (14)	481 (35)
102. Gas utilities	59.6 (36)	.19	.35 (57)	355 (24)	.82 (109)	825 (27)	168 (78)
103. Water and sanitary services	49.2 (42)	.16	2.98 (10)	928 (9)	2.72 (23)	846 (24)	53 (112)
Wholesale and retail trade:							
104. Wholesale trade	1,044.7 (3)	3.38	1.36 (19)	255 (34)	2.00 (35)	375 (67)	4,098 (2)
105. Retail trade	772.0 (5)	2.50	.62 (38)	57 (78)	1.02 (100)	94 (119)	13,471 (1)
Finance, insurance, and real estate:							
106. Finance	42.1 (47)	.14	.11 (115)	25 (113)	.44 (122)	104 (114)	1,687 (9)
107. Insurance	64.5 (35)	.21	.21 (86)	45 (89)	.63 (115)	139 (110)	1,435 (12)
108. Owner-occupied dwellings	—	—	—	—	.55 (119)	—	—
109. Other real estate	708.1 (6)	2.29	1.29 (21)	773 (12)	1.85 (41)	1,110 (17)	916 (21)
Service							
110. Hotels and lodging places	40.8 (48)	.13	.60 (40)	46 (88)	1.29 (80)	98 (116)	896 (22)
111. Other personal services	106.4 (27)	.34	.66 (34)	54 (81)	1.29 (79)	105 (113)	1,975 (3)
112. Miscellaneous business services	78.4 (30)	.25	.28 (72)	46 (87)	.90 (108)	149 (107)	1,718 (8)
113. Advertising	6.8 (96)	.02	.25 (78)	50 (85)	1.00 (101)	197 (99)	136 (85)
114. Miscellaneous professional services	75 3 (32)	.24	.29 (65)	62 (74)	.73 (113)	156 (105)	1,209 (16)
115. Automobile repair	179.1 (19)	.58	.99 (27)	319 (27)	1.75 (44)	564 (46)	562 (32)
116. Motion pictures	5.9 (103)	.02	.11 (111)	26 (109)	.42 (123)	97 (118)	225 (62)
117. Other amusements	12.6 (79)	.04	.18 (90)	21 (114)	.82 (110)	98 (117)	596 (29)
118. Doctors, dentists, and other medical services	42.1 (46)	.14	.18 (91)	26 (110)	.47 (121)	71 (121)	1,598 (10)
119. Hospitals	28.9 (58)	.09	.12 (110)	16 (118)	.54 (120)	70 (122)	1,869 (5)
120. Educational services	53.3 (40)	.17	.57 (43)	43 (91)	1.56 (53)	116 (112)	1,245 (14)
121. Nonprofit organizations	58.8 (37)	.19	.37 (55)	33 (103)	.93 (106)	83 (120)	1,803 (7)
Government enterprises:							
122. Post office	18.8 (69)	.06	.25 (79)	26 (112)	1.43 (66)	148 (108)	726 (24)
123. Commodity credit corporation	—	—	—	—	—	—	—

See footnotes at end of table.

Table 1. Continued—Use of refined petroleum products and employment, by industry, 1970

Industry	Purchases of petroleum products by consuming industry				Total requirements for petroleum products [2]		Private employment (in thousands)[3]
	Total		Per $100 of production[1]	Per worker	Per $100 of production	Per worker	
	Value (in millions)	Percent distribution					
124. Other Federal enterprises	$1.5 (120)	.01	$0.05 (120)	$9 (121)	$0.57 (117)	$99 (115)	170 (77)
125. State and local government enterprises	108.2 (26)	.35	.90 (29)	207 (36)	1.98 (36)	458 (57)	524 (33)
Total intermediate users	16,243.2	52.54	—	—	—	—	69,870
Final users	14,670.6	47.46	—	—	—	—	—
126. Personal consumption	11,658.6	37.71	—	—	—	—	—
127. Net inventory change	301.2	.98	—	—	—	—	—
128. Exports	872.8	2.82	—	—	—	—	—
129. State and local government	677.4	2.19	—	—	—	—	—
130. Federal government	1,160.6	3.76	—	—	—	—	—
Total output	30,913.8	100.00	—	—	—	—	—

[1] Production is defined as sales plus changes in inventories.

[2] Total requirements include the petroleum consumed directly by the given industry as well as that consumed by all other industries in supplying materials, components, and services to the given industry.

[3] Private employment includes wage and salary employees, and self-employed and unpaid family workers; general Federal, State, and local government employment and private household employment are excluded.

[4] Represents primarily shipments between establishments in the refined petroleum products industry.

NOTE: Numbers in parentheses represent the rank of an entry in its column. The petroleum industry itself, industry 42, is excluded from all rankings. For the SIC content of each industry, see Donald P. Eldridge and Norman C. Saunders, "Employment and exports, 1963–72," **Monthly Labor Review,** August 1973, pp. 16–27, exhibit 1.

does, however, include excise taxes on products covered by these taxes. Prices are in 1970 dollars.

Similarly, wide ranges appear in the degree of petroleum use relative to the value of total production (value of production is equal to industry shipments plus inventory change). The 10 highest ranking in this respect are shown in table 3 (for the ranking of all industries, see table 1). Tobacco manufacturing ranks lowest, at 4 cents per $100.

Some industries rank high in both total purchase and cost per dollar of production, but others differ in these two aspects. An example is paint, a relatively small industry ranking only 25th in overall petroleum use but fourth in use per dollar of production. Retail trade is an opposite case in point, ranking fifth in total use but 38th in production cost.

A perspective on employment can be obtained by calculating for each industry the use of petroleum products per worker. Generally, workers in those industries at the higher end of the range would tend, all else being equal, to be more vulnerable to job changes related to changes in the fuel supply picture than would workers in an industry at the bottom of the range. The 10 industries ranking at the top in the use of petroleum per worker are shown in table 4.

While, from an individual worker's viewpoint, this relationship is an important factor in evaluating the impact of changes in petroleum supply on his job, any assessment which attempts to estimate the total number of workers involved must go beyond this one consideration. For such an evaluation not only is the petroleum use per worker important, but also the relative use of labor per dollar of production—or the labor intensiveness of the industry. And if in the very broadest terms energy is a substitute for labor, there may be an inverse relationship between petroleum use by an industry and employment. Thus, an industry with relatively low petroleum use per dollar of production may be a labor-intensive industry, and any changes in such an industry's fuel supply could have an impact on a greater number of workers than in an industry with a high use of petroleum per worker.

Table 2. Direct use of refined petroleum products, 10 largest users, 1970

[Millions of 1970 dollars]

Industry	Value of purchases
Chemical products	$1,592
Air transportation	1,132
Wholesale trade	1,045
Crops and other agricultural products	1,044
Retail trade	722
Other real estate	708
Truck transportation	697
Maintenance construction	562
Electric utilities	415
Railroad transportation	397

Total petroleum requirements

Going beyond an industry's direct use of refined petroleum, an input-output table is particularly important in ascertaining total requirements, direct and indirect. Indirect use of refined petroleum products by an industry would include all petroleum refinery products used in making the parts, components, supplies, or services incorporated in the goods or services produced by an industry. As an example, the cleaning and toilet preparation sector uses directly 99 cents of petroleum products per $100 of production. But if the petroleum required in supplying the material inputs and services to this sector are calculated, the total requirements become $3.41 per $100 of production. Thus, total requirements include not only the direct use by an industry, but also the indirect petroleum incorporated in the goods or services necessary for an industry's production.

Several observations are in order. First, total use is always greater than direct use. Second, the amount of indirect use varies greatly. Third, the range between the highest and lowest industry in the total use of petroleum products is narrower than the range in direct use. On the second point, for some industries, such as chemical products, the total requirements of $9.18 per $100 of production are not significantly higher than the direct use of $8.66 per $100, showing that the major use of petroleum is by the direct industry. On the other hand, in some industries, such as synthetic fibers, total petroleum requirements of $3.73 per $100 of production is significantly higher than the direct use, indicating the major use of petroleum is not by the direct industry but by one or more of its supplying industries. On the third point, it was noted earlier that for the direct use of petroleum products, the range shows the highest use over 260 times the lowest. As for total requirements, the ratio of highest to lowest is only 28. Table 5 lists the 10 industries whose total requirements were highest.

Table 3. Direct use of refined petroleum products relative to value of production, 10 highest ranking industries, 1970

Industry	Use per $100 of production
Air transportation	$10.56
Chemical products	8.66
Local, suburban, and interurban highway transportation	6.05
Paint	3.62
Crops and other agricultural products	3.49
Plastic materials and synthetic rubber	3.39
New highway construction	3.34
Truck transportation	3.09
All other new construction	3.02
Water and sanitary services	2.98

Table 4. Direct use of refined petroleum products per worker, 10 highest ranking industries, 1970

Industry	Direct use per worker
Chemical products	$3,669
Air transportation	3,197
Primary aluminum	2,844
Plastic materials and synthetic rubber	1,782
Paint	1,723
Primary copper metals	1,200
New highway construction	1,138
All other new construction	965
Water and sanitary services	928
Electric utilities	863

A further dimension of analysis is total requirements per worker. Certain sectors, such as air transportation and chemical products, are prominent here, as they have been in all of the special listings. The 10 highest ranking are shown in table 6. One change in this listing from the previous ones is the number of primary metal industries, which do not rank particularly high in direct or total requirements, but when employment is added appear very high on the list, indicating their relative labor intensiveness.

Limitations

The results presented in table 1 are based on input-output data for 1970. Therefore, the technology, price relationships, and product-mix of 1970 are incorporated into the calculations. Further, even the 1970 data is only a rough updating of the 1963 input-output tables. While these data are useful for showing the relative dependence of industries on supplies of refined petroleum, their use for employment analysis—the estimation of job changes related to changes in energy supply—must first overcome several important limitations. Among these:

1. Calculations were made based on consumption of total refined petroleum products. Therefore, no differentiation can be made between an industry's use of jet fuel, gasoline, middle distillate oil, residual fuel oil, and so forth. These distinctions are important if different supply factors prevail for different fuels.

2. At present, little information exists on how individual industries use petroleum. For employment analysis, it is important to know in detail

what part of each industry's refined petroleum products use is for comfort or convenience, such as heating of factories and office buildings. Presumably, such use could be cut to some extent without substantially affecting production. The other use of refined petroleum products by an industry, that is, process heat, or material inputs, would be used directly in the production process, and any change would more directly affect production.

3. Information is not available on any comprehensive basis of what efficiencies, if any, can be made by the various industries in the use of refined petroleum products.

4. Data are not readily available on the degree to which substitution of other fuels or other materials, with different direct or indirect fuel content, is possible. Such information would be an essential element of any analysis attempting to assess the effect of a change in fuel supplies on production by industry.

5. A general limitation is that the labor/output ratios are based on the average level of total production and employment in the industry for the time period covered by the data. For employment analysis, however, these ratios should relate to the effect of incremental changes in production rather than to the average relationship. For example, reductions in output as a result of fuel shortages may be absorbed in part by spreading the work and reducing hours, or by reducing the level of productivity. Both of these may occur before recourse to substantial layoffs.

6. These data do not cover the indirect impacts of changes in petroleum supply and demand. For example, they do not isolate the effects that shortages in petroleum may have on activities such as ski resorts, automobile dealers, or other activities which follow not from direct use of fuel but from changes in demand related to changing energy supplies. Similarly, this analysis does not cover industries which may benefit from the changing petroleum outlook, such as manufacturers of weatherstripping and insulation or the producers of oil well drilling equipment.

Table 5. Total requirements of refined petroleum products relative to value of production, 10 highest ranking industries, 1970

Industry	Total requirements per $100 of production
Air transportation	$11.94
Chemical products	9.18
Plastic materials and synthetic rubber	8.72
Paint	7.02
Local, suburban, and interurban highway transportation	6.30
Agricultural chemicals	5.76
Crops and other agricultural products	5.05
New highway construction	4.58
All other new construction	4.20
Railroad transportation	3.81

Table 6. Total requirements of refined petroleum products per worker, 10 highest ranking industries, 1970

Industry	Total requirements per worker
Plastic materials and synthetic rubber	$4,584
Chemical products	3,887
Primary aluminum	3,885
Air transportation	3,616
Paint	3,340
Agricultural chemicals	2,426
Primary copper	2,276
Cleaning and toilet preparations	1,991
New highway construction	1,562
Aluminum rolling and drawing	1,501

TABULATIONS shown in this article are helpful in illuminating the relationships between petroleum use and employment. Other related research is planned by creating similar sets of tabulations for other energy sources—coal, electric utilities, and gas utilities. In addition, an effort is underway to ascertain if tabulations can be prepared separately for each major type of petroleum product, rather than just for total petroleum products. To do this, information will be used from the forthcoming 1967 Input-Output table, prepared by the Bureau of Economic Analysis, and the 1971 Survey of Fuels and Electric Energy Used by Manufacturing Industries, by the Bureau of the Census. □

—FOOTNOTES—

[1] The petroleum refining industry (SIC 2911) includes establishments primarily engaged in producing refined products from crude petroleum and its fractionated products, through straight distillation of crude oil, distillation of unfinished petroleum derivatives, cracking, or other processes.

[2] See *Survey of Current Business,* November 1969 and subsequent issues, for discussion of the 1963 table.

[3] The employment concept used in this article is total employment covering the self-employed, unpaid family workers, and wage and salary workers. The latter are on a job basis: that is, persons holding more than one job are counted for each job they hold.

Productivity in the pharmaceutical industry

Large gains in productivity have been associated with strong growth in demand and changes in the technology of quality control

HORST BRAND

FROM 1963 to 1972, output per man-hour in the pharmaceutical industry[1] rose at an average annual rate of 4.2 percent—substantially higher than gains in manufacturing and in the private economy as a whole. The rise resulted from a rapid expansion in output, which climbed at a rate of 7.7 percent annually, and of a much more gradual increase in man-hours, averaging 3.3 percent a year. Medicare and Medicaid, the relative and absolute growth in population groups requiring intensified health care, and the generally expanding use of drugs for prophylactic and therapeutic treatment represented major factors spurring demand for and hence output of pharmaceuticals.

The advance in labor productivity has not been a steady one: year-to-year changes are dispersed around the longer term trend and range from a high of 7 percent to a low of 1 percent. These dispersions, however, have tended to form patterns of subperiods of acceleration in output per man-hour, followed by subperiods of retardation. (See chart 1.) Between 1964 and 1966, productivity rose at a relatively high rate. In 1967, it slowed significantly, but accelerated again in 1968 and 1969. Large productivity gains were associated with substantial increases in both output and man-hours. Productivity increases from 1970 to 1972 tended to run below the long-term rate. Output grew at less than the trend rate. Gains in hours were comparatively high in 1970 but contracted in 1971. In 1972, however, with man-hours recording a decline—the only one during 1963–72—productivity rose strongly. (See table 1.)

Output and demand

The pharmaceutical industry, although science-based and strongly oriented toward research and development, is a mass-production industry, characterized by large-scale operations under conditions of rigid control of quality and purity of final outputs and their constituents.[2] The magnitude of these operations is suggested by the large tonnages of bulk medicinal chemicals produced in the United States and processed mostly in the pharmaceutical industry. [3] Total amounts of antibiotic bulk chemicals, anti-infectives other than antibiotics, bulk aspirins, bulk vitamins, and many other medicinal chemicals ran nearly twice as high in 1971 as a decade earlier. [4]

Growth of individual product groups varied considerably over the 1963–72 period. Among the leading groups were preparations acting on the cardiovascular system, particularly hypotensives; preparations affecting the endocrine system and the metabolism (mostly hormones and synthetic substitutes) chiefly because of expanding demand for oral contraceptives; drugs acting on the central nervous system and the sense organs, including remedies relieving pain and fever, tranquilizers, and stimulants; and dermatological preparations. More moderate output growth was recorded for anti-infective agents, vitamins, and other nutrient preparations, and for medicines acting on the digestive and urinary systems.

Factors influencing demand for pharmaceuticals during the 1960's and early 1970's included population growth, rising incomes and the availability of health care funds, private and public, and price trends favorable relative to those of health services and consumer prices generally. [5]

The population age groups most susceptible to infectious or organic illness increased less rapidly in the 1960's than in the 1950's. The number of children age 5 or under dropped; the number of persons 55 years old and older rose by about the same amount as in the earlier decade.[6] As of 1970, however, these age groups together num-

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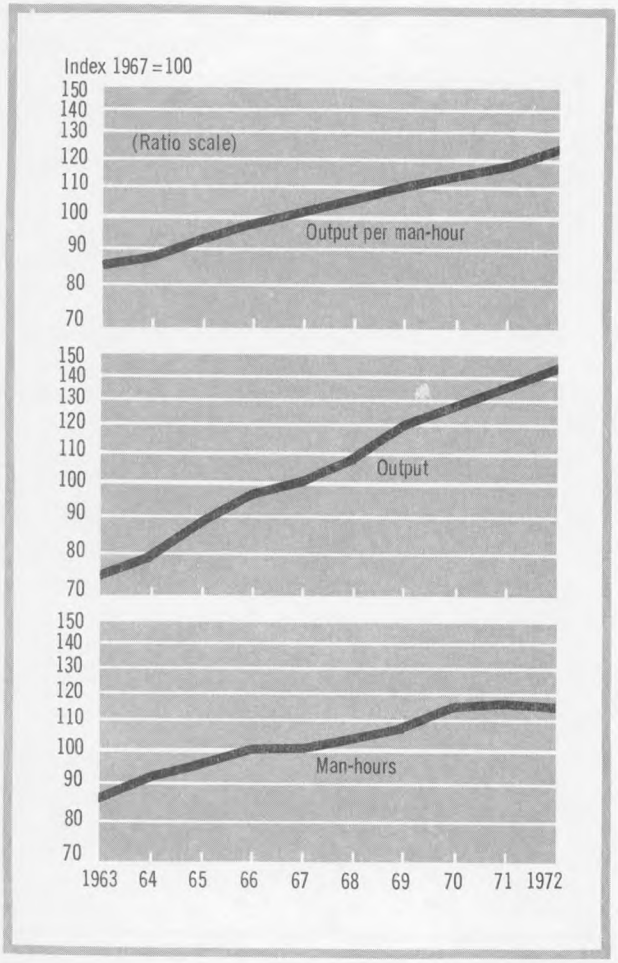
bered 56 million, 6 percent higher than in 1960. These demographic trends account to some extent for the differences between the rates of output growth of key pharmaceutical product groups.

The spread of health insurance and the creation of Medicare very likely contributed to the expansion in pharmaceuticals demand, but it is difficult to determine by how much. Total outlays for health care have risen more rapidly than for drugs and medically related drug sundries over the past decade. Between fiscal 1960 and 1970, the years for which data are available, total health expenditures more than tripled (to $83.4 billion); spending on drugs and sundries doubled (to $7.9 billion). The share of drugs and sundries of all health expenditures declined from one-seventh to one-eleventh, mainly reflecting differences in price trends.[7] Moreover, the number of prescriptions filled at community drug stores ran 76 percent higher in 1970 than in 1960.[8] Prescription retail sales, however, represent only a partial indicator of total demand, since a large proportion of pharmaceuticals is sold "over the counter" or dispensed at hospitals and clinics.

Chart 1. Output per man-hour and related data, pharmaceutical industry, 1963–72



Employment

Employment in the pharmaceutical industry, currently at 122,000 persons, rose at an average annual rate of 3.3 percent between 1963 and 1972—25 percent above the rate for nonfarm industries in general. Weekly hours fluctuated somewhat around 40; total man-hours rose at the same rate as employment. Employment growth was not steady, however. In the early 1960's, the industry added relatively few jobs, but the middle and late 1960's were generally periods of vigorous expansion in jobs. Nearly half of the increase then was in the number of women workers. Women account for 40 percent of the industry's total employment, compared with 28 percent for all manufacturing. In 1971–72, the number of jobs increased by less than 1 percent; it rose more strongly again in 1973. This slowdown in the industry's employment growth mainly reflected a slight reduction in the number of jobholders who are women.

Nonproduction workers have been of growing relative importance in the industry. From 44 percent of total employment in 1958, their proportion rose to 52 percent in 1972, compared with 27 percent for all manufacturing industries. This higher ratio reflects the large number of professional and technical personnel employed.

As of 1970, an estimated 30 percent of all workers employed in pharmaceuticals were scientists, engineers, and technicians—compared with 14 percent for the economy as a whole.[9] (See table 2.) Natural scientists, mainly chemists and biologists, constituted 12 percent of industry employment. (Less than half of 1 percent of all U.S. workers were engaged in these professions.) Technical personnel, including laboratory technicians and others engaged in supporting research and development or in quality control, testing, and related activities, constituted 10 percent of total industry employment as against less than 4 percent for U.S. employment generally.

Because pharmaceuticals is a mass-production industry, it also employs a relatively large number of semiskilled workers, such as assembly line workers, packers, and stock clerks. These workers were nearly one-fourth of its work force, but less than one-fifth of all U.S. employment. The

Table 1. Output per man-hour and related data in the pharmaceutical industry, 1963–72

[1967=100]

Year	Output per employee man-hour	Output per production worker man-hour	Output	Employee man-hours	Production worker man-hours
1963	86.4	86.8	74.2	85.9	85.5
1964	86.9	85.9	79.5	91.5	92.5
1965	93.0	92.8	88.3	94.9	95.2
1966	97.6	96.9	97.6	100.0	100.7
1967	100.0	100.0	100.0	100.0	100.0
1968	105.6	106.5	108.4	102.7	101.8
1969	111.4	110.3	120.1	107.8	108.9
1970	113.5	115.0	128.6	113.5	111.8
1971	117.3	127.5	136.0	115.9	106.7
1972p	124.3	132.8	143.3	115.0	107.9
	Average annual rate (percent)				
1963–72	4.2	5.0	7.7	3.3	2.5

p= preliminary.

proportion of semiskilled jobs in pharmaceuticals declined somewhat during the 1960's, as relatively rapid gains in productivity were achieved, and as research, development, testing, evaluation, and quality control were increasingly emphasized.

Research and product innovation

The industry allocates many of its resources, particularly manpower, to research and development. In 1971, the industry spent the equivalent of 12 percent of its domestic sales on research and development—the highest such ratio for any industry not directly linked to the defense-space effort.[10] A comparatively large proportion of these expenditures was spent on basic and applied research; costs of development represented less than a third of the total.[11] (Pharmaceutical firms incur proportionately lower development costs than other industries because of relatively lower costs of materials, equipment, depreciation, and overhead.[12]) Scientists and technicians engaged in research and development accounted for more than one-seventh of 1971 industry employment.[13]

The effect of research and development on the industry's productivity is difficult to quantify, although it is generally agreed that the invention or discovery, innovation, and introduction of new drug preparations and their broadened acceptance by medical practitioners has been the foremost factor in the pharmaceutical industry's output growth. Most newly synthetized compounds, however, do not reach the stage of product innovation or development;[14] many newly innovated products fail the numerous tests which would make their introduction possible, or they do not represent significant breakthroughs with market potential. Compounds which do reach the stage of development and mass production may require widely varying periods of research and testing, although the "average" period for a newly synthetized drug has been estimated at 7 years. Thus, between 1963 and 1965, more than 1,500 drugs were newly synthetized in the United States, two-thirds of them in manufacturers' laboratories.[15] Most of the 1,500 compounds invented or discovered in 1963–65 were evidently rejected for development; new, single-entity compounds introduced 7 years later—in 1970–72—numbered only 41.[16] There is no data on the relative importance of these 41 compounds in terms of research and development man-hour inputs, and their contribution to the industry's output cannot be apportioned over the period of their gestation. The productivity measure thus begins to account for these compounds from the year when they were first mass produced.

Although research and development efforts in the pharmaceutical industry have risen rapidly in the past 10 years, the development of new drugs has become increasingly difficult, according to industry experts.[17] The number of newly synthetized drugs derived from single, previously unknown chemical agents dropped from an annual average of 42 between 1947 and 1960 to 18 between 1961 and 1972.[18] In addition, there are compounds which may duplicate, with little or no

Table 2. Occupational distribution in the pharmaceutical industry and in all industries, 1970

[In percent]

Occupational group	Pharmaceuticals	Total employment
All groups	100.0	100.0
Professional, technical, and kindred workers	29.6	14.2
Engineers	1.2	1.4
Chemical	.4	.1
Natural scientists	11.9	.5
Chemical	4.3	.2
Biological	3.8	.1
Technicians (excluding health)	7.5	1.3
Medical and other health technicians	2.1	2.3
Pharmacists	1.7	.2
Managers, officials, and proprietors	9.4	10.5
Clerical and kindred workers	22.3	17.7
Sales workers	3.0	6.2
Craftsmen, foremen, and kindred workers	9.1	12.9
Operatives and kindred workers	22.5	17.7
Service workers	2.3	12.4
Nonfarm laborers	1.9	4.7

modification, existing products for which patents have expired. Growth in the number of newly introduced duplicate compounds also slowed over the past decade, as did the number of combination products (having more than one active ingredient). Between 1961 and 1972, the annual number of duplicate and combination products averaged 110, as against 317 during the 1950's.[19] These annual averages, moreover, obscure the slight downward trend in the number of totally new products introduced in *recent* years. The decline in the number of new pharmaceutical products has had no determinable impact on overall output and productivity trends, which have largely been sustained by the continued strong growth of established products and by gains in the efficiency of manufacturing them. Over the long term, however, the introduction of newly synthetized drugs spurs output growth and helps maintain high rates of capacity utilization. Hence, the declining number presages possible problems.

Technology and productivity

The pharmaceutical industry transforms bulk medicinal chemicals into dosage form drugs on a large scale while maintaining rigid standards of quality control and purity. The gains in productivity are closely linked to process innovations and changes in the technology of quality control.

Advances in tableting, the most common form in which drugs are taken, have yielded important productivity gains. In some pharmaceutical plants, tableting presses currently compress up to 11,000 units per minute, twice as many as in the middle 1960's. With up to 65 stations, and given efficient materials flows and complementary efficiencies in packaging and labeling, many millions of tablets a day are manufactured and packaged.[20] These increases have been made possible by refinements in punch and die controls and other features of tableting presses, in tablet counting, and also in the chemistry of suspension agents.[21]

Mixing and granulating processes, which precede tableting, have in some best practice plants been speeded up by a factor of three over the past 10–15 years, and become completely mechanized, according to industry experts. Drying processes, which once involved overnight use of ovens, have been accelerated by such innovations as fluid bed drying or chemical absorption methods. [22]

In planning to install advanced equipment, management cannot be exclusively concerned with efficiency.[23] The industry's production methods must adhere to Food and Drug Administration regulations covering "Good Manufacturing Practices." These regulations set standards of purity, uniformity of content, and error-free labeling. Compliance, however, does not necessarily impede productivity gains, but may facilitate them, particularly where quality control technology keeps up with process technology.

Moreover, product quality standards in the pharmaceutical industry are also set by the Food and Drug Administration; unless they are met, products cannot be released for public consumption. Quality control, therefore, is virtually integrated in the production process. Over the past 10 to 20 years, semiautomated and fully automated quality control technologies have been adopted which have helped boost productivity.

Among the more important advances in quality control technology over the past decade have been devices such as gas liquid chromotographers, spectrofluorometers, and attenuated transmittance reflectors which speed up and enhance the reliability of quantitative analysis of compounds. [24]

Computers, introduced in the last 3 to 5 years, have tended to take over some of the tasks of professional personnel in comparing the results generated by the analytical devices with standard specifications. The number of samples which can be run through the analytical devices and subjected to computer calculation is estimated to have increased by six to eight times. Computers in quality control systems have also tended to eliminate the problem of computational error and, by being linked into the batch-releasing systems of pharmaceutical plants, have helped speed up production and shipment. [25]

Capital expenditures

Advances in process technologies, and the expansion in mass-production facilities, have required substantial increases in plant and equipment expenditures by pharmaceutical establishments. At $250 million in 1970, these expenditures ran nearly three times higher than in 1963, compared with a twofold rise for manufacturing as a whole. In 1971, the industry's capital spending dropped 22 percent, to $196 million, representing a considerably sharper decline from 1970 levels than for total manufacturing. The longer term increase in the industry's outlays for plant and

equipment coincided with the advent of Medicare and Medicaid and has probably been linked in part with accommodating longer production runs induced by demand for prescription drugs.

During the years surveyed here, the industry spent almost twice as high a proportion of its total annual capital outlays on new structures and additions to plant (nearly 50 percent) as did manufacturing establishments as a whole. The difference is partially explained by the highly specialized nature of the industry, in which equipment may frequently require specially designed structures to house it. The high ratio is probably also related to the rapid expansion of industry output and constant pressure on capacity. [26] Consistently high-capacity operations and associated economies of scale have probably been key factors in the industry's improving productivity.

A relatively high amount of capital per employee is invested in the pharmaceutical industry. The book value of fixed depreciable assets in industry establishments averaged nearly $21,400 per employee in 1971, compared with just under $16,000 for all manufacturing establishments—a difference of nearly one-third. Capital intensity in pharmaceuticals has tended to rise relative to total manufacturing, reflecting the expansion in specialized mass-production facilities, and the growing cost of research and development apparatus. [27]

Outlook

Continued gains in productivity are likely in pharmaceuticals in the years ahead. Among the factors generating these gains will be continued strong output growth relative to man-hours. Output growth will be fueled by growing awareness among the population of the importance of health care and by the health needs of an aging population.

Given the industry's sizable research staffs, product innovation is likely to continue and to contribute to market expansion. Expert opinion, however, holds that "the golden age of drug development" which occurred from 1935 to 1965 will not be repeated soon, [28] and that advances in the basic knowledge concerning drug action in man are needed for further breakthroughs.[29]

Continued improvements in the efficiency of drug production appear likely, directly enhancing the productivity of labor in the industry. Progress in the technology of food processing should continue, as it has in the past, to influence pharmaceutical processing methods.

With high capacity utilization being assured by strong basic demand for the industry's products, and given the industry's willingness to adopt up-to-date methods in its operations, output per man-hour is likely to grow in the near future. □

——FOOTNOTES——

NOTE: BLS productivity indexes reflect changes over time in the relation between output and labor inputs. They do not, however, measure the specific contribution of labor to production. Rather, they reflect the joint effects of a number of factors on the use of labor in the production process—such as changes in technology, utilization of capacity, layout and flow of materials, managerial skills, and the skill levels and efforts of the work force.

[1] The pharmaceutical industry (SIC 2834) comprises establishments primarily engaged in the manufacture of drugs in dosage form for human and veterinary use. Dosage forms consist of tablets, ampoules, capsules, ointments, solutions, medicinal powders, and suspensions. The industry as defined here does *not* include establishments manufacturing such biological products as vaccines or serums, nor bulk medicinal chemicals, although these items may be secondary products of pharmaceutical establishments. A technical note describing the construction of the index is available upon request.

[2] The pharmaceutical industry manufactures two broad lines of preparations—ethical and proprietary. Ethical drugs are sold for the most part on prescription, and advertised to medical practitioners only. Proprietary drugs are generally sold to the public "over the counter"—that is, without prescription. The manufacture and sale of ethicals has expanded much more rapidly than that of proprietaries; the overall growth of the industry, a phenomenon of the World War II and postwar periods, is associated mainly with the expansion in ethicals.

The Census of Manufactures clearly separated ethical and proprietary drugs for the first time in 1935. The proportion of proprietaries in the total value of shipments of the pharmaceutical industry was then 54 percent. The war and early postwar years brought the rapid development of anti-infective drugs (the sulfas, streptomycin, penicillin); as a result, the share of ethical drugs rose to 61 percent of total industry shipments, while that of proprietaries declined correspondingly. Partly because of the development of tranquilizers, new hypotensives, and corticoids, the share of ethicals continued to rise during the 1950's and 1960's; according to the census of 1967, they accounted for 73 percent of total industry shipments.

At the same time, drugmakers tended to take over the formulation functions of retail and hospital pharmacists by preparing medicinal compounds to standard dosage specifications. The practice of pharmacy has thus been almost completely industrialized, a development also suggested by the decline in the proportion of prescriptions compounded at retail pharmacies —from an estimated 40 percent in 1938 to 5 percent in 1956 and 1.5 percent in 1970. See also *Prescription Drug Industry Fact Book* issued by the Pharmaceutical Manufacturers Association, 1968 ed., p. 63, and 1972 ed., p. 38. The 1970 data cited are based on the *National Prescription Audit*, 1971, by R. A. Gosselin and Co.

[3] The pharmaceutical industry draws on establishments producing bulk medicinal chemicals and botanicals for most of its needs for these materials. About one-fourth of the U.S. output of these materials, however, comes from establishments classified in the pharmaceutical industry.

[4] U.S. Tariff Commission, *Synthetic Organic Chemicals, United States Production and Sales.* Various years.

[5] There are many other factors which influence drug demand, but for which data are not available. Among them is thought to be the reduction in infant mortality, resulting in the survival of persons more susceptible to disease and requiring treatment, and their offspring, similarly susceptible and in need of medication. Another factor is increased social pressures, which have been cited as a reason for the growing consumption of tranquilizers. Also, earlier diagnosis of disease processes, partly because of patients' greater awareness of the importance of good health, results in earlier prescribing of remedies, raising total consumption.

[6] "In 1966, the elderly, who represent less than 10 percent of the population, obtained 225 million out-of-hospital prescriptions at a cost of almost $900 million. This represented 22 percent of total prescriptions and 25 percent of all costs for drugs at the retail level." See Task Force on Prescription Drugs, *Coverage of Drugs Under Medicare,* Third Interim Report, Dec. 31, 1968. Letter from the Secretary of Health, Education, and Welfare transmitting the findings of the Department of Health, Education, and Welfare with respect to the coverage of drugs under Part B of Title XVIII of the Social Security Act, 91st Cong., 1st sess., Jan. 14, 1969, p. 8.

[7] *Social Security Bulletin,* January 1973, p. 12.

[8] *American Druggist.* Various issues. Cited in *Prescription Drug Industry Fact Book,* table 39.

[9] Based on *Tomorrow's Manpower Needs, Vol. IV,* Bulletin 1737, revised (Bureau of Labor Statistics, 1972).

[10] *Annual Survey Report, 1971–72, of the Pharmaceutical Manufacturers Association* (Washington), p. 14; and *Research and Development in Industry 1970* (Washington, National Science Foundation, 1972), p. 76.

[11] *Research and Development in Industry 1970,* p. 84.

[12] *Research and Development in Industry, 1970,* p. 54.

[13] *Annual Survey Report, 1971–72, of the Pharmaceutical Manufacturers Association,* p. 14.

[14] "We will say that the innovative process starts from the time we have seen unique or unusual activity of a compound in animals and decide to take it to humans. It ends the day the product is introduced in the market." Harold A. Clymer, "The Changing Costs and Risks of Pharmaceutical Innovation," in Joseph D. Cooper, ed., *The Economics of Drug Innovation.* The Proceedings of the First Seminar on Economics of Pharmaceutical Innovation, Apr. 27–29, 1969 (Washington, The American University, Center for the Study of Private Enterprise), p. 110.

[15] Based on data from Paul de Haen, *New Products Parade 1967; Annual Review of New Drugs* (New York, 1973), p. 10.

[16] Paul de Haen, *New Products Parade 1972,* p. 10.

[17] See J. J. Burns, "Modern Drug Research," *The Economics of Drug Innovation,* p. 55; see also F. Gross, "Future Drug Research—Drugs of the Future," in *Clinical Pharmacology and Therapeutics,* January–February 1973, p. 1.

[18] Paul de Haen, *New Products Parade 1972,* and other issues. Some industry representatives have attributed the drop in part to the stringent provisions of the Kefauver-Harris Act of 1962, which strengthened the Food and Drug Administration's drug clearance procedures and, for the first time, required manufacturers to demonstrate the efficacy of their product before marketing it, in addition to demonstrating its safety (required since 1938). See also Joseph D. Cooper, "The Sources of Innovation," in Joseph D. Cooper, ed., *The Economics of Drug Innovation,* p. 52; Harold A. Clymer, "Changing costs and risks," p. 1; and F. Gross, "Future Drug Research."

[19] Paul de Haen, *New Products Parade 1972.*

[20] Conversation with industry representatives. See also "Taking the Headache Out of Aspirin Production," *Drug and Cosmetic Industry,* December 1967, p. 112 ff.

[21] See the following articles in *Drug and Cosmetic Industry*: F. Rose, "Automatic Tablet Coating," November 1971, p. 44 ff.; G. Setley, "Tablet Counting," August 1971, p. 46 ff.; "Multi-layer Tablet Production," January 1968, p. 84 ff.; J. P. Mallee, "Tableting Today," July 1967, p. 98 ff.; H. R. Mathison, "Punch and Die Control," September 1966, p. 52 ff.; "Triple Action Tableting Press," December 1965, p. 835 ff.; Frank Prescott, "PVP for Tablet Making," October 1965, p. 497 ff.

[22] Conversation with industry representatives. See also J. H. Swart and J. Donahue, "Dehumidification at Merck, Sharp & Dohme," *Drug and Cosmetic Industry,* August 1967, p. 116 ff.; and E. M. Cook, "Spray Drying Principles and Applications," *Drug and Cosmetic Industry,* January 1965, p. 45 ff.

[23] See Seymour B. Jeffries in "GMP: One Solution is the Computer," *Drug and Cosmetic Industry,* August 1968, p. 58.

[24] Gas-liquid chromatography is a physical method for separating components of a mixture. Spectrox-fluoremetry is an assay method which utilized the inherent or derived fluorescence of materials to be assayed. Attenuated transmittance reflectors are used to analyze nonsoluble opaque materials by determining their infrared light spectrum.

[25] See also Stuart A. Mencher and Robert D. McCormick, "The Role of the Computer in Drug and Cosmetic Production," *Drug and Cosmetic Industry,* November 1971, p. 41 ff.

[26] Operations at high rates of capacity utilization is also indicated by the tendency of pharmaceutical industry sales to rise relative to existing production facilities (as measured by book value of fixed depreciable assets).

[27] "Twenty years ago an analytical chemist used simple glassware, and his single most expensive piece of equipment was an analytical balance costing less than $1,000. Today, we use mass spectrometers that cost $100,000." Ely Lilly & Co., *Report to the Shareholders 1968.*

[28] F. Gross, "Future drug research."

[29] J. Burns, "Modern Drug Research," p. 55; F. Gross, "Future Drug Research."

Regional differences in employment and unemployment, 1957–72

Regional data show recent economic downturns generally affected Northeast and North Central States most, but over the past decade the jobless rate has remained highest in the West

CHRISTOPHER G. GELLNER

EMPLOYMENT AND UNEMPLOYMENT in the United States have shown significant regional differences over the past 15 years. For example, the South and West experienced the most rapid rates of employment growth, and the North Central region, until recently, had the lowest unemployment rate. This article examines some of the salient changes that have occurred in employment and unemployment in the four major regions of the Nation—the Northeast, North Central, South, and West—from 1957 to 1972. (For a description of the regions, see appendix, pp. 23–24.)

The analysis is based on employment and unemployment data by geographic region, available in limited detail from the Current Population Survey (CPS) since the mid-1950's and in considerably more detail since 1967. Special attention is directed to the effects of the 1970–71 economic slowdown on the regional growth patterns established during the 1960's.

Underlying factors

Much of the observed diversity in the patterns of employment and unemployment between regions can be explained in terms of the different industrial, occupational, and racial compositions of the labor force of the four regions. Cyclical changes, for example, tend to be of greater amplitude in regions that have a high concentration of employment in manufacturing industries, which are highly sensitive to fluctuations in aggregate demand. In terms of industrial composition, the economies of the Northeast and North Central States are more closely tied to the manufacturing industries than are the Southern and Western. Moreover, in both the Northeast and North Central States, manufacturing jobs are concentrated in durable goods industries, the most cyclically sensitive industry component. The South—an important producer of textiles, apparel, and food products—is the only region where more than half of the manufacturing jobs are in the nondurable goods industries (table 1).

The distribution of employment in the West, particularly the Pacific States, is characterized by a high concentration of employment in the distributive and service industries—trade, transportation, finance, services, and government. Manufacturing accounts for a relatively small proportion of employment in the region, but it is centered in aerospace and defense-related production, which is highly sensitive to changes in government as well as private demand.

The occupational distribution of employment also differs in each region. These differences, however, have narrowed over the past two decades, as the four major regions have gradually been moving to a more equal occupational distribution. This equalization reflects primarily the rapid upgrading of the southern labor force, whose occupational skills have historically been below those of workers in other sections of the United States. New job opportunities in the South in light manufacturing and service-related industries, which require more skill, coupled with the migration of low-skilled workers from the South to other regions, have helped narrow regional occupational differences.

All four regions of the country have exhibited a decline in the proportion of workers engaged in blue-collar and farm work, and an offsetting rise in the proportion of workers in white-collar and service occupations. Such interoccupational shifts have been particularly rapid in the South, where the distribution of the labor force had been heavily skewed toward the low-skilled occupations. Between 1950 and 1972, for example, the

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proportion of southern workers in white-collar jobs expanded from 32 to 46 percent, while the proportion in farm jobs declined from 20 to 4 percent. As a result of these shifts, the occupational distribution of the southern labor force had, by 1972, been brought into a much closer approximation of the national pattern. (See table 2.)

Another factor which has a bearing on the interregional differences in unemployment or underemployment is the racial makeup of each region's labor force. Other things equal, the regions where a high proportion of the work force consists of Negroes and members of other minority races—groups that have traditionally had serious employment problems—might be expected to have relatively high rates of unemployment or underemployment.

While the regional differences in terms of the racial makeup of the work force have narrowed considerably over the past two decades, they are still relatively wide. For example, despite the substantial migration of Negroes from the South, they still accounted for 17 percent of that region's employment in 1972, whereas they made up one-tenth or less of the workers in each of the other three regions.[1]

Table 1. Regional employment distributions by race and industry, annual averages, 1972

[In percent]

Color and industry	United States	Northeast	North Central	South	West
Total employed (in thousands)	81,702	19,484	23,112	25,261	13,871
RACE					
Total	100.0	100.0	100.0	100.0	100.0
White	89.4	92.0	93.0	83.2	91.2
Negro and other races	10.6	8.0	7.0	16.8	8.8
INDUSTRY					
Total	100.0	100.0	100.0	1000.	100.0
Agriculture	4.3	1.4	6.1	5.0	4.0
Nonagricultural industries	95.7	98.6	93.9	95.0	96.0
Nonagricultural wage and salary workers	88.6	92.4	87.3	87.4	87.4
Mining	.7	.3	.5	1.2	.9
Construction	4.8	4.1	4.0	6.0	4.8
Manufacturing	23.8	27.0	27.4	21.3	17.7
Durable goods	13.8	15.3	18.3	9.7	11.6
Nondurable goods	10.0	11.7	9.1	11.6	6.1
Transportation and public utilities	5.6	6.0	5.3	5.5	5.7
Trade	17.6	17.1	17.9	17.4	18.3
Finance, insurance, and real estate	4.8	5.8	4.2	4.4	5.2
Services	13.0	14.7	12.2	11.7	14.1
Government	16.3	16.0	14.1	17.1	19.0
Private household workers	2.0	1.5	1.7	2.9	1.8
Self-employed workers	6.5	5.8	6.0	6.9	8.0
Unpaid family workers	.6	.5	.7	.7	.7
FULL TIME AND PART TIME					
Total	100.0	100.0	100.0	100.0	100.0
Full-time schedules	82.8	83.3	81.9	83.9	81.6
Voluntary part time	14.0	14.2	15.3	12.5	14.5
Part time for economic reasons	3.2	2.6	2.9	3.7	3.9

Long-term trends

Between 1957 and 1972, the United States experienced substantial, but not uninterrupted, economic growth. There were three business recessions during the period, all characterized by declines in employment growth and substantial increases in unemployment.

Between 1957 and 1972, the number of jobholders nationwide increased by 16.7 million, or 26 percent. All regions did not benefit equally from this employment growth. Approximately two-thirds of this increase took place in the South and West. (See table 3.) During this period, new and developing light manufacturing industries located in these two areas and many older industries also moved there. The change in the South's industrial mix during this period and its resulting effect on employment growth was to a large measure attributed to the enhancement in quality of the region's labor force.[2]

In the South, employment was adversely affected by the 1957–58 and 1960–61 downturns, but not as much during the recession of 1970–71. The West, in contrast, fared relatively well during the prior two economic contractions but was affected considerably by the slowdown in 1970–71, as employment in the region's aerospace and defense-related sector was curtailed substantially because of declines in both commercial and military demand. Employment growth in the Northeast and North Central regions was inhibited by their strong dependence on the cyclically sensitive and, over the long term, slow-growing durable goods manufacturing industries.

In terms of unemployment, the cyclical repercussions of the three recessions were felt more in certain regions than in others. Moreover, during this period, the incidence of joblessness in the West moved gradually to a level considerably higher than the national average. In the mid-1950's (1955–57), when unemployment in the Nation was at a relatively low level (around 4 percent), unemployment rates for the Northeast, South, and West hovered around the national

average, and the rate for the North Central States remained below that for the Nation. When unemployment increased during the 1957–58 recession, the Northeast and North Central regions were clearly more adversely affected than the remainder of the United States. The heavily industrialized Middle Atlantic and East North Central States were particularly hard hit. Unemployment in these two divisions also rose more than in the remainder of the country during the 1960–61 recession.

The downward trend in unemployment which followed the 1960–61 recession and which continued throughout the mid- and late 1960's benefited all regions, but its extent varied. The Northeast and North Central States showed the largest reductions, particularly during the Vietnam buildup of 1965–67. In the South, the unemployment rate declined about in line with the national rate. In the West, however, the incidence of unemployment, which had been about equal with that in the Nation between 1955 and 1961, declined at a much slower pace than the average for the other three regions. Consequently, the unemployment rate for the West in general and the Pacific States in particular has been far above the average for the United States since 1962. (See table 4.)

Several explanations have been advanced as to why the unemployment rate in the West, specifically the Pacific States, has been substantially higher than elsewhere for over the decade 1962 to 1972. Among the causes cited have been the relatively large number of persons who migrate to the region in search of work each year, the relatively young age composition of the local labor force, and an industrial composition conducive to higher joblessness (the highly seasonal patterns of industries such as food harvesting and processing, logging, and so forth, and the highly cyclical defense-aerospace industries).[3] All of these theories together, however, do not adequately explain the comparatively high western jobless rate from 1962 to 1972.[4]

In 1969–70, when the economy was depressed by a general slackening in demand for goods and services, the West, particularly the Pacific States, was undoubtedly the most hard-hit region, while the South was least adversely affected. Between 1969 and 1971, the unemployment rate in the West rose from 4.9 percent to 8.1 percent, far above the average for the Nation. This increase, by and large, reflected developments in the Pacific States, where a sharp curtailment in employment in aerospace and defense products began in late 1968 and did not end until the end of 1971. The region's unemployment rate in 1972 (7.1 percent), although still above the national average, was a substantial improvement over the situation in 1971 and reflected some amelioration of the employment situation in these industries.

Adverse economic developments in 1970–71 also led to a substantial deterioration of the employment situation in the North Central States,

Table 2. Occupational distribution of employment by region, 1950, 1960, and 1972

Occupation	1950	1960	1972	1950	1960	1972
	Northeast			North Central		
Total	100.0	100.0	100.0	100.0	100.0	100.0
White-collar workers	41.5	46.3	50.6	36.7	41.8	45.5
Professional and technical	9.8	12.7	15.4	8.4	11.1	13.2
Managers and administrators	9.6	8.7	9.7	8.5	8.1	9.0
Sales workers	7.3	7.7	6.5	7.1	7.6	6.3
Clerical workers	14.8	17.2	19.1	12.7	15.0	17.0
Blue-collar workers	45.3	40.9	35.2	40.3	38.9	35.6
Crafts and kindred	15.1	14.7	13.1	14.6	14.6	13.4
Operatives	24.4	21.8	13.5	20.1	19.7	13.6
Nonfarm laborers	5.8	4.4	4.7	5.6	4.6	4.6
Service workers	10.2	10.9	13.2	9.3	10.9	13.2
Private household workers	2.1	2.0	1.2	1.7	2.0	1.6
Other service workers	8.1	8.9	11.9	7.6	8.9	11.7
Farm workers	3.1	1.7	1.0	12.6	8.4	5.7
Farmers, farm managers	1.8	1.0	.5	9.6	6.3	3.5
Farm laborers	1.3	.7	.5	3.0	2.1	2.2
	South			West		
Total	100.0	100.0	100.0	100.0	100.0	100.0
White-collar workers	31.9	39.4	45.7	42.4	47.9	51.9
Professional and technical	7.6	10.5	12.7	10.5	13.7	15.8
Managers and administrators	8.1	8.8	10.2	10.9	10.2	10.9
Sales workers	6.5	7.2	6.5	8.0	7.9	7.2
Clerical workers	9.7	12.9	16.3	13.0	16.1	18.0
Blue-collar workers	37.3	38.2	36.4	36.6	34.9	31.0
Crafts and kindred	12.1	13.2	13.5	14.9	14.7	12.8
Operatives	18.2	19.0	12.9	15.1	15.1	9.3
Nonfarm laborers	7.0	6.0	6.0	6.6	5.1	5.2
Service workers	11.1	13.2	13.5	10.8	11.5	14.0
Private household workers	4.1	4.6	2.5	2.2	2.3	1.5
Other service workers	7.0	8.6	11.0	8.8	9.2	12.5
Farm workers	19.6	9.1	4.4	10.2	5.6	3.2
Farmers, farm managers	12.4	5.3	2.3	5.3	2.7	1.4
Farm laborers	7.2	3.8	2.1	4.9	2.9	1.9

NOTE: The 1950 and 1960 data are from the decennial census, collected in April 1950 and 1960, and cover persons 14 years and over. The 1972 annual averages are from the Current Population Survey. Data cover workers 16 years and over. Because of occupational classification revisions made for the 1970 decennial census and introduced in the CPS in January 1971, data for 1972 are not strictly comparable with census data for 1950 and 1960. The largest changes stemming from the revisions was an increase in the number of service workers, except private household, and a decline in the number of operatives. For further elaboration, see "Revisions in Occupational Classifications for 1971," **Employment and Earnings,** February 1971, pp. 5–8.

where the unemployment rate had tended to be lowest of all regions since the mid-1950's. Employment growth also slowed considerably in these States during the late 1960's. The region's jobless rate increased from 2.9 percent in 1969 to 5.5 percent in 1971, a level, however, which continued to be lower than the rate for the entire Nation. The weakening position of the North Central States reflected changes in the eastern part of the region (East North Central States), which contains the bulk of the region's labor force and has an industrial base concentrated in the durable goods manufacturing industries.

Unemployment also rose considerably in the Northeast during the recent recession. In fact, the region accounted for three-tenths of the national increase in the number of unemployed persons between 1969 and 1971—although only one-fourth of the Nation's labor force resides there—as its unemployment rate advanced from 3.2 to 6.2 percent. Moreover, whereas the jobless rate in the West and North Central States reached their cyclical peaks during 1971 and receded throughout the course of 1972, unemployment in the Northeast continued to rise through 1971 and the first half of 1972 before it tapered off in the second half of the year. (See chart 1.)

The South clearly experienced a smaller rise in unemployment during the most recent slowdown than did the other three regions. Thirty percent of the Nation's labor force is in the South, yet the region accounted for 18 percent of the 1969–71 increase in unemployment. Although the jobless rate in the South increased from 3.6 percent in 1969 to 4.9 percent in 1971 and showed virtually no improvement in 1972, the region had by far the lowest unemployment rate of all regions for these 2 years. In contrast, during the late 1960's, unemployment in the region had been relatively high, second only to that of the West. The South's comparatively limited role in durable goods manufacturing, especially primary and fabricated metals; the relative stability of its increasingly important nondurable goods industries such as textiles and food processing; and the growth of industries in its service-producing sector helped to cushion it from the full impact of the slowdown. It was, in fact, the only region to show significant employment growth in 1970–71.

Chart 1 and table 4 show that the West and North Central States were the only regions during the 1972 recovery phase of the recession where unemployment definitely established a downward trend. Data for 1973 on the number of persons

Table 3. Employment by region and division, annual averages, 1957–72

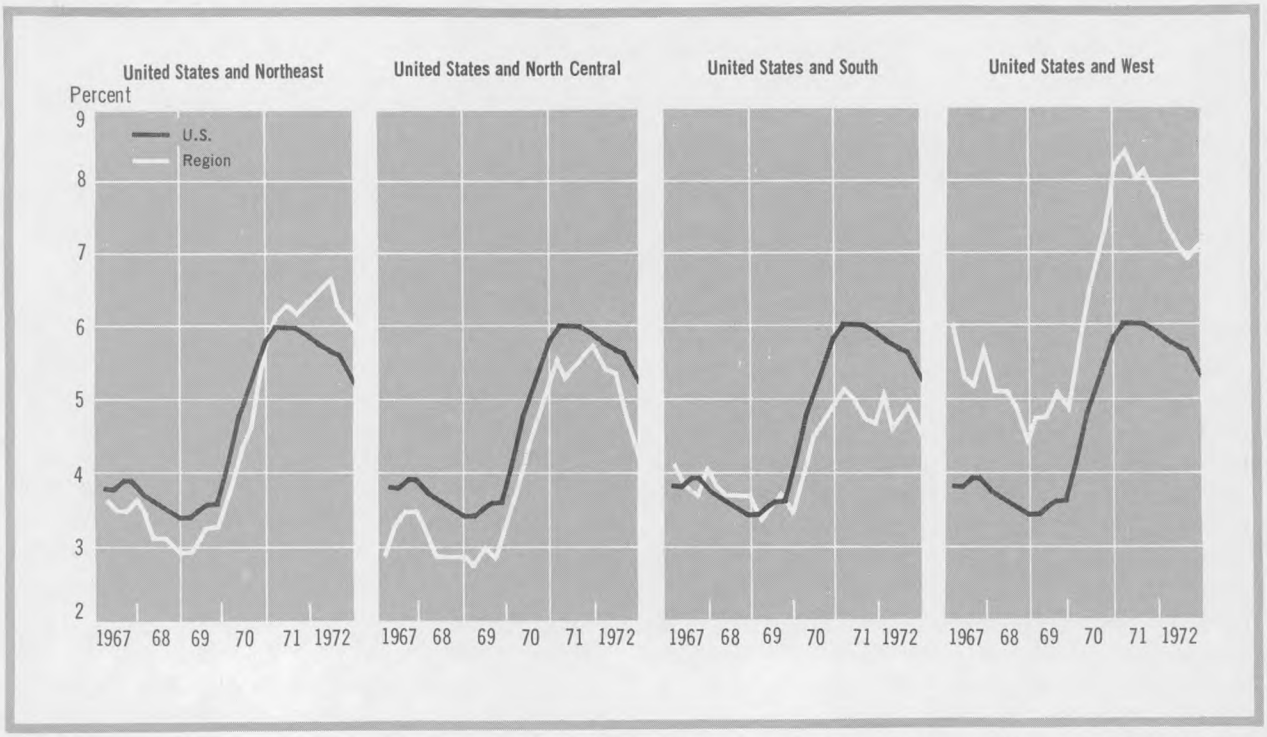
[In thousands]

Year	United States	Northeast			North Central			South				West		
		Total	New England	Middle Atlantic	Total	East North Central	West North Central	Total	South Atlantic	East South Central	West South Central	Total	Mountain	Pacific
1957	65,010	17,612	4,191	13,421	19,180	13,838	5,343	19,272	8,866	4,531	5,876	8,946	2,180	6,766
1958	63,965	17,293	4,075	13,219	18,365	13,079	5,285	18,891	8,727	4,358	5,807	9,416	2,244	7,172
1959	65,590	17,629	4,247	13,383	18,963	13,461	5,502	19,221	9,083	4,419	5,709	9,777	2,338	7,441
1960	66,681	17,659	4,233	13,425	18,907	13,673	5,233	19,840	9,174	4,521	6,147	10,275	2,426	7,849
1961	66,797	17,456	4,259	13,197	18,778	13,553	5,245	19,452	9,154	4,501	5,798	11,111	2,880	8,229
1962	67,846	17,389	4,253	13,136	19,407	13,894	5,513	19,539	9,213	4,655	5,670	11,511	2,893	8,619
1963	68,808	17,801	4,581	13,221	19,565	13,788	5,777	20,213	9,776	4,492	5,945	11,229	2,598	8,632
1964	70,436	18,334	4,739	13,516	20,173	14,395	5,778	20,585	10,168	4,452	5,965	11,344	2,582	8,762
1965	72,179	18,433	4,812	13,619	20,797	14,758	6,040	21,335	10,559	4,622	6,153	11,614	2,529	9,086
1966	74,065	18,706	4,906	13,800	21,165	15,043	6,123	22,167	10,957	4,872	6,338	12,027	2,630	9,397
1967	74,372	18,667	4,670	13,998	21,278	15,275	6,003	22,272	11,206	4,688	6,378	12,157	2,661	9,496
1968	75,920	18,943	4,802	14,141	21,926	15,750	6,176	22,547	11,349	4,581	6,616	12,510	2,789	9,721
1969	77,902	19,262	4,946	14,316	22,562	16,239	6,323	23,147	11,663	4,582	6,902	12,931	2,872	10,059
1970	78,627	19,173	4,883	14,290	22,678	16,303	6,375	23,692	11,934	4,681	7,077	13,084	2,920	10,163
1971	79,120	18,942	4,712	14,231	22,703	16,386	6,317	24,202	12,095	4,825	7,282	13,261	3,162	10,099
1972	81,702	19,484	4,897	14,587	23,112	16,813	6,299	25,261	12,531	5,034	7,696	13,871	3,327	10,544
Change, 1957–72:														
Number	16,692	1,872	706	1,166	3,932	2,975	956	5,989	3,665	503	1,820	4,925	1,147	3,778
Percent	25.7	10.6	16.8	8.7	20.5	21.7	17.9	31.1	41.3	11.1	31.0	55.1	52.6	55.8

NOTE: Data for years prior to 1967 include 14- and 15-year-olds, whereas data for 1967 and subsequent years relate to workers 16 years and over. However, the number of employed 14- and 15-year-olds is relatively small (1 million) and should have a minor effect on the comparability of the data.

Chart 1. Unemployment rates for United States and major regions

[Seasonally adjusted quarterly averages]



receiving unemployment insurance benefits indicate that the unemployment rate in these two regions continued to decline and that the South and Northeast had begun to show considerably less unemployment than in 1972.

Regional divisions

Both New England and Middle Atlantic States, the two divisions which comprise the *Northeast region,* were hard hit by the 1970–71 slowdown, and recovery during 1972 was sluggish. The jobless rate in New England escalated from 3.0 to 6.9 percent between 1969 and 1971, and the rate in the Middle Atlantic States rose from 3.2 to 6.0 percent. Contrary to the situation in other parts of the Nation, the unemployment rate in these areas continued to rise well into 1972 before tapering off in the middle of the year. Consequently, on an annual average basis, neither division's unemployment rate in 1972 reflected any improvement over 1971. During the 1969–72 period, employment in the New England area was probably more adversely affected by the economic downturn than in the Nation's eight other geographic divisions (with the possible exception of the Pacific area). Having grown very slowly even during the economic prosperity of the middle and late 1960's, the number of employed persons in the New England region turned down substantially between 1969 and 1971 and had not quite pulled back to its prerecession level by 1972. This deterioration was in part traceable to developments in certain manufacturing industries, which had become very dependent upon defense contracts for electronic components, computer systems, control instruments, and specialized military hardware during the Vietnam buildup of the middle and late 1960's. Beginning in 1969, the value of such contracts going to New England firms was cut back drastically. As a result, unemployment among workers in the area's durable goods industries spiraled from 2.8 percent in 1969 to 8.4 percent in 1971, before easing back to 7.8 percent in 1972. In nondurables, the employment situation also deteriorated markedly between 1969 and 1971, as the division's economy was further beset by reduced demand for textiles, shoes, and other leather products. With demand for these products reviving in 1972, the unemployment rate for nondurable goods workers, which had shot up from 3.6 to 9.2 percent between 1969 and 1971, dropped back to 7.1 percent.

In the Middle Atlantic States, which are also

heavily industrial, production has been less dependent on defense and nondurable goods industries than in New England and less concentrated in the metal and metal-using industries than in the East North Central States. Consequently, unemployment in the Middle Atlantic division increased at a less rapid pace than in these other two divisions during the course of 1970. However, at the close of 1970, as the impact of the slowdown became more pervasive through the manufacturing sector and then spread gradually to the service-producing sector, the division's employment situation deteriorated markedly.

The two divisions that make up the *North Central* region were affected in vastly different ways by the most recent economic downturn. In the East North Central States, the unemployment rate increased from 3.2 percent in 1969 to 6.0 percent in 1971, largely reflecting declines in output in primary metals, machinery and equipment, and motor vehicles, most of which occurred in 1970.[5] Total employment in the area registered only a small gain between 1969 and 1971, and this was confined entirely to the division's service-producing industries; employment in the goods-producing industries, especially those mentioned above, sustained large losses.

In 1972, the economy of the East North Central States posted a strong recovery from the unfavorable economic conditions of 1970–71, as the division's unemployment rate declined to 5.5 percent and employment registered a moderate increase. The major stimulus for this recovery was renewed strength in the division's durable goods manufacturing industries. Actually the area's unemployment rate improved much more in 1972 than is indicated by the annual average of 5.5 percent. It declined consistently throughout the course of the year and by year's end dipped below the 5-percent mark.

In contrast to the harsh effects of the economic slowdown in the East North Central States, the other Midwest division, the West North Central, was only moderately affected. Table 4 shows that over the past 15 years, the division's unemployment rate has consistently been lowest of all nine geographic divisions, well below the national average. This relationship remained evident even during the recent slowdown and subsequent period of recovery. The industrial mix of the division explains its relative inelasticity to cyclical contractions of the economy; its constituent States have primarily agricultural and service industries, and relatively little manufacturing.

As pointed out earlier, the *West* was clearly more adversely affected by the 1970–71 slowdown than the other regions. This was due to the deterioration of the employment situation on the Pacific Coast, an area that had already been saddled by the highest jobless rate of the nine

Table 4. Unemployment rates by region and division, annual averages, 1955–72

Year	United States	Northeast			North Central			South				West		
		Total	New England	Middle Atlantic	Total	East North Central	West North Central	Total	South Atlantic	East South Central	West South Central	Total	Mountain	Pacific
1955	4.4	4.7			3.3			4.0				4.4		
1956	4.2	3.7			3.4			4.0				4.4		
1957	4.3	4.4	4.0	4.6	3.9	4.2	3.0	4.3	4.5	4.7	4.1	4.8	3.8	5.1
1958	6.8	7.3	6.4	7.5	6.8	7.8	4.1	6.4	6.7	7.3	5.3	6.8	6.3	7.0
1959	5.5	6.2	5.4	6.4	4.8	5.5	3.0	5.6	6.0	5.7	4.9	5.4	4.6	5.6
1960	5.6	6.0	4.9	6.3	4.9	5.5	3.3	5.6	6.1	5.5	5.2	6.0	5.6	6.1
1961	6.7	7.1	5.9	7.4	6.6	7.4	4.5	6.4	6.7	6.4	6.0	6.8	5.5	7.3
1962	5.6	5.9	4.4	6.4	5.1	5.7	3.6	5.5	5.6	5.7	5.3	6.0	5.0	6.3
1963	5.7	6.1	5.4	6.3	4.8	5.3	3.7	5.7	5.7	5.8	5.8	6.6	5.9	6.9
1964	5.2	5.5	5.0	5.6	4.4	4.7	3.6	5.2	5.1	5.7	5.2	6.2	5.7	6.3
1965	4.6	4.7	4.3	4.9	3.5	3.8	3.0	4.5	4.2	4.8	4.7	6.3	5.8	6.4
1966	3.9	3.9	3.3	4.2	3.0	3.2	2.6	3.8	3.6	3.9	4.1	5.2	4.8	5.3
1967	3.8	3.5	2.9	3.7	3.3	3.5	2.6	3.9	3.8	4.2	3.7	5.5	4.9	5.7
1968	3.6	3.2	2.9	3.3	3.0	3.2	2.4	3.7	3.6	4.2	3.7	4.9	4.4	5.1
1969	3.5	3.2	3.0	3.2	2.9	3.2	2.4	3.6	3.4	3.7	3.7	4.9	4.2	5.1
1970	4.9	4.6	4.8	4.5	4.5	4.9	3.4	4.6	4.1	5.2	5.2	6.9	5.7	7.2
1971	5.9	6.2	6.9	6.0	5.5	6.0	4.3	4.9	4.5	5.2	5.2	8.1	6.1	8.7
1972	5.6	6.3	6.9	6.1	5.0	5.5	3.9	4.8	4.6	4.7	5.1	7.1	5.3	7.7

NOTE: Data prior to 1967 include workers 14 and 15 years old, whereas data for 1967 and subsequent years relate only to workers 16 years and over. The inclusion of 14- and 15-year-olds only raises the unemployment rate at most 0.1 percent over what it would otherwise be for workers 16 years and over.

major divisions since 1963. Employment growth in the Pacific States was severely hampered between 1969 and 1971, and as a result, unemployment rose sharply, from 5.1 to 8.7 percent. With the exception of New England, no other division was as adversely affected by the slowdown in terms of unemployment.

The Pacific States, particularly California and Washington, have been the largest producers of both military and commercial aircraft since the Korean war. Between 1965 and 1967, the aerospace and other defense products industries experienced a boom.[6] While the major support for this was the commercial aircraft industry, military hardware for the Vietnam conflict and the space program also provided a strong boost. By 1969, military contracts awarded to the division's contractors began to taper off and commercial jet orders slowed, as lower than predicted passenger-per-flight ratios and financing problems precluded airlines from purchasing jet liners. The Pacific economy was also weakened by a decline in the demand for its wood products due to the faltering residential housing market. These factors, acting simultaneously, dealt the Pacific durable goods manufacturing industries a severe blow, raising the local unemployment rate for this industry group from 4.7 percent in 1969 to 13.0 percent in 1971. By mid-1971, however, the worst was over. Unemployment began to level off, as the decline in aerospace jobs slowed. The division's lumber industry also made a strong recovery during the year, as residential housing starts spurted to a 20-year high.

Unemployment in the Mountain division, which encompasses a large geographic area but accounts for only 4 percent of the Nation's labor force, had also been far above the national average in the mid- and late 1960's. However, unlike the Pacific States, the Mountain States continued to post some employment gains during the 1969–71 period, and the rise in the division's unemployment rate (from 4.2 to 6.1 percent) was not so large. In 1972, the employment situation in both the Pacific and Mountain States showed significant improvement, and their jobless rates moved down to 7.7 and 5.3 percent, respectively.

Three divisions constitute the *South*—the South Atlantic, East South Central, and West South Central. Each of these areas was less affected by rising joblessness during the slowdown than was the Nation as a whole. The South Atlantic States, which have half of the South's share of the Nation's labor force, fared better than any of the other eight divisions in terms of unemployment during the recent slowdown. Unemployment rates in the division—4.1 percent in 1970, 4.5 percent in 1971, and 4.6 percent in 1972—were substantially below the national averages in these years, after having hovered close to it during the 1960's. The chief factors cushioning the South Atlantic area from the recent recession were the strong employment growth posted by its service-producing industries and the relative stability shown by its textile, food processing, and construction industries.[7] The East and West South Central areas, which combined contain 15 percent of the Nation's labor force, shouldered 11 percent of the 1969–71 national increase in the number of unemployed. In 1972, the unemployment situation in the West South Central States remained about the same as in the 2 previous years, whereas the situation in the East South Central States showed some improvement.

Negro employment

During the late 1960's, unemployment among Negroes and members of other minority races declined in all regions, although by different degrees. The biggest improvement between 1967 and 1969 [8] occurred in the North Central region, where the Negro unemployment rate fell from 9.3 to 6.8 percent—although still remaining above the overall unemployment rate for blacks in the Nation. The jobless rate for Negroes residing in the Northeast and West also declined substantially between 1967 and 1969, but the rate for Negroes in the South edged down only slightly.

During the recession of 1970–71, the Negro employment situation deteriorated markedly in all sections of the country; furthermore, it showed very little improvement in 1972 over the recessionary period. Negroes residing in the North Central regions, where the employment situation had improved the most during the late 1960's, experienced the sharpest rise in unemployment between 1969 and 1971, as their jobless rate escalated from 6.8 to 12.8 percent, reaching a level much higher than in the other three regions. This deterioration was due to the fact that Negroes in the region are highly concentrated in the durable goods manufacturing industries, which grew strongly in the late 1960's but were also hurt

the most at the onset of the recession. Whereas just one-fifth of the Nation's Negro workers live in this region, three-tenths of the increase in the number of all unemployed Negroes between 1969 and 1971 occurred there.

The employment effects of the slowdown in the Northeastern section of the country were more serious for Negroes in the New England States than the Middle Atlantic States. In contrast, the jobless rate for Negroes in the late 1960's had been lower in New England than in any other geographic division. Negroes in New England account for only 2 percent of all Negroes in the United States, but their unemployment rate rose to 16 percent between 1969 to 1971, their highest rate for any division that year, and declined only moderately in 1972 (table 5). Approximately one-third of the Negroes in New England work in manufacturing industries. In the Middle Atlantic States, the Negro unemployment rate showed a significant rise between 1969 and 1972 but continued to be below the national average for Negroes, while employment during the period remained essentially unchanged.

Table 5. Unemployment rates and employment levels for Negroes by region and division, annual averages, 1967–72

Region	1967	1968	1969	1970	1971	1972
	Unemployment rate					
United States	7.4	6.7	6.4	8.2	9.9	10.0
Northeast	6.8	5.7	5.5	6.8	9.3	9.4
New England	4.6	4.5	5.6	8.4	16.2	14.0
Middle Atlantic	7.0	5.8	5.5	6.7	8.5	8.9
North Central	9.3	8.0	6.8	9.9	12.8	12.0
East North Central	9.5	8.2	6.9	10.0	13.3	12.8
West North Central	8.4	6.8	6.6	9.2	10.4	7.3
South	6.7	6.6	6.4	8.0	8.8	9.1
South Atlantic	6.3	6.0	5.6	6.6	7.4	8.2
East South Central	7.2	7.5	6.6	10.3	10.1	9.5
West South Central	7.0	7.4	8.1	9.3	11.0	10.9
West	8.3	6.8	6.8	8.5	10.7	11.2
Mountain	10.0	7.8	7.3	11.7	11.5	10.6
Pacific	8.1	6.7	6.7	8.1	10.6	11.3
	Employment level (in thousands)					
United States	8,002	8,171	8,384	8,445	8,403	8,628
Northeast	1,378	1,494	1,611	1,609	1,567	1,564
New England	122	141	188	172	143	142
Middle Atlantic	1,256	1,353	1,423	1,438	1,424	1,422
North Central	1,564	1,547	1,577	1,544	1,527	1,608
East North Central	1,321	1,300	1,332	1,313	1,277	1,340
West North Central	243	247	244	231	250	268
South	4,037	4,056	4,116	4,191	4,182	4,240
South Atlantic	2,267	2,306	2,360	2,409	2,436	2,447
East South Central	803	736	738	775	746	736
West South Central	966	1,015	1,019	1,007	1,000	1,057
West	1,022	1,073	1,080	1,100	1,126	1,221
Mountain	94	111	118	127	121	117
Pacific	928	962	962	973	1,006	1,103

In the West, particularly the Pacific States, employment of Negroes and members of other minority races continued to post gains during the recession. However, unemployment among blacks also showed a sizable increase—from 6.7 to 10.7 percent between 1969 and 1971—as the increase in jobs was too small to absorb the large number of persons entering the labor force. In 1972, employment of Negroes in the region also expanded, but their unemployment rate failed to decline.

In terms of both employment and unemployment, Negroes in the South were less hard hit by the slowdown than Negroes elsewhere in the country. This is not surprising because the effects of the slowdown were greatly mitigated in this region, as indicated above. Half the Negro workers in the Nation live in the South, but a little over one-third of the nationwide increase in the number of unemployed Negroes from 1969 to 1971 occurred there. Their unemployment rate, at 8.8 percent in 1971 and 9.1 percent in 1972, was about 1 percentage point below the national average for Negroes and the lowest of the four regions. Employment of Negroes in the South rose 1.6 percent during the recession, or at about the same pace as in the late 1960's, while total employment in the region during the period rose by 4.4 percent. Negro employment in the South continued to grow in 1972.

Negroes in the South, however, did not fare as favorably relative to Negroes in other regions in terms of "underemployment." The proportion of Negroes working part time for economic reasons (those working part time but wanting full-time jobs) has historically been much higher in the South than elsewhere in the Nation. Although there was little change in this proportion between 1969 and 1971—remaining around 8 percent of the employment total—it continued to be much higher than in the other three regions, despite increases in these regions in the number of workers involuntarily confined to part-time work. Much of this type of underemployment among Negroes in the South is related to the fact that a relatively high proportion are still employed as private household workers and farm and nonfarm laborers.

Summary

The employment picture varies significantly among the four major regions of the country, largely reflecting the different population and industrial bases of each region. The changes in employment and unemployment that have occurred over the past 15 years have also showed variation by region. Generally, the Northeast and North Central States were more sensitive to economic downturns because of their heavy dependence on the durable goods manufacturing industries. One of the most important long-term developments of the period was the gradual movement of the unemployment rate in the West to a position far above the national average, a development which began during the early 1960's.

With the exception of the South, all regions were substantially affected by the 1970–71 recession. The Northeast and North Central States were hard hit because of the general weakness of the manufacturing sector, while the deterioration in the West stemmed largely from the cutbacks in aerospace and defense-related production on the Pacific Coast. The employment situation in the South was cushioned by the strength shown by its service-producing and developing light manufacturing industries. By 1972, all four regions showed considerable improvement in terms of unemployment. □

FOOTNOTES

[1] Throughout this article, persons in the category "Negro and other races" are referred to as "Negroes." In all regions, except the West, the group is made up mostly of Negroes. In the West, however, a sizable portion of the "Negro and other races" group consists of persons of Asian descent, Eskimos, Aleuts, and American Indians.

[2] James G. Maddox, *The Advancing South, Manpower Prospects and Problems* (New York, Twentieth Century Fund, 1967).

[3] Paul M. Schwab, "Unemployment by region and in 10 largest States," *Monthly Labor Review,* January 1970, pp. 3–12. For recent figures showing that the West receives a larger proportion of migrants than the other three regions, see *Mobility of the Population of the United States: March 1970 to March 1973, Current Population Reports, Population Characteristics* Series P–20, No. 256 (Bureau of the Census, 1973).

[4] See *Employment and Unemployment in California and the U.S., 1967–70.* Regional Report 20 (Bureau of Labor Statistics, 1971).

[5] A nationwide truckdriver strike in April 1970 and the General Motors strike in the fall of 1970 also had adverse effects on the East North Central economy. In the Current Population Survey, workers on strike are counted as employed—with a job but not at work—rather than as unemployed. Therefore, striking truckers and auto workers would be counted as employed in the survey. However, the secondary effects of the truck drivers' and auto workers' strikes resulted in the laying off of workers in other industries which require auto-related and other products. Those laid-off workers would be included in the unemployment count.

[6] For a discussion of the boom and subsequent decline of the aerospace industry on the Pacific Coast, see "Aerospace in the Doldrums," *San Francisco Monthly Review,* Federal Reserve Bank of San Francisco, July 1970, pp. 148–50.

[7] For a further discussion of why the Southeast was less severely affected by the initial effects of the economic slowdown than the remainder of the United States, see "The Southeast in 1970: Off—But Ahead of U.S.," *Monthly Review,* Federal Reserve Bank of Atlanta, January 1971, pp. 2–17.

[8] 1967 was the first year for which detailed employment and unemployment data by race are available by region and division from the Current Population Survey.

Appendix: Notes on data and definitions

Data used in this article were collected and tabulated as part of the Current Population Survey (CPS). The Current Population Survey is a national survey of about 47,000 households conducted each month by the Census Bureau for the Bureau of Labor Statistics. While the Current Population Survey has been designed primarily to collect national labor force estimates, some data have been tabulated on a regional and area basis since the mid-1950's. Since 1967, regional data have been tabulated in considerable detail and have been published in several sources, including the annual BLS report, currently entitled *Geographic Profile of Employment and Unemployment, 1972.* This is the last article that presents regional labor force data according to the census boundaries. Subsequent data and analysis will be based on the 10 Federal administrative regions.

Because the Current Population Survey is a sample survey and not a complete census, the

data obtained from it are subject to sampling variability. The standard errors for the regional estimates presented in this article closely approximate those for national data. (See *Geographic Profile of Employment and Unemployment, 1972,* BLS Report 421, Appendix B (Bureau of Labor Statistics, 1973).)

Census regions include the Northeast, North Central, South, and West. Each of these four regions is further subdivided into two or more "divisions."

The Northeast region consists of two divisions: New England—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut; and Middle Atlantic States—New York, New Jersey, and Pennsylvania. The North Central region consists of two divisions: East North Central—Ohio, Indiana, Illinois, Michigan, and Wisconsin; and West North Central States—Iowa, Minnesota, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

The South consists of three divisions: South Atlantic—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida; West South Central—Arkansas, Louisiana, Oklahoma, and Texas; East South Central—Kentucky, Tennessee, Alabama, and Mississippi. The Western region consists of two divisions: Mountain—Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada; and Pacific—Washington, Oregon, California, Alaska, and Hawaii. □

Horizontal equity and vertical equity

Because equity is more complex than efficiency and extends beyond economics it has received little attention in the economics literature. Economists are in agreement on the concept of horizontal equity—individuals in equivalent circumstances should be treated equally. The lack of horizontal equity in our current welfare system is one of the strong arguments for reform on the basis of national standards. . . . Though it is difficult to make equivalencies when there are regional differences in living costs or to determine the equitable variation with respect to family size, structure, or circumstances (for example, unequal medical expenses) the desirability of horizontal equity is well accepted.

The more difficult problem is the question of vertical equity, or determining the ethical income differentials where some difference is appropriate. Some people are willing to accept the proposition that incomes are demonstrably too unequal and, therefore, more equality means more equity. But this proposition does not indicate how much inequality is appropriate or how income differentials should be evaluated. . . .

This paper is not addressed to the question of the validity of work as an end in itself, but to the connection between work and income or other rewards. Attitudes here are also mixed. "A fair day's pay for a fair day's work" seems to be a generally accepted ethic. Unemployment by chance is acceptable, unemployment by choice is not. Our society appears to be willing to distribute income, and rewards in general, on the basis of effort and talent (or marginal productivity). Moreover, the body politic seems willing to offset misfortune—widowhood, disability, or cyclical unemployment—and it also seems willing to offset, to some degree, unequal endowments of talent or parental support.

What the society seems unwilling to do is provide equal rewards to those who put forth unequal efforts. Work incentives are acceptable to many (noneconomists) not because incentives create efficiency but because it is generally thought equitable that those who wish to work should be able to retain some portion of their earnings.

—ARNOLD H. PACKER,

"Categorical Public Employment Guarantees: A Proposed Solution to the Poverty Problem," in *Concepts in Welfare Program Design* (Prepared for the use of the Subcommittee on Fiscal Policy of the Joint Economic Committee, 93d Cong., 1st sess.), Studies in Public Welfare, Paper No. 9, Pt. 1, pp. 68–127.

Determining eligibility for black-lung compensation

Nearly 550,000 coal miners or their dependents have filed applications for Federal benefits under the landmark legislation

EWAN CLAGUE

IT HAS LONG been recognized that coal miners are especially subject to lung diseases, such as tuberculosis, bronchitis, and emphysema. Early in this century, the disease of silicosis was identified in anthracite coal mines, brought about by a combination of silica dust and anthracite dust. A study in 1928 showed that 23 percent of anthracite miners were afflicted to some extent.

Coal workers' pneumoconiosis (black lung) was identified in Great Britain in 1942 as a specific disease associated with coal dust. In the early 1950's, it was recognized in the United States as a serious disabling disease among coal miners. A study was conducted by the Pennsylvania Department of Health in 1959–61 and another by the U.S. Public Health Service in 1963–64. The latter study brought the problem to national attention, because the results of the sample showed that about 10 percent of active miners and almost 20 percent of retired miners were afflicted by the incurable disease. Then, in 1969, the Public Health Service launched a long-range study, the objectives of which were to determine (a) the rate of progression of the disease among coal miners over a 15- to 20-year period; (b) the prevalence of the disease; and (c) the factors, other than coal dust, that influence the progression of the disease. This National Coal Study sample consisted of more than 9,000 miners employed in 31 large coal mines (100 workers or more) in 10 States.

Early in 1969, Congress began consideration of legislation on health and safety in coal mines. Hearings were held in both the House and the Senate from February to May, and floor debate continued through the autumn. The Federal Coal Mine Health and Safety Act was passed on December 30, 1969, and signed into law by President Nixon.

In addition to calling for tighter health and safety standards, the law provides for compensation of black lung victims. Benefits will be paid through 1981.

During the program's first 3½ years of operation, benefits were administered by the Department of Health, Education, and Welfare. In 1973, this responsibility was transferred to the Department of Labor pending approval of State plans to fund and administer benefits.

The act requires each coal mine operator to submit to the National Institute for Occupational Safety and Health (NIOSH) a plan for providing chest x-rays for all miners in his employ *who wish to participate*. The operator or his legal representative must sign a statement assuring that his company will not violate the confidentiality of the results.

The x-ray as a diagnostic tool is used to determine the degree of impairment. "Simple pneumoconiosis" is evidenced by the presence of small opacities that are measured by type, profusion, and the area of the lung affected. X-ray results for this stage of the disease fall into four classifications, ranging from Category 0, or no indication of the disease, to Category III, which shows numerous small opacities that partially or totally obscure the normal markings of the lung. The coal dust in the lung shows up as black in the x-ray, which is why the disease came to be called "black lung."

Complicated pneumoconiosis—"Category IV," if you will—consists of one or more large opacities, exceeding one centimeter in diameter. It is often combined with other respiratory disorders such as cancer, tuberculosis, or emphysema. In any case, it is considered wholly disabling.

Category III may also be disabling and may be so classified in individual cases. Even if not disabling, it can grow worse without further exposure. By contrast, Categories I and II will not grow worse, if the worker gets away from air

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which is heavy with coal dust. However, miners in Category II may develop into Category III or complicated cases if they continue to work in dusty air. These are the miners who, under the law, are entitled to request a transfer to another job in the mine.

In addition, the Public Health Service considers that there is some variation in susceptibility among individual miners. A miner who acquires Category I of the disease in less than 10 years is highly susceptible. Hence those miners, like those in Category II, are entitled to request a transfer.

The rate of incidence of black lung among miners can best be determined from the National Coal Study, since this was based on a selected sample across the country.[1]

Nearly 30 percent of the sample of bituminous miners showed some degree of pneumoconiosis. About 20 percent were in Category I, just under 6 percent in Categories II and III, and 2 percent in "Category IV" (progressive massive fibrosis). The study showed that there were marked regional differences in incidence, it being highest in Appalachia (particularly Pennsylvania), less frequent in the Middle West, and much less in the West. The researchers consider the major factor accounting for the differences to be respirable dust levels, with some allowance for years spent working underground.

The presence and severity of black lung disease is determined from x-rays studied at the Public Health Service's Appalachian Laboratory for Occupational Respiratory Diseases, Morgantown, W. Va. An x-ray taken under provisions of the safety act or as part of the research study is read independently by two radiologists. If they agree, this is the final determination. If they do not agree, a third reader decides. He takes into account the other readings, but his own decision is final.

Black-lung determinations based on x-rays taken in 1969–71 under the research study and in 1970–71 under the safety act are shown in table 1. It should be noted that, even though complicated black lung is considered totally disabling, almost 1,000 victims were still working in the mines when they were x-rayed.

One point is immediately apparent, namely, that the ratios of impairment are substantially higher in the research sample, Those with clear lung (Category 0) amounted only to 70.1 percent of the National Coal Study sample, while in the nationwide Safety Act survey 88 percent were clear. Furthermore, in Category I (a slight touch of black lung) over 21 percent were affected, as against only 7.7 percent in the nationwide survey.

By the same token, the Coal Study found twice as many miners (8.8 percent) to be in Category II or worse. Is there any satisfactory explanation for the divergence?

One factor which could have affected the severity figures was the inclusion of 523 anthracite miners in the research sample. Anthracite miners have a much higher incidence of black lung than bituminous. However, because fewer than 6 percent of the 9,076 workers in the sample were in anthracite mines, that influence must have been quite small. (The nationwide survey covered only bituminous miners.)

The most important variable by far is the ratio of response in the two groups. About 90 percent of the employees in the sample mines participated in the research program. But among other active miners, only about 65,000 had had their x-rays taken by January 1973 (including about 2,000 not yet read and classified). That leaves about 50,000 active miners who had not yet been x-rayed. Some were young miners, far short of 10 years' service, who might not have considered it worthwhile. Another missing group were the strip miners, who were not then eligible unless they had previously worked at least 10 years in underground mines.

But a third important group were experienced miners who were fearful that the x-ray results would become known to their employers and would therefore jeopardize their jobs. Many may have gone to their private physicians for x-rays and then may have applied directly to the Social Security Administration for black lung benefits; or they could have kept the x-ray confidential, if they were eligible for a job transfer to cleaner air,

Table 1. Active miners by category of impairment, January 1973

Category	Safety Act		National Coal Study	
	Number	Percent	Number	Percent
Total	63,327	100.0	9,076	100.0
0	55,771	88.0	6,363	70.1
I	4,853	7.7	1,922	21.1
Under 10 years in mines	330	.5	—	—
Over 10 years in mines	4,523	7.2	—	—
II	1,841	3.0	511	5.6
III	143	.2	56	.6
Complicated (IV)	719	1.1	224	2.6

but were unwilling to risk exposure by requesting one.

Some other studies by the Appalachian Laboratory highlight the importance of early diagnosis of black lung. One such study analyzed the mortality rates of 13,000 Pennsylvania coal miners awarded compensation in 1965–67 for complete disability due to pneumoconiosis.[2] A second study, which will be published shortly, updates the 1963–64 study of pneumoconiosis among coal miners in Appalachia.[3]

Both studies showed that bituminous coal miners having simple pneumoconiosis only had death rates about equal to those of men of comparable age in the general population. For the 1963–64 sample, the mortality among actively employed miners was 7 percent less than the expected death rate for all men in the United States. But ex-miners, many of whom had retired because of ill health, had a death rate 24 percent greater than expected.

Job transfer option

For active miners, the Safety Act provides that those found to have some evidence of black lung may request transfer to a job in cleaner air, sufficiently low in dust content that the disease will not become progressive. The Appalachian Laboratory sends the results of x-rays to the miner's doctor or, if he does not have a physician, he is urged to consult one to whom the report will then be sent. At the same time, this x-ray information is sent to the U.S. Bureau of Mines, which has the responsibility for notifying the miner of his options: (1) not eligible for transfer (no evidence or insufficient evidence of black lung); (2) eligible to request a transfer to another job at equal rate of pay; (3) sufficiently afflicted (a) to request a transfer, or (b) to apply to the Social Security Administration for black lung benefits.

If the miner decides to transfer to another job in the mine where the air meets government standards, he notifies the Bureau of Mines. The Bureau then notifies the coal operator, who is given 45 days to complete the transfer. The operator must inform the District Manager of the Coal Mine Health and Safety District when the transfer has been granted.

As shown in table 1, out of 63,327 miners in the Safety Act survey, 3,033 were eligible to request a job transfer, including all those of Category II or worse, as well as 330 in Category I, with less than 10 years of service in the mines (about one-seventh of the miners in that category). In the National Coal Study, the total was 791 out of 9,076, but with no allowance for Category I with less than 10 years. That makes a total of 3,824. If it is assumed that about one-seventh of Category I would have had less than 10 years in the mines, another 134 could be added, making a grand total of nearly 4,000 miners entitled to transfer. As of January 1973, only 650 miners had requested transfers, and some of those later withdrew their applications.

Two factors played a major role in the miners' decisions. As already suggested, one factor was a reluctance to disclose the disease to employers. The other was an unwillingness to compete with fellow miners for better jobs. Under the United Mine Workers' contract, seniority of service governs the filling of vacancies; a black-lung miner might be competing with a healthy miner with more seniority. This could have accounted for some of the withdrawals. In any case, less than one-sixth of those entitled to request job transfers had actually applied for them.

Federal compensation

For all active or former miners disabled by black lung (and for all widows of miners who died from it), the Health and Safety Act provided for special black-lung benefits administered by the Social Security Administration, but with benefits paid out of general revenues. Eligibility was determined by x-rays in the surveys, or by medical records in the case of deceased miners.

As the decisions of the Social Security Administration were issued, it became evident that, in general terms, about half the applicants were qualifying for benefits under the 1969 act, while the other half were being denied, mostly because the x-rays were negative, although some applicants were found ineligible for other reasons. However, a miner with a negative x-ray might be ill from other causes, such as heart trouble, bronchitis, or emphysema. Back in the mining community, the neighbors could not understand why one miner was awarded benefits while another was denied. Public criticism of the program began to develop.

A second factor was the opinion of some

medical men that the x-ray alone was not a definitive test of the existence or absence of black-lung disability. There was some criticism that x-rays taken only from the front were not sufficient—that x-rays from other angles could disclose the disease. But the major complaint was that other tests can be used to disclose total disability—pulmonary function tests, arterial blood-gas studies, and exercise testing. Certain medical experts argued that years of exposure in the mines constituted a sounder basis for determining a work-connected disability than the presence or absence of black lung as evidenced by x-rays.

As a result of these developments, congressional hearings were held in the spring of 1972. Attention was focused upon the relationship of pneumoconiosis to other lung diseases. A series of amendments to the law was enacted, effective May 22, 1972:

1. A negative x-ray was not in itself to be considered proof of nonaffliction—other tests were to be given.
2. For those who had worked 15 years or more, either in underground or in surface mines, any disabling lung disease was to be considered industry-connected, and these victims entitled to benefits. A new set of presumptions was spelled out to guide the Social Security Administration in its decisionmaking.
3. All miners and widows who had been denied benefits under the 1969 act were to have their cases readjudicated on the basis of their original applications. One effect of the May 1972 amendments was to require the agency to examine the 192,600 preamendment claims which had either been denied or not yet processed. The other was to take applications from miners and widows who had not previously applied.
4. Finally, the term of the legislation was extended one more year, to June 30, 1973, with the U.S. Department of Labor taking over the administration of the program until January 1, 1974, when it was to be returned to the States under workmen's compensation laws. Federal intervention for 4 years (1970–73) was designed to dispose of the "backlog" of lung disease cases and then to restore workmen's compensation principles to the coal industry under standards stemming from the Occupational Safety and Health Act of 1970.

Preamendment claims

When the books were closed on the administration of the original 1969 act, the Social Security Administration had received a total of 364,600 claims during the 2½ years from January 1970 through May 19, 1972. Of those, 172,400 were allowed, while 192,200 were either denied, or not yet adjudicated (nearly 20,000). Among the allowed claims, nearly 56 percent (96,000) had been filed by miners and the remainder by widows and other dependents.[4]

Beginning May 22, 1972, the Social Security Administration had two functions: (a) to review the old preamendment claims under the revised requirements established by the amendments, and (b) to receive and adjudicate the new claims (postamendment) filed under those revised requirements. The review of the old claims had the first priority in the adjudication process; the postamendment claims were processed whenever time was available.

When the deadline for postamendment applications arrived on June 30, 1973, the preamendment claims had still not been completely adjudicated. So that process was continued during last summer and autumn. The statistics issued by the Social Security Administration as of December 1, 1973, show that the review and readjudication has resulted in 106,800 additional claims being allowed and 79,200 denied. Awaiting adjudication were 6,300 claims.

Adding the review results (above) to the original adjudication through May 19, 1972, produces a total of 279,200 preamendment claims allowed and 79,200 denied, an approval rate of 77.9 percent. In brief, nearly 4 out of 5 of the preamendment claimants were awarded black-lung benefits.

Of the claims approved, more than 174,000 had been filed by miners and nearly 105,000 by widows and other survivors.

Postamendment claims

While the Social Security Administration was processing its backlog of review cases, various private organizations were publicizing the liberalized 1972 provisions of the black-lung law. Claims which had averaged 2,000 to 2,500 a week during the summer and fall of 1972 climbed to 3,000 to

3,500 in the early spring of 1973 and exceeded 4,000 a week as the June 30 deadline approached. The 1-year extension brought a total of about 182,000 claims.

One significant fact about these claims is that they produced a much lower rate of eligibility. Among the 144,500 applications adjudicated by December 1, 1973, only 57,200 were approved. That is, only 2 claims in 5 were granted.

Another significant difference in this post-amendment group is that the low rate of eligibility primarily reflects claims by miners, rather than by widows or other dependents. The 57,200 allowances consist of 29,400 miners and 27,800 widows or other dependents. But the miners were among nearly 93,000 who filed, an allowance rate of less than 32 percent, while the widows and others constituted about 54 percent of those claimants.

In all, Social Security had processed more than half a million claims (502,900), with 43,700 awaiting adjudication. As of December 1, about two-thirds of all claims had been allowed. The miners numbered nearly 204,000, the widows and others over 132,000. Eventually, about 212,000 miners and 140,000 dependents will be receiving benefits.

Impact on the labor force

The Health and Safety Act has lowered the average age of the coal miners. In the middle 1960's, the coal industry had the oldest work force among U.S. industries, with one exception—railroads. The requirements of the act impinged upon the industry's manpower from two directions at once. First, the new standards of health and safety required more workers in the mine to achieve compliance. Productivity (output per man-day), which had been rising at rates of 5 to 6 percent a year for two decades, began to decline in 1970. Second, the 175,000 miners who have retired on Social Security black-lung benefits include some thousands of active miners who were working when they applied for benefits. The actual numbers cannot be determined from the records now available, since many miners had their x-rays taken by their private physicians instead of by their employers. A study of the Social Security black-lung records would be necessary to determine how many beneficiaries had been at work in the mines when they filed claims and accepted black-lung benefits.

But what about the future impact of black lung? The second round of x-rays (those under the 1972 amendments) will turn up some more cases, especially among those miners not previously x-rayed. In addition, there are miners still at work who are slightly afflicted with black lung and who could develop more severe cases from continued exposure to coal dust. The most likely outcome will be a new load of black-lung cases annually, but at a diminishing rate as the new health and safety standards take effect.

Department of Labor responsibilities

Under the 1972 amendments to the Health and Safety Act, the Department of Labor assumed responsibility for the administration of the black-lung benefit program on July 1, 1973. This involved the application of new, more restrictive, standards of eligibility than those applied by the Social Security Administration from May 1972 through June 30, 1973. However, there were some offsetting advantages for applicants eligible for medical care, available for the first time.

Furthermore, in anticipation of a return to State workmen's compensation laws and principles after January 1, 1974, a new method of financing was established. The Department of Labor, through its Division of Coal Mine Workers' Compensation, determined the eligibility of the claimants and paid benefits out of an appropriation made for that purpose. The Department then tried to find the responsible employer in each case and assess him for the benefits. If no such employer could be found, the Government continued to pay the benefits.

The legislation further provided that for this interim or transition period (July 1-December 31, 1973), the Social Security Administration should continue to take applications in its local offices and transmit those claims to the Department of Labor for adjudication. Beginning July 1, such claims were filed at a rate of about 800 a week; as of December 1, the claims totaled 17,500. Some undoubtedly came from applicants who had hoped to make the June 30 deadline under Social Security regulations, but had failed to do so. However, there are definite medical care advantages for claimants qualifying under the Department of Labor regulations, and many claimants have filed for that purpose.

On January 1, 1974, this program was scheduled to be returned to the States under workmen's

compensation laws approved by the Department of Labor. However, as of that date no State had submitted an approved law, so the procedures of the interim period were continued into 1974, with Social Security continuing to take claims and the Department continuing to pay benefits, while trying to collect from employers determined to be responsible for such benefits.

Highlights of the black lung program

This program of health and safety in coal mines constitutes a historic landmark which will have its repercussions for years to come. Here are some of the likely consequences:

1. As noted previously, this is the first time that the Federal Government has assumed responsibility for an occupational disease in private industry. The Government has assumed the financial responsibility for past neglect. The cost of the benefits is now in the neighborhood of $1 billion a year, and the total to the end of the program in 1981 is estimated to be more than $8 billion. The long-run cost will be raised further as the formula for benefit levels rises year by year in line with wages and the cost of living. Furthermore, since considerable numbers of these beneficiaries, especially the widows and dependents, will still be living in 1981, some continuing legislation may have to be enacted at that time.

2. The eligibility requirements and benefit levels of the legislation will have a marked effect upon other health and welfare programs. The scale of benefits (readjusted upward in 1973) is now $177.60 a month for an individual miner, up to a maximum of $355.20 a month for a miner with a wife and two children. Those will be increased as the wage base on which they were calculated rises with annual wage increases.

Furthermore, since this benefit is designated as workmen's compensation, it is payable in addition to other benefits, such as social security retirement benefits. In addition, the miner who is entitled to a pension of $150 a month from the Pension and Welfare Fund can draw that as well. A black-lung beneficiary cannot work in the mines without losing his benefit, but he can work in another industry and keep his earnings without offset up to $100 a month in the Pension and Welfare Fund, or up to $2,100 a year under Social Security.

Finally, the effect will be to raise benefit levels in workmen's compensation in other industries, as States pass legislation to qualify under the 1970 Occupational Safety and Health Act.

3. Health and safety standards in mining are special to that industry, but the new criteria may lead to the imposition of higher standards in other industries.

4. Another consequence of the black-lung legislation has been to blur to some extent the distinction between an occupational disease and general disability. Simple pneumoconiosis, as determined by x-rays, comes from one specific cause—coal dust in the lungs. Thus it is clearly an occupational disease. But asthma, pleurisy, tuberculosis, or emphysema can arise from other causes having no connection with coal. In health problems, as distinct from work accidents, it is difficult to draw the line between industry responsibility for a disease and individual or social responsibility. This problem will arise again in other workmen's compensation legislation. □

——FOOTNOTES——

[1] See W. Keith C. Morgan, M.D., and others, "The Prevalence of Coal Workers' Pneumoconiosis in U.S. Coal Miners," *Archives of Environmental Health,* October 1973, pp. 221–26.

[2] See Carl E. Ortmeyer, Ph.D., and others, "Life Expectancy of Pennsylvania Coal Miners Compensated for Disability," *Archives of Environmental Health,* October 1973, pp. 227–30.

[3] See Carl E. Ortmeyer, Ph.D., and others, "The Mortality of Appalachian Coal Miners, 1963–71," in the above journal.

[4] All the statistics on this program are available only in round numbers because there is frequent shifting among the categories. For example, a miner files a claim, but he dies before adjudication and it becomes his widow's claim.

Conference Papers

THE FOLLOWING excerpts are adapted from papers presented to the Industrial Relations Research Association and the American Economic Association at their annual meetings in New York City December 27–30, 1973.

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PROBLEMS IN FORMULATING A GENERAL PAY STANDARD

D. QUINN MILLS

WAGE STABILIZATION POLICY involves both the exercise of wage restraint and the adjustment of wage relationships.[1] In fact, wage restraint depends upon adjustment of relative wages because a stabilization board cannot, in the long run, resist the pressures for increases which are the result of distortions in wage structure. Fortunately, wage restraint and the adjustment of wage relationships need not be inconsistent in the short run. Rather, both objectives are integral parts of a successful stabilization program. We may now add a corollary to the above proposition: That each administrative element of a stabilization program, the general standard and exceptions, should be applied to the achievement of both objectives of stabilization: wage restraint and adjustment of the wage structure.[2]

Unfortunately, it has become increasingly characteristic of discussions about stabilization policy that public commentary has focused upon what percentage figure is appropriate as a general standard for wage adjustments, rather than on the functions of the general standard itself. In fact, since World War II there appears to have occurred a steady erosion in the understanding among the public, government officials, and even many economists and industrial relations specialists of the function of a general standard. This erosion culminated in 1971 in the establishment of a general pay standard on a very different intellectual basis than that of earlier periods. In contrast to World War II, for example, recent applications of a general standard have been directed solely at the rate of increase in compensation and have given little or no attention to readjustment of relative wages. In contrast, the Little Steel formula of the Second World War and (to a lesser degree) General Regulation #6 of the Korean period were directed at other related objectives as well, including the establishment of a desired general level of wages and the readjustment of the structure of wage rates and earnings.

The so-called "Little Steel formula" (adopted in July 1942 by the National War Labor Board) served as the standard for general wage increases in World War II. It provided for wage increases for groups of employees equal to the rise in the cost-of-living between January 1941 and May 1942. Simple though it seems, the formula was in fact a very sophisticated standard involving at least three elements. First, it permitted those wage rates which had lagged behind others in the period since January 1941 to be adjusted to the generally higher level prevailing in May 1942—up to 15 percent for workers who had received no increase since January 1941. Second, the formula provided that increases beyond the 15-percent

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maximum were to be approved only on the basis of substandards of living and inequalities, as set forth in a message of President Roosevelt (April 27, 1942). No further general wage increases resulting from increases in the cost of living, increases in managements' ability to pay, rising productivity, or other factors were to be permitted. Third, the formula was designed in such a manner that a structure of wage rates among industries, occupations, and regions, which was appropriate in the view of the Board, was created. Wage structure considerations were especially important in the selection of a base date from which the 15-percent permitted increase would be measured.

Thus, in the Little Steel formula a single standard was, in part, due to the happenstance of the existence of a recent period of stable wages and prices, at once a device to preserve real wages (up to the date of April 1942 only) and one to return the wage structure to a position of relative stability. In a similar fashion, General Regulation #6 of the Korean war period's Wage Stabilization Board permitted increases of up to 10 percent above the level of rates prevailing in January 1950 (the regulation was adopted in March 1951).

In contrast, in 1971 the Pay Board established a much less sophisticated form of a general pay standard. Abandoning concern for wage structure, the Board agreed to permit increases of at least 5.5 percent for any group of workers above their base period compensation without provision for the possibility of denying the general standard even in exceptional cases.[3] The base period was defined as the 1- to 4-week period immediately proceeding the proposed increase, and the base compensation rate as that rate which was in effect just prior to the increase. Thus, the Pay Board accepted, at least insofar as the general standard was involved, the wage structure as it was in the latter part of 1971, including substantial distortions introduced by some 6 years of inflation in the period 1965–71.

Criteria for a general standard

The criteria most commonly proposed as the basis for a general standard are increases in cost of living or in labor productivity (that is, output per man-hour), or both.

Cost of living as a standard. The fundamental importance of cost-of-living increases as a potential wage criterion arises from the impact of rising prices on living standards. Price increases threaten to erode purchasing power, so that earnings must be increased with prices in order to maintain their real purchasing power. In order to limit the hardship imposed by a stabilization program, it is often suggested that wages be permitted to rise in step with consumer prices in order to maintain living standards. Unfortunately, the use of consumer price increases as a wage criterion is not without considerable problems. In part, these problems arise from characteristics of the measurements of consumer prices, or, alternatively, from the often different behavioral patterns of earnings and wage rates.

First, comparative levels of consumer prices and their rate of change vary considerably among areas in the United States. It is inevitable, therefore, that disputes arise in the application of indexes of consumer price increase to proposed wage increases. During the operation of the Korean war stabilization program, much attention was devoted to various cost-of-living measures. Ultimately, the Wage Stabilization Board recognized for wage criteria eight other cost-of-living indexes, besides the U.S. Bureau of Labor Statistics Consumer Price Index. This multiplicity of indexes threatened to create substantial confusion in the stabilization program, especially where uniform national wage rates or wage relationships might be affected by varying cost-of-living indexes. Second, there always exists a potential range of disputes over the degree of appropriateness of the composition of any price index. For example, some persons may question the items which are included or excluded in a consumer price index and the relative importance of each item. Also, adjustments for quality changes in certain types of products may affect the behavior of the index. Once a price index has been established as a wage standard, its definitional limitations, its degree of subjectivity to manipulation, its degree of alleged bias, and other characteristics become a field upon which issues of wage stabilization may be contested.

Third, consumer price indexes normally include elements which are quite volatile in price. To accept the CPI as a wage standard threatened to base generally irreversible wage adjustments to a degree upon reversible price increases. Fourth,

taxes constitute a significant portion of the CPI and normally contribute to its rise. Thus, the use of the CPI as a wage standard tends to a degree to involve government in the anomalous position of permitting wage increases in order to offset the impact of rising taxes. Fifth, a difficult problem involves whether a price standard should apply to wage rates or to earnings. Earnings may increase more rapidly than wage rates for many reasons, including longer hours of work, additional premium pay, and so forth. Where earnings are rising more rapidly than wage rates, should the cost of standard be applied differently than in cases where wages and earnings rise at the same rate? And if so, how is such a policy to be applied to individual situations?

Since there exist such difficult problems in the application of a wage standard based upon cost of living, stabilization authorities in the United States have tried to minimize its role as a standard for wage adjustments.

Productivity increases as a standard. Improvements in labor productivity have long been suggested as a standard for wage increases. In some instances, the productivity standard proposed is a national average figure applicable to all wage increases; in others, productivity increases in certain firms or industries are proposed as standards for wage adjustments on a selective basis. There is, of course, a certain plausibility to arguments that wage increases should reflect increases in labor productivity, but there are also major limitations to these proposals. Like so many formulas for wage adjustments, the productivity standard is much simpler in the abstract than in its application to actual situations. At one extreme, the productivity standard, when applied generally in the economy, is no different from any other general standard for wage increases. At the other extreme, the standard, when applied on a selective basis, becomes extraordinarily complex to administer and subject to significant potential abuse.

Though increased labor productivity is commonly thought to be a measure of workers' additional effort at their job, other factors are more important in accounting for changes. For example, increases in labor productivity over periods of several years reflect primarily increased capital equipment which is employed in production and improved means of performing tasks, in the form of both improved technology and increased knowledge. Increases in productivity between 2 years (that is, in the short run) are often dominated by variations in business activity and employment.

Furthermore, requiring wage increases to conform to productivity increases may be inadequate to insure price stability. For example, a slack aggregate economy may contain substantial maladjustments so that prices may be rising in certain sectors despite stable labor costs and considerable unemployment. When price pressures in important sectors are independent of aggregate unemployment and labor costs circumstances, then wages policy based on aggregate productivity increases is insufficient to control price inflation. In general, it would be an unusually stable and quiescent economy in which unchanging unit labor costs would serve to insure price stability.

The prices-and-productivity standard

In recent years, much attention has been given to a formulation of a general standard for wage increases which includes the influence of increases in both consumer prices and labor productivity. The rationale most often given for such a standard is that real wages should rise in step with productivity, requiring that money wages also be adjusted upward to compensate for changes in the price level. In 1971 a form of this proposed standard was adopted by the Pay Board as the central policy of the wage stabilization program.[4]

There are several significant variants of the prices-plus-productivity standard. Three of the more important variations are described here. First, allowable wage increases may be *simultaneously* dependent on price and productivity increases. That is, wages would be permitted to rise by the same amount as prices and productivity combined in the current year. A second variant is both *prospective* and short run in character. The wage standard would, in this formulation, be established at a level equal to desired price and productivity increases in the current year. That is, a wage standard would be established consistent with the price and productivity objectives of the government for the current year. A third variant relates the wage standard to the long-term average annual increase in productivity and to the target for price increases in the current year. In both the

second and third variant, unlike the first, it is essential to the function of the standard as an element of price restraint to specify a quantitative figure for the general standard. This figure, which is the standard itself, is determined by a technical process involving both the estimation of the short- or long-term increase in productivity and the selection of a target price increase for the future year. Unfortunately, these variants have become hopelessly intermingled in public discourse, and there has been little discussion of the problems associated with each.

Let us consider briefly several of the limitations, both practical and logical, of each proposed criterion. First, the *simultaneous* standard is largely inoperable because of the difficulty of foreseeing the actual course of price and productivity increase in a given year. Many citizens understand the standard to imply they should receive the actual sum of productivity and price increases in a given year and will believe themselves ill-treated if they receive less.

Second, the *prospective* short-run prices-and-productivity standard is subject to the difficulty that it will almost certainly work quite differently in different conditions of the economy. If the rate of productivity increase can be estimated for the coming year, and a target rate of price increase selected, then the appropriate wage standard is their sum. Unfortunately, price adjustments reflect many factors in addition to increases in unit labor costs. When other factors are favorable to price stability, wages may rise less rapidly than a prospective prices-plus-productivity standard implies. When other factors are unfavorable, prices may rise more rapidly than the standard suggests. Furthermore, the actual course of productivity increase during a year may depart from its projected growth, possibly distorting further the ultimate (or *ex post*) relationship of prices-and-productivity and compensation increases.

Third, the compensation standard based on the long-run productivity and target price increases in the current year is subject to the practical problems described plus a logical inconsistency in its formulation: if prices in the short run are related to unit-labor-cost increases, then certainly the appropriate productivity component of a wage standard is the short-run increase in productivity, not the long-term rate. In fact, the summation of the long-term rate of increase in productivity with a short-term target price increase is an addition of noncomparable items, unless it is anticipated that the short-term rate of productivity increase will equal the long-term rate (a coincidence which reduces the third type of standard to a special case of the second type).

The implication of these criticisms of the various prices-plus-productivity standards is that the standards are generally imprecise in formulation, often failing to be related causally to the consequences predicted, and likely to generate future difficulties for the stabilization program by creating unwarranted expectations on the part of labor and business. □

——*FOOTNOTES*——

[1] See, for example, Arnold R. Weber, "Making Wage Controls Work," *The Public Interest,* Winter 1973, p. 29.

[2] In this article, the term "general standard" is used to refer to a single or limited group of rules which apply broadly in the economy to pay adjustments, and which standard is to be distinguished from other rules applied on a more limited basis; one might say an "exceptions" basis. This article deals only with the problems inherent in establishing and administering a general pay standard. For an in-depth treatment of the general problem of a wage stabilization effort, see D. Quinn Mills, *Wage Stabilization by Public Policy in the United States,* to be published in 1974.

[3] In the Pay Board's reformulation of its regulations in October 1972, the Board allowed itself the prerogative of approving less than 5.5 percent in unusual cases. Little use was made of this discretion, however.

[4] Neil Jacoby, "After Phase II, What?" *Center Report* (Center for the Study of Democratic Institutions), October 1972, pp. 10–12.

WAGE-PRICE CONTROLS AND INCOMES POLICIES

DEREK ROBINSON

GOVERNMENT SEEKS wage controls or incomes policy in order to moderate the rate of increase of money wages. It might have other objectives too, but the reduction of inflationary pressures through wages, and presumably price measures, is proba-

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bly a necessary and sometimes a sufficient condition for the introduction of the appropriate measures. The reaction of the trade unions to the government measures frequently may be of crucial importance in determining the continuation if not the success of the policy measures. (Employers also have views and objectives, and while these are important they will not be discussed in similar detail.)

In the United States, one speaks of "controls," while in Europe we tend to speak of "incomes policies." The difference is important. First, "controls" indicates an attachment to the concepts of, and possibly a yearning for, a free market functioning in response to forces of supply and demand. There is a pejorative connotation to the word controls and its use in this context indicates that the measures are considered to be unpleasant, probably harmful in their distorting effects, and necessary only because of the existence or threat of something even worse. It follows, therefore, that they should be removed as soon as circumstances permit.

The second reason is that "incomes policy," which for present purposes can be regarded as synonymous with prices and incomes policy, indicates a broader-based set of measures. It is seen, at least by its supporters, as a combination of policy measures which may require restraint in money wage increases, and thus in collective bargaining, and which provide some desirable social reforms or measures which the parties to collective bargaining might themselves wish to see implemented.

It is useful to define incomes policy as measures to induce those responsible for taking price and incomes decisions to take decisions which are different from those which they would have taken in similar economic circumstances but in the absence of an incomes policy. Put somewhat simply, therefore, this can be seen as an attempt to shift the Phillips curve (accepting purely for purposes of illustration that there is in reality for policymakers any such thing as an ascertainable and usable short-run Phillips curve) by generating pressures which lead to money wage settlements which are lower than they would be were money wage increases to be determined in whatever is the customary way with the same level of demand.[1] Induced changes in the decisions of those responsible for taking incomes decisions might have other forms. For example, they might seek to redistribute a total amount of wage increase "kitty" between different members of the same bargaining unit or, on a national level, between bargaining units. In this way, the money wage restraint of some groups or subgroups might be accompanied by the higher money wage increases, either absolutely or relatively, of others.

Put briefly, it might be said that incomes policy necessarily includes controls, although the nature and coverage of these might vary, but also includes other elements. Many of these elements might be considered desirable by trade unions, but almost inevitably the controls are regarded with suspicion as threatening the very foundation of "free" collective bargaining and thus the perceived role and function of trade unions. There may be some exceptions in that some unions might receive larger increases under an incomes policy and thus be willing to forego the freedom to bargain collectively with an employer in return for the higher gains otherwise obtainable. As a general rule, all trade unions prefer to determine terms and conditions by bargaining. While the intensity of this attachment to orthodox collective bargaining varies from country to country, it is generally valid and it raises the question of why trade unions have agreed to surrender on a voluntary basis some of their freedom to bargain collectively, for some time period or other, and, why, in other cases, they have acquiesced in legislation which has had the effect of depriving them of this freedom.

Politics and ideology

There are two main answers. The first is political. Trade unions in Europe are, on the whole, not only more political than American unions—using political in its party sense—in that frequently they are clearly, overtly, and strongly identified with, attached to, or founders or paymasters of particular political parties. This means that on some occasions some trade unions might accept policies from "their" party government which they would not so readily accept from political opponents and similarly, and perhaps paradoxically or perversely, they may accept certain other restraints from "opposition" governments in order to avoid having their political party allies placed at an electoral disadvantage as a result of political opponents criticizing them on grounds of trade union opposition.

The second reason is "ideological." European trade unions are on the whole more politically motivated than the American ones. While it is probably the case that the leaders and activists are more committed to certain policies and views than are the rank-and-file members, it is nevertheless broadly true that the bulk of trade union membership in Europe holds the broad political views of the party with which their federation is associated. Where unions are organized in a single federation, as for example, in Germany and Great Britain, this link is with the Social Democrats or Labour Party, and where the unions are organized in separate federations on religious or political lines, as in France or Italy, the party affiliations can frequently be as easily observed. But running throughout the various types of trade union organizations and cutting across the various and varying political affiliations, it is probably true to say that European trade unions are more committed to an ideological position regarding social and political policies than is the case in the United States. The acceptance of a voluntary incomes policy by European trade unions is, therefore, frequently a mixture of these two elements: A government, possibly and preferably composed of "friendly" or associated parties, which requests or requires the exercise of restraint in money wage increases in order to achieve some other economic or social objective, and the expectation that certain other measures will be introduced by government which will permit the unions to make progress towards some of their social and economic objectives. Indeed, it might be argued that in some cases there is a growing awareness by both trade unions and employers of the limitations of bipartite collective bargaining to achieve desired objectives such as full employment, faster growth, a desired income distribution or redistribution, regional development policies, and so on.

Some national solutions

The development of a tripartite approach to policy discussion of a full range of social and economic issues can best be seen in Austria. There is a variety of institutions and committees through which the trade unions and the employers discuss wage and price developments within a framework that permits sectional collective bargaining subject to guidance or influence from the central bodies. The essential machinery was created by employers and trade unions, not by government seeking additional weapons with which to combat inflation. But the Wages and Prices Commissions are paralleled by other institutions and arrangements which permit the trade unions and employers to influence the government's social and economic policies. Instead of the wage and price policies being seen as excessive government encroachment on the rights and freedoms of the two social partners, they are regarded as an element in a broadly agreed and coordinated approach to social and economic policies. This does not mean that unions and employers have no differences of opinion. Rather, it illustrates the broad consensus on certain issues and leads to the existence of a framework within which there is a possibility for coordinating approaches and policy measures in order to attain certain ends.

Trade unions have appreciated that, whether gains are realized through collective bargaining with employers or through consultative approaches with employers and government, the end result can be to improve the position of their members. At the same time, of course, unions need to demonstrate that the results are obtained by them in order that they can continue to survive. This is one of the difficult issues associated with measures obtained through consultation with government; the benefits are widely received by members and nonmembers alike, and the government may well seek to obtain public credit for the measures to gain party political advantage.

The Austrian case demonstrates that a qualitative, rather than a quantitative, prices and wages approach is possible on a voluntary basis in a framework which provides the two social partners with the opportunity to influence other parts of government policy. The broadening of the area of discussion from that of sterile wage controls to cover a considerable spread of social policy can be well illustrated by the Dutch Central Agreement for 1973, signed in December 1972. This agreement, signed by the central organizations of employers and trade unions, stated that inflationary forces should be curbed. The agreement noted that the government had declared itself prepared to follow certain policy points which included the promotion with all possible means of a second day of instruction for working 15-year-old people, the lowering of the average size of classes in infants' schools by one, the withdrawal of government

proposals to introduce an own-risk clause in health insurance, the withdrawal of its proposals to freeze (not increase) the allowance paid to second children, the withdrawal of the proposed increase in the lowest rate of value-added tax, government promises that the costs arising from the implementation of the Social Relief Work Act (80 million guilders) would not be passed to the Working Incapacity Fund, which operates on a sort of actuarial basis, and to reconsider financing of the reception and attendance of foreign workers.

The agreement also stated that it expected government to apply the conditions about collective agreements to its own workers and to be extremely reluctant to increase prices and tariffs in the public sector. Government was expected to take certain action on investment policy and employment levels, particularly in the less-developed regions. In addition, government was expected to take action to ensure that organizations or enterprises, not members of the central organizations, signing the agreement would nevertheless observe the wage and price restraints conditions, as would the self-employed. The agreement declared that the aims were to limit the rise in the cost-of-living index in 1973 to 5.75 percent. The agreement contained details of price restraint measures which would have the effect of containing aggregate price movements by maintaining average profit per unit constant. Since price control legislation was in operation, the agreement specified that its own provisions would operate from the date of ending of the legislative provisions.

This approach can be seen as an attempt by the two social partners to provide a bipartite agreement which, while resting on government agreement, nevertheless sought to minimize or actually prevent, direct government intervention in wages and price controls (notwithstanding the existence of price control legislation) by providing a voluntary alternative that was preferred to government legislative intervention. It was recognized that bipartite collective bargaining could not deliver those things sought by the negotiating parties, and they in turn recognized that they had interests in as well as obligations toward government action to moderate inflation and that this would require some modification of their own bargaining behavior. In part, the central agreement was an attempt to keep the government out of detailed collective bargaining regulation.

This same objective of keeping out government lay behind the Irish National Agreement of 1970. The novelty of this move towards formal centralization was that hitherto there had been decentralized collective bargaining in Ireland. The fragmented bargaining system differed very considerably, therefore, from the more centralized bargaining of the Netherlands. The Irish TUC and the Employers Association reached agreement in the knowledge that the government was intending to introduce legislation providing for a statutory prices and incomes policy. The agreement ran for 18 months and contained two interesting features. First, the settlement was a flat rate of £2 per head per week, thereby narrowing percentage differentials. Second, it contained a threshold agreement to compensate for price rises, but there were two steps. The first step did not operate for the first 12 months, and in the second the first 4-percent increase in the Retail Price Index was not to be compensated. A second agreement followed, which contained provisions to offset the flat rate increase. There was a mixture of flat amounts or percentages which decreased on successively higher slices of income, starting at 9 percent on the first £30 and falling to 4 percent on pay in excess of £40.

The Irish experience would not be classed as "controls" because the latter were voluntary, but they were nonetheless strictly enforced. One union was threatened with expulsion from the Irish TUC for seeking to take strike action in support of a wage claim contrary to the provisions of the agreement. The provisions did not prevent all inflation, but were not meant to; rather, they were designed to moderate inflationary pressures and demonstrate to the government that the two parties were able to develop a system of collective discipline which would provide some limitations on wage development and, incidentally, reduce the conflict and introduce a greater degree of stability into the Irish labor scene. Its effects in strengthening the two central organizations might also prove to be one of the more important features.

Finnish experience illustrates the development of a tripartite approach to wages and prices, following government initiative in an economic crisis. There had been intermittent centralized bargaining in Finland for manual workers, but the Stabilization Agreement of 1968 set a new approach. It provided for a flat rate increase, which itself was to generate internal strains for the trade

union federation. It seems almost inevitable that there would be countervailing pressures for a pendulum swing from flat-rate increase to percentage-based ones which seek to widen, in whole or in part, the gap narrowed by earlier measures. The particular problems of white-collar unions which may be seeking to extend their organization and recruit new members raises especially acute difficulties. They believe that they need to widen differentials or at least prevent a narrowing if they are to attract new recruits.

The Finnish experience demonstrates that it may be necessary to try to combine centralized bargaining on certain issues with a considerable amount of freedom of flexibility within the total policy framework in the allocation of the "permitted" increases within each sector. This would be in general accord with the Swedish system of centralized bargaining, with its subsequent decentralized application of the framework decisions. In addition to their wage agreement, the central organizations of unions and employers also agreed to urge the Bank of Finland to make funds available for the construction of houses for rent and sought to increase training and make changes in other areas of social policy.

These experiences, to which others could be added, bring out certain points which might be of general applicability. European policies, which have received the support or tolerance of trade unions, have been those which have had a basis of tripartite discussions and some form of agreement behind them. The parties to collective bargaining have been willing to modify their own wage and prices behavior in return for certain conditions being provided by government. This might best be seen as a modification of bargaining rather than its abrogation or suppression. The two parties, trade unions and employers acting through their central representative bodies, accept restrictions on their own behavior to bargain about money wages in return for influence over other areas of economic and social policy. In this sense it might be said that the level of "bargaining" has been lifted and broadened. Instead of bipartite bargaining over money wages, with all the rest of the important variables concerning real wages, the distribution of income, and the whole range of social and economic policies determined inside the collective bargaining arena, opportunities are provided whereby in return for limitations on the exercise of free unhindered collective bargaining, trade unions and employers are able to influence the more important policy decisions.

The country which fits less easily into the analysis and framework I have suggested for Europe is perhaps my own, Great Britain. There is a trade union movement which has a political alliance and an ideological commitment to certain social and economic policies which can be achieved only by government. Yet they have found considerable difficulty in moving by voluntary agreement from bipartitism to tripartitism. This may be in part due to early attempts at a tripartite approach under Labour Government receiving a heavy setback when the voluntary incomes policy was replaced by statutory controls in 1969. Moreover, the historical trend has been strongly toward the attainment of social-political objectives through Parliamentary pressure when the government of the day has not chosen to emphasize the interrelationship of prices and incomes policy. It may also be the case that the ideological commitment has prevented the emergence of a concensus approach to many of these problems.

IN THE PAST 18 to 24 months the rate of inflation has been greater than usual or expected. All government policies be they orthodox or incomes, have suffered as a result. Those countries which were developing incomes policies found that their attempts were frustrated because of external pressures, while those which were using more traditional methods found controls, or in some cases movement towards broader incomes policies, attractive. The recent events have been so unusual and the pressures so considerable that no useful general conclusions based upon quantification appear possible or perhaps even desirable. Where incomes policies existed based upon some forecasted or expected rate of growth of prices, output, wages, and so on, the injection of much larger price increases necessarily meant that the real income objectives would be sacrificed or there would need to be changes in the money incomes development. This change in itself tended to discredit incomes policies; not because they in fact and in themselves caused the inflationary pressures which reduced real incomes or would have done without compensatory measures, but because people believed that they did.

Nevertheless, governments appear to regard controls in the narrow and restrictive sense as a

policy tool which can now be used should the circumstances warrant. Whether these controls develop into an incomes policy depends to a considerable extent upon the political and social practices and objectives of the country concerned and the ideological center of gravity of government, trade unions, and employers. Europe seems more willing than the United States and in some cases eager to contemplate broadening out the issues and trying to make the transition from controls to incomes policy. The pressures and desires to make this move will fluctuate from time to time and place to place according to recent experiences and the political relationships between unions and government, but it is probably the case that they will not only continue but strengthen.

When making international comparisons, one point should be emphasized. In many European cases incomes policy is not seen exclusively, or even necessarily primarily, as an economic measure to reduce, far less prevent, inflation, although this is always one of the objectives of government. It is likely, therefore, that there will continue to be differences in approach on the two sides of the Atlantic. Europe will emphasize the social and "political" aspects much more than quantifiable econometric ones. The positive rather than the restrictive negative aspects will be emphasized. There will be less fear or reluctance to interfere with the "free" market system and a greater willingness to accept "distortions" as desirable social objectives. It will be probably the case, therefore, that the United States will refer to controls and we will refer to incomes policy. Perhaps we are both right. □

——*FOOTNOTE*——

[1] I would indicate that I am agnostic, indeed probably a convinced atheist, so far as the existence of an effective short-run Phillips curve for policymaking purposes is concerned. I use the concept mainly because it seems to have gained a somewhat wide band of believers, and it is perhaps easier for present purposes to use some of the concepts of the new religion if it simplifies and facilitates communication. However, if the religion were to become an established official one, then because of my scepticism, derived from British data, it is more likely that the fate would be excommunication.

MINIMIZING THE EFFECT OF CONTROLS

ROGER M. BLOUGH

GOVERNMENT CONTROLS on wages and prices necessarily create distortions. That is part of their purpose. It might be both instructive and amazing to recount the physical facts of distortion going back to National Recovery Act days, World War II, Korea, and our current experience under controls. We can agree that there are also instances of distortion arising in circumstances created by government action in the presence of formal government controls. Witness the farm products price orgy of last spring during Phase 3, certainly not a part of or caused by controls, but related to unusual government sales of grain abroad—a raw material—which completely disrupted the market in the United States which was under price controls.

Controls sometimes also do a disservice by masking the need for structural reforms where needed in the economy. The construction industry is a highly visible example, since there is a clear need for coordinated bargaining among bargaining units if there is to be any hope of workable collective bargaining which will not have inflationary spillovers. Not quite so visible but equally important for the long-range health of collective bargaining is the need for other basic reforms to prevent an imbalance of power at the bargaining table—again producing results that are sought to be curbed by controls. The underwriting of strike activities through food stamps or unemployment compensation is an example of one such issue. Controls act as a temporary band-aid which cannot help cure underlying problems of this character.

We live in a world where people in growing numbers tend to transgress upon each other, giving rise to the need for controls of one sort or another. Most such controls are generally accepted. But when we come to "government" controls of wages and prices we are prone to think it another matter. Here controls are likely to be nonproductive or even counterproductive,

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attended by "black" and "grey" markets, with a cost much greater than any benefit.

In the light of this, is it fair to say that what we really object to is the character of controls—their breadth, their ineptitude as we see them, and perhaps the judgments of those individuals who administer controls—rather than controls as such or as a mode of living in a populous society? For example, there are those who were not persuaded that the imposition of a wage-price freeze on the famous Sunday in August 1971 was the correct prescription for the economic ills of that day. They preferred to trust the myriad decisionmaking operations of the market economy in comparison with such a centralized and disruptive cure.

Be that as it may, the next logical question is whether the shock treatment of a freeze followed by Phase 2 and Phase 3, another freeze followed by Phase 4, have about reached a point of no return. If that is so, how best can the controls be ended as promptly as possible?

Phased decontrol

One method of decontrol, the segmented approach, seems to have valid uses. It was tried when Phase 4 began. The experiment with forest products had its good points. Since then the decontrol-by-segment-of-industry approach has been used to decontrol fertilizer manufacture because it seemed to be the only practical way to meet distribution problems raised by much higher offshore prices, plus the only way to insure an adequate supply of fertilizer domestically for the next year's crops.

More recently many nonferrous metal products were decontrolled. This was a recognition that U.S. controls had no effect on higher foreign prices and that the latter attracted metals which should have been going to domestic consumers. This was a good example of controls creating inflation and shortages.

The cement industry was also decontrolled under price stabilization agreements. Here low prices prevented expansion because of the low cash flow in the industry generally. The automobile industry was decontrolled for well-publicized reasons, also under a form of price stabilization agreement.

In total, and depending on how the computation is made, the Nation's productive systems seem to be well over half decontrolled. On the other hand, our energy resources are such that new controls in that field are currently being adopted. An interesting question arises as to whether such industries as energy suppliers should be decontrolled pricewise while they are being more rigidly controlled on the supply side. The congressional view seems to be that supply controls must carry price controls with them.

Or take the construction industry, particularly the wage side of that industry, which is so prone to lead the way to cost-push inflation. If some form of wage and price controls for one or more of these industries is retained, would that constitute a policy inconsistency? Is the freeing of part of industry from controls while maintaining controls on other segments a feasible solution? A review of this logical dilemma points more toward a feasible pragmatism than to an inconsistency in policy. Controls are tools to be used sparingly and wisely.

Control alternatives

Surprising as it may seem coming from a former industrialist, under some circumstances and in some hands and with varying degrees of severity, formal government controls for temporary periods can be an acceptable part of the whole legal and custom-based network which surrounds our work and our daily lives.

The art in the matter is to know when and where and how much. The approach is not how can industry live half manacled and half free. Rather, it should be this: Can this segment or that of industry, or any other form of organization in our society better survive and prosper, in the public interest, with the crutch of some degree of controls? Or would controls be a hindrance?

There is considerable truth in the old cliche, "That government is best which governs least." In the formal control area it might well read, "That control is best which controls least."

A brief review of the alternatives for national wage and price policy invites a look at these types:

First, give the "no wage-price controls" policy another chance to demonstrate that it can function even in an industrial world of many nations with specific or informal controls of these matters and, at the moment, with massive evidences of inflation. From an international competitive point of view, this means asserting as a U.S. policy that

having a large number of business and service units acting largely on their own and solving their own problems in the wage and price field is a stronger, more resilient, better long-range "bet" than to place those units under a single government type of control.

It means that internally the good sense of unions, corporations, political subdivisions, and the U.S. population as a whole generally will be trusted to hammer out solutions as satisfactory as may be and more satisfactory than those likely to occur under controls. If policymakers reject this alternative, there are others.

Second, provide some form of government standby authority similar to that Congress gave the Executive in 1970 with the passage of the Stabilization Act of 1970. This would still leave unanswered the all-important detailed plan to be used in the exercise of such authority.

A third alternative is to establish a formal government group to monitor wage-price happenings in the economy generally and especially in bellwether settlements. One possibility is to give this group the persuasive power of government and public opinion only. This is no mean power, but jawboning is not as restrictive as, for example, rollback authority.

A fourth possibility is monitoring with the power of government sanctions. This might be accompanied by required reporting, submission of cost data and, before long, the regular exercise of the government "big stick" types of rules and regulations and specific powers of enforcement. The degree of distortions and counterproductive results this will bring will be measured by the restrictiveness of the controls applied, to say nothing of the difficulties involved in arriving at a single general wage standard.

If it is determined that my first preference of no controls is unacceptable and if some form of monitoring with final determination is to be made by other than the negotiating parties, then a new approach to government controls is worth exploring.

It is based on the thesis that whatever limits the centralizing of economic power in a few hands tends to preserve the utility of the market system. It also assumes that a competent, interested, public-spirited section of the citizenry can also play a useful role in helping to establish economic policy.

The suggestion[1] involves legalizing an all-government monitoring group which would, in addition to taking the economic pulse of the Nation, declare, from time to time, certain negotiations to be too important to be permitted to bypass review. *It would refrain, however, from setting any guidelines or standards.*

The parties to the designated negotiations would be referred to a certified panel of what might be called "economic referees." The members of this panel would be chosen by the monitors, would be well paid by government for the time spent, and would not be otherwise a government employee or, in any particular case, associated with any of the parties.

When the parties had concluded or were about to conclude a negotiation, their next step would be to choose possibly not less than three nor more than five economic referees from the panel, who would review the facts and approve or deny approval of the negotiated settlement as being in or not in the national interest.

The selection of the economic referees would be by mutual agreement of the parties involved. If this proved to be not feasible, their selection for the case under review would be promptly made by the monitoring group. Short specified time limits would be provided by the monitoring group for selection of economic referees, for review, and for final determination. The determination of the economic referees in any given case would be final and binding on the parties and on government.

Like other plans which provide for government intervention, this proposal for economic review has obvious advantages and shortcomings. Among its advantages are:

(1) It provides less government intervention and more disinterested citizen determination. (2) A government guideline, which soon becomes a floor, would be avoided, although over a period of time a pattern of approvability would probably emerge. (3) The case-by-case review method by economic referees would permit variations by industry, areas, occupation, past practices, and so forth. (4) It would decentralize determinations of what was in the national interest rather than have it decided in one place by only a few finite minds. (5) It could be tried for a limited time and, if found wanting, could be modified or repealed in favor of something else.

Among its shortcomings are: (1) The monitoring group might have difficulty in appointing the

members of the certified panel of economic referees and the panel would have to be of considerable size. (2) The economic referees' approvals might all move too far in any direction (although this is hardly likely), in which case the plan would have to be reviewed, modified, or ended. (3) It involves more government authorized procedure and more time than no controls or review. (4) It does not permit management of the major wage negotiations from a single government point, which, however, many think is an advantage rather than shortcoming. (5) The suggestion does call for selection of individuals for the certified panel whose decisionmaking would not be influenced by pressures from either side or by anxieties regarding future relations. But many have been subjected to such strains in the past and have acquitted themselves admirably. Personally, I would have confidence in their intestinal fortitude as they act in behalf of the economic welfare of the nation. □

——*FOOTNOTE*——

[1] Whatever the merits or demerits of this new approach, it should not be attributed to my valued associates in The Business Roundtable.

INTERNAL AND EXTERNAL FUNCTIONS OF THE COUNCIL OF ECONOMIC ADVISERS

HERBERT STEIN

THE COUNCIL of Economic Advisers has both an inside function and an outside function—communicating inside to the President and other Administration officials and communicating outside to others. The inside function is by far the more important. I will start with some precepts for behavior in the inside role.

1. The Council should present to the President and other officials the best economic information and analysis it can. That is obvious. One implication is that the Council should select its staff solely on the basis of professional competence.

2. The honest, objective "options paper" is the noblest work of the Council of Economic Advisers. The President must be given a fair account of the pros and cons of all the eligible choices. The Council must be sufficiently aware and respectful of the differences of opinion among reasonable men to do this. It must be able to distinguish between the strength of its own convictions and the probability of truth.

3. In a process where there is opportunity for different positions to be advocated, the Council should be prepared to choose a position and argue it vigorously. In choosing its position the Council should give particular weight to those long-run, indirect, and general consequences of policy which are likely to be underestimated by others who have special interests or who are not economists. The Council should try to distinguish between those aspects of its conclusion that stem from economic analysis and those it justifies on other grounds.

4. Members of the Council of Economic Advisers do not have to leave the room when the political consequences or political feasibility of proposed economic policies are being considered. Most political discussions are based on what economists call casual empiricism. Any middle-aged economist who has spent his life in an economics department or other political organization, who knows something about history, and who reads the newspapers can contribute to that.

The trouble with politics is that so much of it is bad—not in the sense of being immoral, which it isn't, but in the sense of not working, and of being a poor predicter. For good economics to be overridden by good politics may sometimes have to be accepted. But for good economics to be overridden by bad politics is a tragedy which should be resisted as far as possible.

5. A Council member, as long as he remains a Council member, should be prepared to give advice about the operation of the policy that exists, even if it is not his preferred policy and even if he is at the same time urging its revision. To think that this cannot be constructively done, and that a person can only work well in a world made in his own image, is childish. It is especially childish for economists, whose whole stock in trade is how to make the best of a given situation.

Now let me turn to some guidelines for the behavior of the Council of Economic Advisers in their external function, that is, in communicating to the public outside the Administration:

1. The President and the country are entitled to

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explanation and defense of the President's economic policies. Without public understanding, even the best policies will not work or will not survive. The Council of Economic Advisers is qualified to perform this function because it understands at least as well as anyone else the reasons for the President's policies. Of course, the Council does not perform this function alone; others in and out of the Government participate in it.

2. The key requirement in the Council's explanation and defense of the President's economic policies is honesty. There are people who think that explaining and defending the President's economic policies is inconsistent with honesty, especially when the President is not their hero. But surely a reasonable, unbigoted person, not overwhelmed by his own conceit, will not take this position. There are honest arguments to be made on many sides of most issues. Democratic process requires that these honest arguments be heard, including the President's. There are also plenty of dishonest arguments around, and the Council should not use them.

3. The Council is not required to go into hiding during political campaigns. It is during such campaigns that public education on economic issues is most needed. But a campaign is not an excuse for abandoning the basic rule of honesty. During campaigns a certain depreciation of the verbal currency goes on, which everyone seems to understand and to discount, and which apparently does no great harm. However, I don't believe that members of the Council should participate in it. It risks too much confusion about the Council's role.

4. On the whole, Council members should not tell jokes in public. The press won't understand them.

I have suggested nine commandments for the conduct of the Council of Economic Advisers. To go to 10 would be presumptuous. Everything I have said can be summed up in the word I have used several times—"honesty." That word seems to be going out of style, and is being replaced by another one, "credibility." These are quite different ideas. "Honesty" is telling the truth. "Credibility" is saying what the listener expects you to say. The Council should seek to be credible, but not at the expense of being honest.

The subject under discussion here—the behavior of the Council of Economic Advisers in the world of policymaking—is part of a larger subject—the behavior of all economists in that world. Surely singling out the CEA for discussion here does not mean that a lower standard of honesty, objectivity, and integrity is required of other economists—of Presidents of the American Economic Association, of professors, or of economic journalists. In fact, the danger that the Council of Economic Advisers will mislead the public for political reasons is smaller than that other economists will do so. The members of the Council are instantly recognized as appointees of the President, who have participated in making his policy, who believe in him and in the policy. What they say is understood in that light, and people can discount it as they think fit. In fact, since whatever the Council says is filtered to the public through adversary media, the discount is likely to be too great rather than too little. But people don't know what discount to apply to the utterances of economists identified only as "professor," which is not to say that no discount is needed.

Economists who participate in the policymaking process have, in my opinion, two responsibilities. First, they should try to identify themselves, so that people will understand from what political standpoint they speak. Second, they should try to tell the truth. Our profession has only a few truths. They are mainly of the order of "There is no free lunch," "Things are seldom what they seem," "We live in a world of scarcity," and "To live is to choose." We should try to tell these truths to the people. The President appreciates having his economic advisers tell him the truth, even when it is unpleasant. The people will also, I believe, respect economists for telling them the truth. □

THREE PITFALLS FOR PRESIDENTIAL ADVISERS

ARTHUR M. OKUN

IN ONE AND ONLY ONE respect, the Council of Economic Advisers has a vital political assignment. It involves internal politicking within the

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Executive Branch—the bureaucratic infighting to win the heart and mind of the President. That is a kind of politics and the Council had better be effective in that pursuit. But it had better be nonpolitical enough to give the President the straight unadulterated truth about the economy and economic policy, even when he won't enjoy hearing it.

Second, the Council of Economic Advisers must be loyal to the President; it exists to advise the President—not the press, the public, or the profession. Its effectiveness depends entirely on its relationship with the President, and would be impaired—even destroyed—if it were to criticize Administration policy.

Third, silence in public is the great reconciler of loyalty and integrity. To maintain loyalty, a CEA member can virtually never say everything he believes; to maintain integrity, he must never say anything he doesn't believe. If silence is inadequate, if the disagreement is fundamental, the CEA member should fold up his tent, silently and politely steal out of the Administration, and then speak out on economic issues. The man who resigned with a blast because the President didn't take his advice would be a heel, not a hero.

Fourth, the extent of the public role of CEA is not preordained. It should reflect the preferences and talents of CEA members. Being telegenic, witty, and an extrovert should neither qualify nor disqualify a man for Council chairmanship.

Finally, when he does speak out publicly, the CEA member should maintain his role as an expert and an analyst.

There are some treacherous pitfalls. One is *cheerleading*. Obviously, no CEA member will ever say that the economy is going to hell and there's no way to stop it. But evaluations of the economy should not see only the bright side. Throughout the past generation, CEA's evaluations and forecasts have seen too much brightness and not enough grimness.

This bias by CEA is not dishonesty, not a propensity to fool the public. Rather it is the temptation for policymakers to fool themselves, to become emotionally committed to the virtue and wisdom of their own programs. The only antidote I know is a dose of humility.

One problem that increases the propensity for cheerleading is the idiotic tradition that has somehow evolved over the years whereby every economic statistic of even trivial significance must be publicly evaluated by CEA before it can enter the historical annals. A medal should be struck for the CEA that will repeal that tradition by refusing to comment when it has no particular illumination to throw on some monthly figures.

A second pitfall is the *overselling* of programs. It is proper and constructive for CEA to display publicly its professional enthusiasm about economic proposals and programs—especially about its own babies. With the exception of Edwin Nourse, all CEA chairmen have agreed on that issue. But selling should not become overselling.

A third pitfall is *electioneering*, an issue that has been widely discussed of late in view of the new precedent set by CEA's involvement in the election of 1972. Campaigning by CEA does not violate the Hatch Act, but in my opinion it breaks the law of comparative advantage. Campaign speeches are a peculiar art form, combining love poetry for one's candidate and invective for his opponent. No matter how well and how temperately that art form is practiced, the product is unbalanced and unprofessional. And the only reason for such a speech to be delivered by a CEA chairman is to invoke the professional prestige of the Nation's top economic expert in behalf of the views expressed. Such a use of that scarce resource is bound to depreciate its value in more vital objective uses. When next a CEA chairman is urged to roll up his sleeves and electioneer, he should be able to decline by insisting that the criticism will cost more votes than the speeches will gain. He can offer instead to pitch in by preparing speech inputs for others.

IN SUMMARY, if the Council of Economic Advisers can be effective in internal politicking; if it can maintain its loyalty to the President and its professional integrity, invoking silence when necessary; and if, when it speaks publicly, it can avoid the triple pitfalls of cheerleading, overselling, and electioneering, then it will have solved the problem of how political to be. In that case, it will merely have to solve the problem of providing sound economic advice for the President. □

Research Summaries

BLS REPORTS FIRST ANNUAL DATA ON WORK INJURIES AND ILLNESSES

On the average, 1 out of every 10 workers experienced a job-related injury or illness in 1972, according to preliminary estimates from the first annual survey conducted by the Bureau of Labor Statistics under the Occupational Safety and Health Act of 1970. Although BLS also published estimates for 1971, the 1972 data, covering the first full year of recordkeeping under the act, will be used as a base of comparison with future surveys.

The survey indicates that 5.6 million incidents of work-related illness and work-related injury requiring more than first aid occurred in 1972 in private nonfarm industries (other than railroads and most of mining). For all industries, the incidence rate was 10.9 injuries and illnesses per 100 full-time workers. Incidence rates ranged among the industries from 2.5 in finance, insurance, and real estate to 19.0 in contract construction. In manufacturing, the rate was 15.5. (See table 1.)

Table 1. Preliminary recordable occupational injury and illness rates, by industry, 1972

Industry division	Average annual employment (in thousands)	Incidence rates [1]			Average lost workdays per lost workday case
		Total recordable cases [2]	Lost workday cases	Nonfatal cases without lost workdays	
Private nonfarm sector [3]	58,519.2	10.9	3.3	7.6	14
Contract construction	3,520.6	19.0	5.9	13.0	15
Manufacturing	18,933.1	15.5	4.2	11.3	15
Transportation and public utilities	3,920.8	10.8	4.5	6.3	16
Wholesale and retail trade	15,683.1	8.4	2.8	5.6	13
Finance, insurance, and real estate	3,926.4	2.5	.8	1.7	12
Services	12,273.3	6.1	2.0	4.1	14

[1] The incidence rates were calculated as: N/MH×200,000, where
N=number of injuries and/or illnesses
MH=total hours worked by all employees during calendar 1972
200,000=base for 100 full-time equivalent workers (working 40 hours a week, 50 weeks a year).

[2] Includes fatalities. Due to rounding, the difference between the total and the sum of the rates for lost workday cases and nonfatal cases without lost workdays may not reflect the fatality rate.

[3] Does not include railroads and mine activities other than oil and gas extraction (SIC 13).

Reporting units with less than 50 or with 1,000 or more employees tended to have lower incidence rates than those in the size classifications in between. The highest rate occurred in firms with between 100 and 249 employees—14.6 injuries and illnesses per 100 full-time workers.

Occupational injuries accounted for 96 percent of the total cases; occupational illnesses constituted the remaining 4 percent. However, it is probable that certain occupational illnesses were not recognized as such and therefore are not reflected in the statistics. Cases involving lost workdays accounted for only about 30 percent of all injuries and illnesses. Nevertheless, an estimated 25 million workdays were lost during 1972. This figure, which excludes fatalities, is equivalent to a loss of 100,000 man-years of work. Data on fatalities, as well as additional industry detail, will be released as soon as final figures are available. □

REPLACEMENT OF INCOME LOST THROUGH SHORT-TERM DISABILITY

FIVE STATES (California, Hawaii, New Jersey, New York, and Rhode Island), Puerto Rico, and the railroad industry have statutory programs providing insurance benefits to workers for short-term non-work-connected disability. In all other jurisdictions, workers have this type of protection only where voluntary programs have been established.

Data from the Social Security Administration's annual compilation of estimates on the income

loss accompanying temporary nonoccupational disability and on the extent of protection available against such loss are presented by Daniel N. Price in "Cash Benefits for Short-Term Sickness, 1948–72," in the *Social Security Bulletin* for January 1974.

Income loss in 1972 totaled $19.4 billion, 14 percent above the preceding year. Cash benefits to replace such losses amounted to $6.6 billion in 1972, 11 percent more than the payments made the year before. Thus the rate of income replacement remained a little more than one-third (34 percent).

Benefits paid through voluntary private insurance and self-insurance amounted to $2.0 billion in 1972 and sick-leave payments to $3.8 billion. Sick leave for government employees was a disproportionate part of all sick-leave payments ($2.6 billion, or two-thirds) because sick-leave plans are more widespread in government than in private industry.

The *Social Security Bulletin* is for sale by the Superintendent of Documents, Government Printing Office, Washington 20402; single copies 95 cents. □

OVER HALF OF GOVERNMENT SPENDING GOES FOR SOCIAL WELFARE

SOCIAL WELFARE EXPENDITURES under public laws rose to 55 percent of total government expenditures in fiscal year 1973—17.6 percent of the gross national product—compared with 53 and 17.5 percent, respectively, in the preceding year. The total expenditure in 1973 was $215 billion, or more than $1,000 per person in the United States. Half of the Federal budget now goes for social welfare, compared with 47 percent in 1972.

Public spending—which accounted for 71 percent of all social welfare expenditures—refers to cash benefits, services, and administrative costs of all programs operating under public law that are of direct benefit to individuals and families. The programs included are those for income maintenance through social insurance and public assistance and the public provision of health, education, housing, and other welfare services.

Private social welfare expenditures represent direct consumer expenditures for medical care and education, expenditures of private employee-benefit plans (including group health and life insurance for government employees), industrial in-plant health services, private health insurance benefits and the cost of providing this protection, and philanthropic spending. With this private spending included, the grand total for social welfare expenditures almost hit the $300-billion mark in fiscal year 1973 and was equivalent to about one-fourth of the gross national product.

Details of these expenditures and measures of growth are given in "Social Welfare Expenditures, 1972–73," by Alfred M. Skolnik and Sophie R. Dales, in the January 1974 issue of *Social Security Bulletin,* available from the Superintendent of Documents, Government Printing Office, Washington 20402, for 95 cents. □

RETIREMENT PAYMENTS KEEP PACE WITH COST OF LIVING

SINCE 1950, both railroad retirement and social security benefits have not only kept pace with the cost of living, they have also greatly increased in terms of purchasing power, according to the Railroad Retirement Board.

In terms of purchasing power, the railroad retirement age annuity in mid-1974 will be worth

Table 1. Average retirement benefits, 1950–73

Year of amendment	Railroad retirement		Social security		Consumer Price Index (1967=100)	
	Average benefit	Ratio to 1950 amount	Average benefit	Ratio to 1950 amount	Average for year	Ratio to 1950
1950	$83.22	1.00	$45.67	1.00	72.1	1.00
1951	95.24	1.14	44.44	.97	77.8	1.08
1952	96.47	1.16	52.16	1.14	79.5	1.10
1954	102.22	1.23	63.34	1.39	80.5	1.12
1956	115.00	1.38	68.23	1.49	81.4	1.13
1959	133.00	1.60	80.11	1.75	87.3	1.21
1965	140.90	1.69	92.59	2.03	94.5	1.31
1966	152.35	1.83	93.26	2.04	97.2	1.35
1968	169.00	2.03	109.08	2.39	104.2	1.45
1970	196.30	2.36	130.53	2.86	116.3	1.61
1971	219.85	2.64	146.13	3.20	121.3	1.68
1972	268.34	3.22	179.02	3.92	125.3	1.74
1973	296.66	3.56	202.26	4.43	142.0	1.97

NOTE: Benefit amounts shows are generally for the third month following the effective date of the amendments. Consumer Price Index figures are approximations derived by interpolation. Data for 1973 include the 11-percent increase signed into law by President Nixon on January 3, 1974, of which 7 percent will be effective in March and 4 percent in July.

SOURCE: "History of Increases in Railroad Retirement and Social Security Benefits, 1951–73," **Actuarial Notes** 10–73, Railroad Retirement Board, table 2.

80 percent more than the average annuity at the end of 1950. For social security, the corresponding figure will be 125 percent. The benefits compared were age annuities under the Railroad Retirement Act and old-age benefits for male workers under the Social Security Act.

The dollar spread between the railroad retirement and social security annuities has been increasing through the years, although the percentage spread has become narrower. (See table 1.) This results from the smallness of social security benefits in the early years of the period.

The five-page report on "History of Increases in Railroad Retirement and Social Security Benefits," *Actuarial Notes* 10–73, December 1973, is available from the Office of the Chief Actuary, U.S. Railroad Retirement Board, 844 Rush Street, Chicago, Ill. 60611. □

WHERE PEOPLE WORK AND HOW THEY GET THERE

A RECENT subject report from the 1970 Census of Population presents statistics on workers 16 years old and over, classified by place of residence and place of work for 125 Standard Metropolitan Statistical Areas with 125,000 inhabitants or more and their constituent parts.

Table 1 of the report gives data on the workplace of workers who either reside or work in each of the 125 areas. Table 2 presents social and economic characteristics of commuters for each SMSA—sex, age, race, household relationship, years of school completed, occupation, industry, earnings, and means of transportation to work. Data for residents of each geographic unit of the SMSA are shown by the geographic unit in which they work.

Among other items, table 2 shows that there were 47.2 million workers age 16 and over living in these 125 areas. More than three-fourths of them (36.2 million, or 77 percent) traveled to work by private automobile, only 5.2 million as passengers. Of the 11 million who did not travel by private car, 3.8 million went by bus or streetcar and 1.7 million by subway, elevated train, or railway; 3 million walked; nearly 1 million worked at home; and about 1.5 million used "other means" such as taxicabs, bicycles, motorbikes, and so forth.

Journey to Work, report PC(2)–6D, is available from the Superintendent of Documents, Government Printing Office, Washington 20402, for $9.70. □

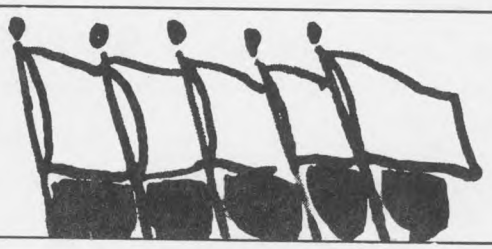
Children and labor force participation rates

The effect of having young children on labor force participation is largely a function of tastes, *ceteris paribus*. Families may choose to "produce" children with heavy inputs of services other than maternal care, but this is not common. Usually children are a highly time-intensive activity for mothers regardless of race, ethnic group, or even income level. For fathers, the desire to work when young children are present is also largely a matter of taste. A father will have his own particular way of perceiving his responsibilities to his child or children, and there is no reason to believe that there is a systematic difference among the male members of the groups in question.

—JONATHAN KING,

Social Inequality and Labor Force Participation
(Ph. D. dissertation, Department of Economics,
University of California,
Los Angeles, 1973), p. 78.

Foreign Labor Briefs



PENSION SUPPLEMENTS BASED ON NEED IN FIVE EUROPEAN COUNTRIES

AUSTRIA, Belgium, Finland, France, and Switzerland sponsor some of the oldest and most liberal social security systems in the world. Yet in each of these countries a quarter of the pensioners or more receives supplemental "means-tested" payments because their incomes fall below national standards, according to a recent study by the U.S. Social Security Administration. The term "means-tested" was chosen to reflect efforts made by the five governments to avoid the stigma of labels such as "welfare" and "assistance."

The means-tested payment for a single beneficiary ranges from 45 percent of the average old-age pension in Austria to 84 percent in Switzerland; the benefit for a couple ranges from 53 percent in Finland to more than 100 percent in Switzerland. In part, these ranges reflect differing governmental policies on basic pension benefits. In Austria, for example, benefits are relatively near former earnings, so that retirees may maintain their former standards of living without many supplements, while in Switzerland basic benefits are intended to provide only a minimum standard.

A substantial proportion of the aged who receive means-tested payments did not have low lifetime earnings, suffer disability, or retire early—common reasons for pension inadequacy in this country. Rather, they are workers or their survivors who were not included under social security reforms (for example, persons too old to qualify for new programs) and those whose plans for old-age security were undermined by economic and technological change (such as persons employed in agriculture, mining, or retail trade). Some European planners have projected that this group of "transitional" beneficiaries may decline in the next decade, or at least not increase as rapidly as the proportion of elderly in the general population.

Some evidence of this decline is indicated by the relationship of means-tested expenditures to all old-age pension expenditures over the period 1964–69 in the five countries studied. Three countries show a drop in the proportion of money spent on means-tested benefits: to 7.1 from 8.8 percent in Austria; to 16.0 from 25.0 percent in France; and to 14.4 from 21.4 percent in Switzerland, although the Swiss decline may be attributable to changes in the structure of government programs rather than the number of beneficiaries. The Finnish ratio of means-tested to total old-age benefits has held constant at about 60 percent over the period, and the Belgian guaranteed income program is too recent in origin to permit an analysis of trends.

The study, reported by Max Horlick in "Supplemental Security Income for the Aged: Foreign Experience," *Social Security Bulletin,* December 1973, also outlines the provisions for eligibility and financing of means-tested benefits in each of the five countries and reviews attempts these nations have made to improve their old-age benefit systems. □

Significant Decisions in Labor Cases

Waiving initiation fee before election

PRIOR to a representation election, the union on the ballot circulated so-called "recognition slips" among the prospective voters, along with the assurance that, if voted in, it would waive initiation fees for those who signed the slips before voting. The employees did not know how large the fee would be, and some believed it would be a fine or an assessment imposed on those who rejected the preelection offer.

The union won the election by a vote of 22–20—a victory that would have been prevented by the shift of a single vote. Despite the company's objections, the National Labor Relations Board certified the union and later ordered the company to bargain with it. A court of appeals disapproved of the Board's decision, and so eventually did the U.S. Supreme Court. (*NLRB* v. *Savair Manufacturing Co.*[1])

To the NLRB, a union's promise to waive initiation fees in the event of victory in a representation election was not a factor weighty enough to influence the employee voting in favor of the union. At one time the Board had considered such preelection offers inconsistent with employees' free choice of bargaining representatives,[2] but in 1967, it reversed its position, and its decision in the present case was in line with this change. Briefly, as stated in *DIC-AMCo, Inc.*,[3] the Board's new line of reasoning on the issue was that, so long as an offer of this kind demands no commitment to vote for the union, "it is completely illogical to characterize [it] as improper inducement or coercion to vote 'Yes' [to obtain] a waiver of something [in this case, payment of the initiation fee] that can be avoided simply by voting 'No.' " (163 NLRB at 1021–22.)

Speaking for the majority of the High Court, Justice Douglas directed the thrust of his opinion against this practical approach to the problem on the part of the NLRB. ". . . [T]he Board's analysis ignores the realities of the situation," the justice said. He continued:

> Whatever his true intentions, an employee who signs a recognition slip prior to an election is indicating to other workers that he supports the union. His outward manifestation of support must often serve as a useful campaign tool in the union's hands to convince other employees to vote for the union, if only because many employees respect their co-workers' views on the unionization issue. By permitting the union to offer to waive an initiation fee for those . . . signing a recognition slip prior to the election, the Board allows the union to buy endorsements and paint a false portrait of employee support during its election campaign.
>
> . . . We do not believe that the statutory policy of fair elections . . . permits endorsements, whether for or against the union, to be bought and sold in this fashion.

Furthermore, Justice Douglas said, even though the signing of a recognition slip is not a promise to vote for the union, "there may be some employees who would feel obligated to carry through on their stated intention. . . ." Where employees' attitudes toward the union are closely divided between the "pros" and the "cons," such a sense of moral obligation can produce unjustified results. In the case at hand, "the change of just one vote would have resulted in a 21–21 election [and a defeat for the union] rather than a 22–20 election."

Justice Douglas categorized the union's offer of initiation fee waiver as an "interference" with employees' exercise of their rights under section 7 of the Labor Management Relations Act. He further pointed out that such interference is an unfair labor practice when committed by an employer (section 8(a)(1) of the LMRA), but not when engaged in by a union (section 8(b)(1) of the act). However, a related provision of the statute—section 8(c)—clearly brands such an offer by a union as an unfair labor practice. Section 8(c) reads, "The expressing of any views, argument, or opinion, or the dissemination thereof [in any

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"Significant Decisions in Labor Cases" is written by Eugene Skotzko, Office of Publications, Bureau of Labor Statistics.

form] shall not constitute or be evidence of an unfair labor practice under any of the provisions of this act, *if such expression contains no threat of reprisal or force or promise of benefit* (emphasis added)." [4] In this case, the offer did contain a "promise of benefit"—nonpayment of the initiation fee (an amount of $10) in the event of the union's victory.

The justice also recalled another aspect of the employee-union relationship. "If we respect, as we must," he said, "the statutory right of employees to resist efforts to unionize a plant, we cannot assume that unions exercising powers are wholly benign towards their antagonists whether they be nonunion protagonists or the employer. The failure to sign a recognition slip may well seem ominous to nonunionists who fear that if they do not sign they will face a wrathful union regime, should the union win."

Justice White's dissent, joined in by Justices Brennan and Blackmun, rested essentially on the contention that "[i]t is well established that an 'unconditional' offer to waive initiation fees, where the . . . offer is left open for some period of time after the election, is not coercive and does not constitute an unfair labor practice. . . ." [5] In the present case, "[t]he hearing officer found 'no evidence, nor any contention,' that the union misrepresented to employees that they would have to become members immediately upon the certification of the union as bargaining agent," Justice White said.

Realty firms under FLSA

In a court action on behalf of maintenance workers employed in a complex of separately owned apartment houses, the Secretary of Labor charged that a real estate partnership which managed the houses violated pay provisions of the Fair Labor Standards Act. He asked for an injunction against further violations and backpay for the employees involved.

The action did not bring the desired results, but it gave the Supreme Court an opportunity to clarify certain questions regarding the position under the statute of firms engaged in real estate management, particularly the question of what is the correct measure of their "gross volume of sales made or business done" (section 3(s) of FLSA) for the purpose of determining whether they are engaged in interstate commerce. To this extent, the Supreme Court's decision in this case is an important supplement to its ruling last year (in *Brennan* v. *Arnheim & Neely, Inc.*[6]) that a company of this kind, if fully integrated operationally, is a single "enterprise" under the act.

To the Secretary's charges, the company in the present case replied that, *first,* it was not a single enterprise as that term is defined in the law; *second,* its gross annual volume of business was less than $500,000 required under the act for interstate commerce classification; and *third,* it was not an "employer" of the maintenance workers within the meaning of the act.

A Federal district court agreed with the firm's position and dismissed the case. A court of appeals reversed, but the Supreme Court, although sustaining the appellate decision on two of the three questions, ruled for the firm on the question of business volume. (*Falk* v. *Brennan.*[7])

In considering the three defense arguments, the High Court ruled that, under the act, the company was a single enterprise because its operations were "aggregate management activities"—a specification set for this kind of real estate companies by the Court in *Arnheim & Neely.* The Court also agreed with the appellate court that the firm was an "employer," there being actually two distinct kinds of employer involved in the operation of the buildings complex—the owners and the managers, both meeting the act's definition of employer. But the High Court upheld the company's claim that its business volume was not large enough for the act's applicability.

The crucial question was, what constituted the firm's gross income? The Secretary maintained that it was the amount of rent the firm collected, the company insisted it was the total of commissions received by all its partners. (The rents collected in 1968 amounted to $8,600,000; the firm's gross commissions that year were $463,000. The dollar volume limitation was $500,000 at all times relevant to this action.) The Supreme Court agreed with the company. It said:

> In the present case, . . . we are convinced that the enterprise of [the company] is limited to the sale of its professional management services, and, accordingly, that the commissions it receives are the relevant measure of its gross sales made or business done for the purposes of the dollar volume limitation in section 3(s)(1). [The company] collects a number of rentals on behalf of the property owners. In nearly every case, these rentals are paid pursuant to lease agreements of significant duration. Some may predate [the company's] management of the premises, and [it] may thus have had absolutely nothing to do with the

'sales' underlying the periodic rentals it collects for the owner.

. . . When a lease is negotiated by [the company], its remuneration is calculated not from the proceeds derived from that lease, but only from the rentals collected during its managerial tenure, during which period it renders significant and substantial management services beyond its earlier service in negotiating the lease. It is clear, therefore, that the business of the [company] is not the sale of a product (the rental of realty) but a sale of professional management services. . . .

No multiunit bargaining

Early in 1972, the National Labor Relations Board dismissed a charge by the Oil, Chemical and Atomic Workers that the Shell Oil Company had unlawfully refused to bargain with representatives of all its locals in sessions held at the same time and place. The company had never bargained on a multiunit basis, and the Board said the law did not require it to do so.[8] Last September, the U.S. Court of Appeals for the District of Columbia upheld the Board's decision, saying that "a party may not be forced to bargain on other than [one] unit basis." (*Oil, Chemical and Atomic Workers* v. *NLRB.*[9])

Of the Shell's 36,000 employees, about 6,000 were represented by 19 locals of the Oil, Chemical and Atomic Workers and 4,000 by about 60 units not affiliated with the OCAW. All contract bargaining had been at a local level, never on multiunit basis.

The simultaneous bargaining requested by the OCAW was to be over a revision of certain employee benefit plans established by the company but never written into collective bargaining agreements. The company traditionally modified these plans by its own decision after submitting the proposed changes by mail to all bargaining units, without regard to their union affiliation, and receiving their counterproposals. In contract negotiations, the company always ignored the OCAW's proposals for benefit changes; the union never called a strike in support of its unsuccessful efforts to obtain such changes at the bargaining table, nor was it able to arouse much enthusiasm among its members for simultaneous bargaining over the benefit plans.

In upholding the NLRB, the appellate court said:

. . . The Board, supported by the courts, has held that any subject of negotiations that falls within the definition of collective bargaining [with regard to the terms of employment] is a 'mandatory' subject that either party can raise and insist that the other party agree to as a condition of reaching [a collective bargaining] agreement. Any other subject, if not illegal, is a 'voluntary' subject that may be discussed, but that neither party may demand as a condition of an agreement.

Under this framework, multiunit bargaining has long been held a voluntary subject. Allowing a party to insist on bargaining on other than a unit basis, it has been thought, would interfere with another provision of the act. Section 9(a), to which the duty to bargain in good faith is made subject, states:

'Representatives designated or selected for the purposes of collective bargaining by the majority of the employees in a unit appropriate for such purposes, shall be the exclusive representative of all the employees in such unit for the purposes of collective bargaining in respect to rates of pay, wages, hours of employment, or other conditions of employment. . . .'

Under section 9(b), the task of designating the 'appropriate' unit 'for the purposes of collective bargaining' belongs exclusively to the National Labor Relations Board. While it has been held[10] that the parties may agree to consolidate units for purposes of collective bargaining, respect for the stability of industrial relations imparted by the Board's determination has led to the rule that a party may not be forced to bargain on other than a unit basis.

The OCAW seeks to compel multiunit bargaining despite this well-established rule. . . .

The union's position was that the Shell's method of revising the benefit plans could not be called a good-faith bargaining with locals. In support of its contention that the company was dutybound to engage in multiunit bargaining, the OCAW presented what the court called "two novel legal theories." *First*: it contended that the LMRA's provisions (section 9(a) and (c)(1)) for unit certification were intended to insure only that an "appropriate" unit's bargaining representatives be its exclusive representatives. But so long as the units remain intact, the act's policy does not prohibit those representatives from bargaining jointly with representatives of other units. *Second*: the union held it would be lawful to engage in multiunit bargaining on *selected subjects*. Such bargaining would be consistent with the act's provision (section 8(d)) that the bargaining parties "meet at reasonable times"; and the reasonable times would be set by the parties, or the NLRB, for the discussion of the issue in question after it had been studied by all concerned.

The court refused to accept these theories. Regarding the first one, the court said that, even if it were correct, the company could not be found to have unlawfully refused to bargain because it was not dutybound to accept what *in effect* would have been the creation of a single bargaining unit had the

union's demand prevailed. Further, the company's refusal to bargain simultaneously with all units must also be viewed in the light of the union's failure "to generate any pressure in support of its bargaining demands," as the NLRB trial examiner had found (examiner's language).

As for the second theory, the court observed, again referring to the trial examiner's opinion, that "the legislative history of the act provides no hint of a congressional intent to turn the requirement that the parties 'meet' into a mechanism for dictating what parties shall participate in negotiations on a *particular* subject of bargaining." (Emphasis added.) And the court went on, "The Board and the courts have applied this language only to cases in which the charged party has refused to negotiate with a single unit at any reasonable time and place. . . ." [11]

The court suggested that the union might employ other means to obtain effective bargaining on companywide programs, such as coordination of its locals' bargaining demands or utilization of impasse situations, or even incorporation of the issue of companywide benefit programs in its bargaining goals since they relate to conditions of employment and may, therefore, be subject to mandatory bargaining. "But the OCAW is in no position to blame Shell for its own lack of initiative . . .," nor can it compel the company to engage in multiunit bargaining, said the court.

In brief . . .

An improperly secured staircase collapsed when a sheet-metal worker was helping to carry a heating unit on a construction site, and some of his coworkers were injured. Acting independently, the worker refused to carry any more furnaces up any stairs unless they were fully secured. For this he was fired. The court later determined that, although there had been some other poorly secured staircases, the worker had been asked to use only the case that collapsed—but only once, it appeared.

The worker considered his protest action to be a "concerted" activity under section 7 of the LMRA. The NLRB ruled in his favor, but a court of appeals reversed. It said:

> . . . [T]he term 'concerted activity' means that the employee must be acting 'with or on behalf of other employees and not solely by and on behalf of . . . himself.' [12] We are unable to find any evidence that [the plaintiff's] complaint was made for the purpose of mutually aiding and protecting any employees other than himself.

Not only did the worker act without consultation with others, he did so in an offhanded manner, without recourse to the contractual grievance procedure and even knowledge of the contractual definition of safe working conditions. Further, the hazardous condition of work he complained about was the cause of an isolated accident that was not likely to recur. Had he taken such independent action to enforce a collective bargaining agreement, hence for "concerted purposes," he would have been protected by section 7. (*NLRB* v. *C & I Air Conditioning, Inc.* [13]) □

——*FOOTNOTES*——

[1] U.S. Sup. Ct., No. 72–1231, Dec. 17, 1973.

[2] *Lobue Brothers,* 109 NLRB 1182 (1954).

[3] 163 NLRB 1019 (1967).

[4] Here Justice Douglas observed, "Whether it would be an 'unfair' labor practice for a union to promise a special benefit to those who sign up for a union seems not to have been squarely resolved. The right of a free choice is, however, inherent in the principles reflected in section 9(c)(1)(A)."

[5] Cited: *NLRB* v. *Gafner Automotive & Machine, Inc.,* 400 F.2d 10 (C.A. 6, 1968).

[6] 410 U.S. 512 (1973).

[7] U.S. Sup. Ct., No. 72–844, Dec. 5, 1973.

[8] 194 NLRB No. 166 (1972); see *Monthly Labor Review,* April 1972, pp. 52–53.

[9] C.A.-D.C., No. 72–1277, Sept. 28, 1973.

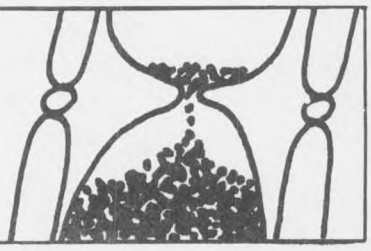
[10] For instance in *NLRB v. Dover Tavern Owners' Association,* 412 F.2d 725 (C.A. 3, 1969).

[11] Cited: *Caroline Farms Division of Textron, Inc.* v. *NLRB,* 401 F.2d 205 (C.A. 4, 1968); and *NLRB* v. *P. Lorillard Co.,* 117 F.2d 921 (C.A. 6, 1941).

[12] Cited from the court's earlier decision in *Pacific Electricord Co.* v. *NLRB,* 361 F.2d 310 (C.A. 9, 1966).

[13] C.A. 9, No. 72–1374, Oct. 30, 1973.

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in April 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[1]	Number of workers
Allied Employers, Inc., Retail Grocers (Washington)	Retail trade	Meat Cutters	2,000
Allied Employers, Inc., Wholesale Grocers (Washington)	Wholesale trade	Teamsters (Ind.)	1,000
AMBAC Industries, Inc., American Bosch Division (Springfield, Mass.)	Transportation equipment	Electrical Workers (IUE)	1,050
Amerace Corp., Elastic Stop Nut Division (New Jersey)	Fabricated metal products	Auto Workers (Ind.)	1,000
Area Grocery Contract (Minnesota and Wisconsin)[2]	Retail trade	Retail Clerks	1,200
ARO, Inc. (Arnold Air Force Station, Tenn.)	Services	Air Engineering Metal Trades (including Teamsters) (Ind.)	1,200
Associated General Contractors:			
Baton Rouge Chapter (Louisiana)	Construction	Carpenters	2,100
Baton Rouge Chapter (Louisiana)	Construction	Laborers	2,000
Chattanooga Chapter (Interstate)	Construction	Carpenters	1,600
Florida West Coast Chapter	Construction	Carpenters	2,550
Florida West Coast Chapter	Construction	Laborers	3,250
Knoxville Chapter (Tennessee)	Construction	Building and Construction Trades Council.	1,500
Knoxville Chapter (Tennessee)	Construction	Laborers	1,400
Lake Charles Chapter (Louisiana)	Construction	Laborers	1,200
Massachusetts, Inc., and 6 other associations	Construction	Bricklayers	1,300
Memphis Chapter (Interstate)	Construction	Laborers	1,000
Michigan Chapter	Construction	Operating Engineers	2,200
Missouri; Heavy and Highway Construction	Construction	Teamsters (Ind)	1,500
Nashville Chapter (Tennessee)	Construction	Carpenters	1,500
New Orleans Chapter (Louisiana)	Construction	Building and Construction Trades Council.	9,650
Northeastern Florida Chapter (Florida and Georgia)	Construction	Carpenters	2,000
St. Louis, and 2 other associations (Missouri)	Construction	Carpenters	3,100
St. Louis and Site Improvement Association (Missouri)	Construction	Laborers	3,000
Associated Hotels of Atlantic City (Atlantic City, N. J.)	Hotels	Hotel and Restaurant Employees	1,200
Associated Milk Dealers, Inc., Fluid Milk Contract (Chicago, Ill.)	Food products	Teamsters (Ind.)	1,800
Bendix Corp. (Interstate)	Transportation equipment	Auto Workers (Ind.)	10,200
Building Service League, Commercial Jobs (New York, N.Y.)	Services	Service Employees	4,500
Building Trades Employers Association of Westchester and Putnam Counties (New York).	Construction	Bricklayers	1,600
California Conference of Mason Contractor Associations, Inc. (Los Angeles County, Calif.)	Construction	Bricklayers	1,400
Carpenter's General Contracting Agreement (Florida and Georgia)[2]	Construction	Carpenters	2,050
Caterpillar Tractor Co. (San Leandro, Calif.)	Machinery	Machinists	1,100
Charmin Paper Products Co. (Green Bay, Wis.)	Paper	Paperworkers	1,400
Chicago Lithographers Association (Chicago, Ill.)	Printing and publishing	Graphic Arts	5,500
Clark Equipment Co., Industrial Truck Division (Battle Creek, Mich.)	Machinery	Allied Industrial Workers	1,450
Clark Equipment Co., Transmission Division (Jackson, Mich.)	Transportation equipment	Allied Industrial Workers	1,800
Cleveland Electric Illuminating Co. (Ohio)	Utilities	Utility Workers	2,900
Collins Radio Co. (Dallas, Tex.)	Electrical products	Electrical Workers (IUE)	1,550
Connecticut Construction Industries Associated, Inc. (Connecticut)	Construction	Teamsters (Ind.)	1,800
Consolidated Papers, Inc., and Consoweld Corp (Wisconsin)	Paper	Paperworkers; Machinists; Electrical Workers (IBEW); Plumbers.	2,700
Contracting Plasterers Association of Southern California, Inc. (California)	Construction	Laborers	2,000
Contractors Association of Eastern Pennsylvania, Heavy and Highway Construction, 3 agreements.	Construction	Carpenters	1,000
	Construction	Laborers	3,250
	Construction	Operating Engineers	5,000
Dayco Corp., Southern Division (Waynesville, N.C.)	Rubber	Rubber Workers	1,450
Dayton Tire and Rubber Co. (Dayton, Ohio)	Rubber	Rubber Workers	1,350
Denver Retail Grocers Agreement (Denver, Colo.)[2]	Retail trade	Meat Cutters	1,200
East Bay Restaurant Association, Inc. (California)	Restaurants	Hotel and Restaurant Employees	1,850
Fischer & Porter Co.; Alloy Steel Casting Co.; and Warminster Fiberglass Co. (Pennsylvania).	Instruments	Independent Union of Rotameter Workers (Ind.).	1,300

See footnotes at end of table.

Major agreements expiring next month—Continued

Employer and location	Industry	Union[2]	Number of workers
Food Fair Stores, Inc. of Miami and Frederich's Markets, Inc. (Florida)	Retail trade	Retail Clerks	2,200
Formica Corp. (Cincinnati, Ohio)	Rubber	Electrical Workers (IUE)	1,000
Gardner-Denver (Quincy, Ill.)	Machinery	Machinists	1,200
General Building Contractors Association (Pennsylvania and Delaware), 3 agreements.	Construction	Carpenters	7,200
	Construction	Laborers	8,500
	Construction	Operating Engineers	6,800
General Contractors Association of Lehigh Valley, Inc., and 8 other associations (Pennsylvania).	Construction	Laborers	4,950
General Contractors Association of Louisville, Inc. (Kentucky and Indiana)	Construction	Carpenters	1,400
Gould, Inc. (Interstate)	Electrical products	Electrical Workers (IBEW)	1,200
Great Atlantic and Pacific Tea Co., Inc., Ann Page Division (Horseheads, N.Y.)	Food products	Teamsters (Ind.)	1,500
Greater Pittsburgh Dairy Association (Pennsylvania)	Food products	Teamsters (Ind.)	1,400
GTE Lenkurt, Inc. (San Carlos, Calif.)	Electrical products	Electrical Workers (IBEW)	2,000
Heating, Pressure Pipe, Pipe Fabricators, Air Conditioning, Refrigeration, and Oil Burner Contractors (Oregon and Washington)[2].	Construction	Plumbers	1,100
Hayes-Albion Corp., Albion Malleable Division (Albion, Mich.)	Primary metals	Auto Workers (Ind.)	1,100
Hills Supermarkets, Inc (Nassau and Suffolk Counties N.Y.)	Retail trade	Retail Clerks	2,200
Home Builders Association of Greater St. Louis (Missouri)	Construction	Carpenters	4,650
Humble Oil & Refining Co., Refining Department, Baytown Refinery and Enjay Chemical Co. Baytown Chemical Plant (Baytown, Tex.).	Petroleum	Gulf Coast Industrial Workers Union (Ind.).	1,200
Ice Cream Industry Agreement (New York and New Jersey)[2]	Food products	Teamsters (Ind.)	1,400
Independent Markets (Philadelphia, Pa.)[2]	Retail trade	Meat Cutters	1,000
Indiana Highway Constructors, Inc. (Indiana)	Construction	Teamsters (Ind.)	1,400
Keystone Building Contractor's Association and Subcontractors (Pennsylvania)	Construction	Carpenters	3,000
Keystone Consolidated Industries, National Lock Division (Rockford, Ill.)	Fabricated metal products	Auto Workers (Ind.)	1,500
Ladies Handbags and Leather Novelties (New York, N. Y.)[2]	Leather	Leather Goods, Plastic and Novelty Workers.	4,000
Lear Siegle, Inc. National Twist Drill Tool Division (Rochester, Mich.)	Machinery	Auto Workers (Ind.)	1,100
Lufkin Industries, Inc. (Lufkin, Tex.)	Machinery	Boilermakers; Machinists; Molders	1,500
Luggage and Leather Goods Manufacturers Association of New York, Inc. (New York, N.Y.).	Leather	Leather Goods, Plastic and Novelty Workers.	1,800
Lumber and Mill Employers Association (California)	Lumber	Carpenters	2,300
Meat Drivers Agreement (Chicago, Ill.)[2]	Food products	Teamsters (Ind.)	2,000
Metal Trades Independent Companies (California)[2]	Fabricated metal products	Machinists	2,000
Metropolitan Edison Co. (Pennsylvania)	Utilities	Electrical Workers (IBEW)	1,800
Milwaukee Lithographers Association (Milwaukee, Wis.)	Printing and publishing	Graphic Arts	1,600
Minneapolis Area Hotels and Motels Agreement (Minneapolis, Minn.)[2]	Hotels	Hotel and Restaurant Employees	4,000
Minneapolis Automobile Dealers' Association (Minneapolis, Minn.)	Services	Teamsters (Ind.)	1,500
National Electrical Contractors Association, Inc.; Nassau and Suffolk Chapter (New York).	Construction	Electrical Workers (IBEW)	2,000
New Jersey Mason Contractors Association, Inc. (New Jersey)	Construction	Bricklayers	1,000
New York Industrial Council of the National Handbag Association (New York, N.Y.)	Leather	Leather Goods, Plastic and Novelty Workers.	6,000
Northern Illinois Ready Mix and Materials Association (Illinois)	Construction	Teamsters (Ind.)	2,200
Northern Minnesota Food Industry Agreement (Minnesota)[2]	Retail trade	Retail Clerks	1,300
Northwestern Mutual Life Insurance Co. (Wisconsin)	Insurance	Office Employees	1,500
Owens-Illnois, Inc. Blown Plastic Container Plants (Interstate)	Rubber	Glass Bottle Blowers	1,950
Peoples Gas Light and Coke Co. (Chicago, Ill.)	Utilities	Service Employees	1 950
Pet, Inc., Hussmann Refrigerator Co. (Bridgeton, Mo.)	Machinery	Steelworkers	1,500
Printing Industries of Metropolitan New York, Inc., Printers League Section (New York, N.Y.).	Printing and publishing	Printing and Graphic Communication	1,500
Printing Industry of Twin City (Minnesota)[2]	Printing and publishing	Graphic Arts	1,500
Private Carrier Agreement (Washington)[2]	Trucking	Teamsters (Ind.)	3,000
Retail Meat Cutters Agreement of Greater Kansas City (Kansas and Missouri)[2]	Retail trade	Meat Cutters	1,150
Rock Hill Printing and Finishing Co. (Rock Hill, S.C.)	Textiles	Textile Workers Union	2,500
Rohm and Haas Co., Mechanical and Production Units (Bristol, Pa.)	Chemicals	Glass and Ceramic Workers	1,200
Roofing and Sheet Metal Contractors' Association of Philadelphia and Vicinity (Pennsylvania and New Jersey).	Construction	Sheet Metal Workers	1,500
Southwestern Michigan Contractors Association and 1 other association (Michigan)	Construction	Laborers	1,200
Stanadyne, Inc., Chicago Division (Bellwood, Ill.)	Fabricated metal products	Auto Workers (Ind.)	1,000
Standard Brands, Inc., Planters Peanuts Division (Suffolk, Va.)	Food products	Distributive Workers (Ind.)	1,500
Store Fixture and Architectural Woodwork Institute (Los Angeles, Calif.)	Furniture	Carpenters; Painters	1,200
Television Videotape Agreement (Syndication) (Interstate)[2]	Amusements	Musicians	8,000
West Penn Power Co. (Pennsylvania)	Utilities	Utility Workers	1,100
Wheaton Industries, Production and Maintenance Unit (Millville, N.J.)	Stone, clay and glass products	Glass Bottle Blowers	2,500
White Motor Corp., White Farm Equipment Co. (Charles City, Iowa)	Machinery	Auto Workers (Ind.)	1,500
Wyman-Gordon Co., Inc. (Worcester and Grafton, Mass.)	Primary metals	Steelworkers	1,400
Yellow Cab Co. of Pittsburgh (Pittsburgh, Pa.)	Transit	Teamsters (Ind.)	1,100
	Government activity	**Employee organization [1]**	
District of Columbia: Metropolitan Washington Transit Area Authority	Public transportation	Amalgamated Transit Union	3,000

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

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

Developments in Industrial Relations

Social security benefits increased

ON JANUARY 3, President Nixon signed amendments to the Social Security Act raising benefits 7 percent in March and 4 percent in June. (In both cases the percentages are applied to the pre-March benefit levels). After the June increase, the average monthly benefit will be $181 for an individual, instead of the pre-March average of $161, and $310 for a couple, instead of $276. The two-step benefit increase will replace the 5.9-percent increase scheduled for June 1974 under the 1973 amendments (*Monthly Labor Review*, September 1973, pp. 87–88).

The 1974 amendments also provided for automatic cost-of-living adjustments in benefits whenever the Consumer Price Index rises 3 percent. The first adjustment, in June 1975, will be based on the percentage difference between the average Index level for the first quarter of 1975 and the second quarter of 1974. Under the July 1972 amendments, the first adjustment would have been in January 1975.

The social security tax paid by employees (and matched by their employers) remained at 5.85 percent, but the taxable base was raised to the first $13,200 of annual earnings, effective January 1, 1974. The previous base was $10,800, and it had been scheduled to rise to $12,600 on January 1 under the 1973 amendments. The new maximum tax is $772.20, compared with the $631.80 that prevailed in 1973 and the $737.10 that would have been due under the $12,600 base.

The legislation also moved up to January 1 the transfer of some 3.4 million aged, blind, and disabled persons from Federal-State public assistance programs to the new Federal Supplemental Security Income system. This change had been scheduled for July 1. The supplements to social security payments provide recipients with a minimum monthly income of $140 for individuals and $210 for couples. Previously, the payments were $130 and $195. In July 1974, the minimum will rise to $146 a month for individuals and $219 for couples.

In signing the bill, the President said social security benefits "have risen by 68.5 percent since this Administration took office 5 years ago."

Meanwhile, Secretary of Health, Education, and Welfare Caspar W. Weinberger approved a 40-cents-a-month increase, to $6.70, in the premium paid for optional Medicare coverage. The premium was $3 a month when Medicare began in 1966.

Manpower overhaul approved

On December 28, President Nixon signed the Comprehensive Employment and Training Act of 1973, asserting the act would put an end "to the patchwork system of individual, rigid, categorical manpower programs which began in the early 1960's." The White House and Congress both made concessions on some aspects of the act.

The President accepted continuation of the public employment program and said he would ask an additional $250 million for these jobs in the year ending June 30, 1974. This would permit the creation of some 40,000 public employment jobs, allocated to areas where unemployment rates have reached 6.5 percent. The temporary public service jobs would be in highway maintenance, sanitation, clerical work, and other areas determined by local officials.

Congress accepted the principle of "special revenue sharing." According to the White House, the employment and training programs would be available to States and communities "without any

"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.

Federal strings as to what kind of services or how much of these services should be provided."

In the consolidation, a few of the existing manpower programs, such as the Job Corps, were retained. Most of the others, including the Neighborhood Youth Corps, were to be eliminated, although localities could retain them if desired. The 10,000-odd contracts previously let for manpower programs around the Nation would be reduced to 500, with States, counties, and cities serving as prime contractors.

Brennan sees pay demands rising

Secretary of Labor Peter J. Brennan predicted that inflation was likely to create demands for substantially higher wages in 1974. At a January 8 press conference, Mr. Brennan said, "Workers will be looking for their pound of flesh—and I'm not saying they are wrong." He did not speculate on what might happen to wage controls when the stabilization program's legislative authority expires April 30, 1974, but did say that the Government "should not interfere with free collective bargaining."

Usery gets labor energy post

President Nixon named W. J. Usery, Jr., special assistant for labor relations. Mr. Usery, who also heads the Federal Mediation and Conciliation Service, had reportedly been offered the top post in the AFL–CIO's new Department of Organization and Field Services (*Monthly Labor Review,* November 1973, p. 74). In his new position, the White House said Mr. Usery "will place special emphasis on all labor relations matters having to do with production, delivery, and dispersion of energy fuels and power."

Philadelphia Plan extended

On December 27, the Department of Labor extended the Philadelphia Plan for another year. The plan, originally imposed in 1969, sets minimum goals for hiring minority workers in federally assisted construction projects. The plan's effectiveness has been the focus of controversy and its continuation opposed by some unions and contractors in the construction industry.

Philip Davis, director of the Department's Office of Federal Contract Compliance, reported that in the first 10 months of 1973, minority workers accounted for 21 percent of the 65,358 man-hours worked in the six construction trades covered by the Plan. He said this exceeded the average minimum goal of 19.8 percent for the six crafts and added that "in-depth compliance reviews" were being launched where contractors hadn't met their goals. The Philadelphia Plan was the first of seven minority-hiring plans imposed on the construction industry; in addition, voluntary plans have been set up in over 60 other cities.

On December 20, Chicago had become the seventh area with a mandatory plan. (The others were Philadelphia, Washington, Atlanta, St. Louis, San Francisco, and Camden.) In announcing the Chicago Plan, the Labor Department asserted two earlier "voluntary" minority-hiring programs had failed. The first Chicago Plan ended in 1970 after a series of difficulties, including alleged financial chicanery. The second voluntary plan was never put into effect because of disagreements over procedures. The mandatory plan establishes "goals and timetables" for contractors and unions to put minority workers into jobs on construction projects in five counties in the Chicago area. Penalties for noncompliance include contract cancellation and barring of bids on future Federal contracts.

Various civil rights spokesmen assailed aspects of the plan. Herbert Hill, labor director of the National Association for the Advancement of Colored People, claimed it would do nothing "to alter the racist pattern in the building and construction trades, just as the pattern has not changed in six other cities when an affirmative action plan has been imposed." He said the only plan that can work is one that is in the form of a court order that contains goals and timetables "that will be judicially monitored and enforced." Mr. Hill cited Seattle as an example of an area having such a plan in operation.

The NAACP also filed suit against three "hometown" plans (Boston, Oakland, and Detroit), charging the plans retard, instead of promote, the cause of equal employment in the construction industry. Mr. Hill said the hometown solutions require companies involved in construction projects to only sign certificates promising to make "good faith" efforts to employ an appropriate number of minority workers on construction projects. The suit charged that the companies often did not honor their certificates.

California construction strike ends

Some 4,000 Northern California Carpenters and Piledrivers ended a 7-week wildcat strike on December 31, reportedly after receiving assurances that the Associated General Contractors of California, Inc., would assist the union in pressing the Construction Industry Stabilization Committee to approve a 65-cent deferred increase due June 16, 1973. The dispute over the size of the deferred increase reached a climax on December 7, when the Committee issued an order authorizing a 15-cent increase to be effective June 16. On January 4, the body issued a 14-page explanation, detailing its reasons for the wage cutback order. (The statement—the first such document prepared by the panel explaining its reasons for cutting an increase—met an Economic Stabilization Act requirement for a "statement of explanation" to the affected parties following any "order" reducing wages.)

In the explanation, the Committee disclosed that although it approved the 1971 agreement in question, and others in California, it began to review the deferred portions of the contracts after the Pay Board assumed some authority over its operations. (The Board had issued an order enpowering the Committee to "administer its policies" with regard to settlements, with increases scheduled to be effective on or after August 16, 1971, requiring Committee approval even if the Committee had already approved the increases at settlement time.) Under its "informal" guidelines, the Committee developed a "preliminary recommendation" of 25 cents for 1973 Northern California increases. As a result, the Carpenters' June 16 deferred wage hike of 65 cents, coupled with a June 1 fringe benefit increase of 25 cents, appeared "to be in excess of the 1973 guidelines." After a May hearing, the Committee approved the 25 cents in fringes, but allowed a wage increase of only 15 cents, instead of 65. The Carpenters refused to modify the contract, and subsequently walked off the job and filed a suit challenging the Committee's authority.

Mine safety strikes barred

The Supreme Court, on January 8, ruled that coal miners are not entitled to strike over potentially unsafe mine conditions, but must, instead, submit safety disputes to arbitration. The ruling involved a dispute at a Gateway Coal Co. mine in Western Pennsylvania. Three of the mine's foremen were charged by State inspectors with falsifying records to mask a large reduction in air flow in the mine. The company suspended the foremen, but when they were reinstated the miners struck. The company then won a court order barring the strike, but an appeals court reversed the ruling, saying the miners could strike. In overturning the decision, the Supreme Court indicated that coal miners must present hard evidence of unsafe conditions to justify a strike. The majority opinion said, "The claim concerns not some identifiable, presently existing threat to the employees' safety, but rather a generalized doubt on the competence and integrity of supervisors."

SEC rejects anti-bias move

The Securities and Exchange Commission has decided not to require positive anti-discrimination steps by the brokerage industry, although it will urge the industry to increase efforts to eliminate job bias. The Commission announced that while it has authority to impose "affirmative action plans," any such plans would duplicate Federal laws barring discrimination based on race or sex. The SEC said the Equal Employment Opportunity Commission is already empowered to enforce these laws. The SEC added that it "recognizes that elimination of discrimination in employment is a matter of national concern," and was planning a campaign with the stock exchanges "to recruit women and minority-group members into professional-level securities industry positions." The United Church of Christ announced it might challenge the SEC decision in court. The Church, along with the National Organization of Women and the United Presbyterian Church U.S.A., had a year earlier asked the SEC to require minority-hiring plans.

AT&T to bargain nationally

For the first time, companywide labor agreements will be negotiated by American Telephone and Telegraph Co., the Nation's largest private employer. Both the Communications Workers of America (CWA), representing 500,000 workers, and the International Brotherhood of Electrical Workers (IBEW), representing 72,000, have agreed

to the new approach. Previously, the unions settled with one of the Bell System affiliates and used the terms as a pattern for other companies in the system. The new bargaining procedures will not affect independent local unions.

Contract negotiations will include wages, fringe benefits, and contract duration, with bargaining on other issues done locally. Most of the agreements involved will expire in July.

Unionists sue over steel accord

Thirty-five members of the Steelworkers' union filed suit in Federal District Court in Pittsburgh to nullify the Experimental Negotiating Agreement reached in March 1973 (*Monthly Labor Review,* May 1973, p. 62). The suit charged that the union violated labor law and its own constitution by not submitting the agreement to a union membership ratification vote. (The agreement, which provided for binding arbitration of disputed issues in the 1974 bargaining and prohibited national strikes or lockouts through mid-1977, was ratified by the Steelworkers' Basic Steel Industry Conference.) The plaintiffs said they took the class action on behalf of some 400,000 Steelworkers employed by the 10 basic steel companies that were party to the agreement. The suit charged that union members' right to strike was guaranteed in the last Steelworkers' convention, held in September 1972, and as a result the agreement violated the convention. The plaintiffs also sought a preliminary injunction to stop union officers from proposing any contract demands to the steel companies without first submitting them to the membership.

Earlier, some of the plaintiffs had delivered to the union leadership a protest against the Experimental Agreement. (*Monthly Labor Review,* November 1973, pp 72–73). They claimed the petitions bore the signatures of 2,000 members.

Meanwhile, the Steelworkers formulated contract demands at a January 9–10 conference in Washington, D.C., attended by the 600-member policy committee. At a press session afterwards, Steelworkers' President I. W. Abel said the union would seek a "very substantial improvement" in wages and the cost-of-living escalator formula. He dismissed the 5.5 percent economic stabilization guideline as "obsolete." Mr. Abel added the union would ask for guarantees against loss of income to employees sent home temporarily because of production cuts caused by lack of fuel. Mr. Abel said the union couldn't protect workers against permanent dislocations resulting from the energy crisis. Negotiations with the major steel producers began January 30.

Pregnancy-leave accord voided

In Chicago, the U.S. Court of Appeals voided an airlines agreement that had given stewardesses who take pregnancy leave the right to reapply for their jobs and to retain seniority. The agreement, between Trans World and American Airlines and the Airlines Stewards and Stewardesses Association, was negotiated to settle a suit filed by 600 stewardesses who were fired after taking pregnancy leave. Initially, the plaintiffs had also sought restitution of lost pay but this was not provided for in the agreement.

In reversing Federal District Judge Joseph Sam Perry's 1971 approval of the agreement, the Court of Appeals held that collective bargaining should not be used to negotiate civil rights and that the union could not represent the fired employees because their interests were not the same as the union's. The court did not rule on whether the firings were legal, which meant that each employee may file a separate suit in U.S. District Court. The appeal was initiated by some of the stewardesses who were party to the original action.

An airlines spokesman said that virtually all of the fired employees had been rehired after the negotiated settlement.

Utility signs hiring accord

The Equal Employment Opportunity Commission signed an agreement with the El Paso Natural Gas Co. calling for the company to hire specific percentages of minority members and women over the next 7 years. For 1974, El Paso agreed that 57 percent of new hires in the home office and 70 percent of those hired in field positions would be women or minority members. The pact includes provision for backpay and salary increases for 140 workers earning "below the norm for white males of similar background and training."

Flying in the face of a shortage

American Airlines and the Allied Pilots Association have reached an agreement enabling 354 pilots scheduled to be furloughed in March to remain on the job at least until May 31. The pilots will fly and be paid for half their normal hours. American has already laid off 3,100 employees, including 214 pilots.

The layoffs resulted from schedule reductions attributed to fuel shortages. The parties said they were hopeful that the fuel situation will have improved enough by May 31 to permit retention of the pilots beyond that date.

New York City settlements

On December 29, New York City settled with organizations representing police patrolmen, corrections officers, and sanitationmen, followed by January 11 settlements for police sergeants, detectives, and lieutenants. All of the contracts were for 1-year terms beginning July 1, 1973.

The 25,000 patrolmen, represented by the Patrolmen's Benevolent Association, and the corrections officers, represented by the Corrections Officers Benevolent Association, received a $700 increase in salaries effective July 1, 1973, and $250 on January 1, bringing their basic annual salary to $15,250.

The 2,700 police sergeants, represented by the Sergeants' Benevolent Association, received $910 and $325 on the respective dates, bringing salaries to $19,825.

The 3,500 detectives, represented by the Detectives' Endowment Association, and the 1,100 lieutenants, represented by the Lieutenants' Benevolent Association, received $1,050 and $375 increases, bringing salaries to $22,875.

The employees represented by the Uniformed Sanitationmen's Association received $630 and $225 increases, bringing salaries to $13,741.

All of the contracts included union commitments to assist the city in increasing productivity, such as by changing assignments or vacation schedules. Talks were continuing with the Captains' Endowment Association, representing police officers from captain through deputy chief inspector.

On January 21, New York City and the negotiating committee of District Council 37 of the State, County and Municipal Employees accepted the 3-year contract recommended by an impasse panel for 130,000 nonuniformed employees. Wages were not at issue.

One of the chief issues that had led to the impasse was the union's demand for a pension plan to replace the 1971 plan rejected by the State Legislature. The panel did not endorse the union's position but did back continuation of welfare benefits for employees who have retired since July 1970.

The panel also recommended that the city's annual contribution for welfare benefits be increased to $300 effective January 1, 1974, and to $350 a year later, from $250. Victor Gotbaum, executive director of the District Council, said part of the increased financing would be used to establish prepaid legal services for employees.

Other recommendations included reducing the workweek for some health employees to 37 1/2 hours, from 40; reducing the number of summer "heat days off" to 3 a year, from 4; reducing by 1 week the summertime period during which employees work shortened days; granting terminal leave to employees with 10 years of service on the basis of a day of leave for each 2 days of accumulated sick leave, to a maximum 120 days terminal leave (the city indicated the previous practice had been more liberal); and charging employees for meals at institutions.

Michigan weighs pension liberalization

The Michigan Civil Service Commission has tentatively granted 54,000 State employees the right to retire at age 55 after 30 years of service, with monthly pensions computed at 1 1/2 percent of average annual earnings (in the highest 5 consecutive years) for each year of service. Previously, pensions were computed at 1 percent of annual earnings to $4,200 and 1 1/2 percent of any excess, with the resulting benefit amount reduced 1/2 of 1 percent for each month the retiring employee was under age 60.

To some extent, the change reflected the 1973 settlements in the State's largest industry—automobile manufacturing—where the Auto Workers gained retirement after 30 years, regardless of age. Other changes included State assumption of the

employees' share of pension financing (4 percent of earnings) and a pay increase of up to 7.5 percent, varying by job classification.

The Commission's decision was based on the recommendations of its compensation advisory board, composed of four representatives each from labor organizations and State executive departments and chaired by a Commission member.

All of the changes, scheduled to be effective July 1, 1974, are subject to veto by the Legislature. The Commission declined to adopt a cost-of-living pay adjustment procedure modeled after the auto industry, pending a decision from the State attorney general on its legality. About 19,000 of the employees are represented by the Michigan State Employees Association.

Guild and AP settle

Ratification of a 2-year contract between the Newspaper Guild and The Associated Press was announced January 18. "Top minimum" salaries (the minimum after a given period of service, usually 6 years) were increased effective January 1 of both 1974 and 1975. For reporters, photographers, and some other employees the increases were $17 this year and $18 next year, bringing their top minimum to $335 a week.

The wire service also agreed to an additional salary increase in 1975 equal to any rise in the Consumer Price Index in excess of 8 percent during the first contract year. Shift differentials also were increased, as was pension financing. □

The propensity to migrate

It is well documented that one of the most important determinants of the propensity to migrate is whether or not the person has migrated before. Nationwide, only 6.3 percent of those who were still living in their State of birth in 1955 had moved out of that State by 1960. However, 17.9 percent of those born in a State other than their State of 1955 residence moved again within the next 5 years. While some of this increased mobility represents return migration back to the State of birth, most of it is to other States.

This is especially surprising because the incentive to move should be much less for those who have already moved once. Because their first move was presumably to what was considered the most desirable destination at the time of the move, the improvement from a second move should be small. (Except for those who moved at the behest of others, such as children, soldiers, and employees of large companies.) The difference in the desirability of the second and third places of residence is probably much less than between the first and subsequent places. In particular, those who have already left their State of birth are less likely to be living in rural or other low-income areas.

The explanation for the high mobility of those who have already moved once is twofold. One is that those who have moved at least once are a self-selected group which has displayed a willingness and ability to move. This group includes disproportionate numbers of soldiers, students, young people, executives in large corporations, and people with personalities conducive to mobility. Any measure of previous mobility will serve as a surrogate for a number of these variables.

Second, length of residence in an area is a measure of the investment in human capital that a potential migrant has built up. This human capital takes the form of knowledge of an area and friends made. With out-migration most of this investment is rendered worthless. Thus, the longer a person has lived in one area, the less likely is he to find that the benefits of further migration exceed the costs (including his loss of human capital). Thus, the process of moving once actually makes a second move more likely by destroying a person's original roots.

A third factor is one of information. Someone who has recently moved into an area has first-hand knowledge of at least one other area, and is likely to be receiving a continual flow of information from friends and relatives. An already existing stock of human capital lowers the cost of a move to the area of previous residence.

—EDWARD MILLER,

"Is Out-Migration Affected by Economic Conditions,"
Southern Economic Journal, January 1973.

Book Reviews and Notes

Friendly polemical discussion

John Kenneth Galbraith and the Lower Economics. By Myron E. Sharpe. White Plains, N.Y., International Arts and Sciences Press, Inc., 1973. 86 pp. $6.

The "Lower Economics" in the title of this book, its author tells us, "was suggested by a figure of speech once used by Galbraith" to describe institutional economics of the type for which he is so well known, that is, economics "adulterated by foreign admixtures of politics, moral judgments and sociology." This is in contrast to the "higher economics" of pure theory, rigorously logical and scientific, and expressible in mathematical terms, but based on assumptions far removed from the realities of the modern industrial world. According to Sharpe, lower economics, "far from being a term of opprobrium, must in this view be considered an accolade." He equates it with "thinking big" about the economy and concludes (rightly, in this reviewer's opinion) that it is here to stay.

Sharpe's book, presented as a "friendly polemical discussion," is a brief and straightforward review of three of Galbraith's best-known works: *American Capitalism, The Affluent Society,* and *The New Industrial State.* In one sense, the timing of the book is unfortunate. While the three works in question could until recently have been said to constitute the essence of the Galbraithian system, the publication this year of *Economics and the Public Purpose* supersedes that designation. Still, Sharpe's book may be helpful as an introduction (or refresher, as is more likely to be the case) for those accompanying Galbraith down the newest stretch of his by now familiar road.

Sharpe agrees with the Galbraithian premise that contemporary economic theory, grounded in the neoclassical model, is deficient in its ability to explain modern economic phenomena and stands, therefore, in need of reform. He is not convinced, however, that Galbraith has succeeded in effecting the needed reformation. For Sharpe, one of Galbraith's major failings lies in what might be called his "either-or" approach—that is, his adoption without qualification of positions which are based on some, but only some, valid points and arguments. Thus, Sharpe agrees with Galbraith on the importance of planning within the large corporation; but he disagrees that this means, as Galbraith has argued, that the market has thereby been replaced. "To say that each enterprise plans is not to imply that there is an overall plan for all enterprises . . . Planning does not replace the market unless the activities of enterprises are coordinated from one center in accordance with an internally consistent budget" (p. 45). Again, Sharpe agrees with Galbraith that the military industrial complex is an institutional development in which no sharp line can be drawn between private enterprise and public policy. Yet he is dissatisfied with Galbraith's conceptualization of the largest corporations as extensions of the state, and argues (unconvincingly, in this reviewer's opinion) that they are "still private institutions—privately owned, privately managed, and dedicated to the private purpose of making a profit" (p. 70).

By and large, Sharpe's is a sympathetic critique, and most of the specific criticisms he makes serve as needed and useful qualifications to Galbraith's often somewhat dogmatic and overstated arguments. At times, however, he appears to misinterpret the Galbraithian position. In attempting to refute, for example, Galbraith's correct contention that the competitive model of economic theory leaves little room for technological innovativeness on the part of the firm, Sharpe confuses that model with the competitive reality of early industrial capitalism (p. 13). In asserting that the mature corporation of the Galbraithian system seeks "not maximum but minimum profits," an "amazing turnabout" which he finds inconsistent with the corporation's goal of growth (pp. 54–56), Sharpe also seems to have misread Galbraith. The goal of minimum earnings of which

Galbraith wrote in *The New Industrial State* was a minimum defined as sufficient to make the customary payments to stockholders and to supply the firm with the necessary savings for reinvestment.

Galbraith has been a major social and economic critic for more than two decades now, and it is a sign of his influence that books about, as well as by, him have begun to appear. His criticisms of the received orthodoxy in economic analysis, centered on the phenomenon of economic power, are attracting the interest of a growing number of economists, a fact witnessed by the increasing attention he is receiving in principles texts, and by his recent presidency of the American Economic Association. Sharpe's brief and highly readable account of Galbraith's "lower economics" is a useful contribution, but it does not provide the integrated analysis of the development of Galbraith's thought to which students of the Galbraithian system now seem entitled.

—PAUL J. MCNULTY
Professor of Business
Columbia University

Bargaining as it happens

The Urban Community and Its Unionized Bureaucracies: Pressure Politics in Local Government Labor Relations. By Sterling D. Spero and John M. Capozzola. Dunellen, N.Y., Dunellen Publishing Co., Inc., 1973. 361 pp., bibliography. $12.50, cloth: $5.95, paper.

A brilliant and beautifully written book, *The Urban Community and its Unionized Bureaucracies* treats all the major issues concerning public employee bargaining in our society. It is lucid and philosophically sound.

Sterling Spero unquestionably possesses one of the truly innovative minds in the field of public employment labor relations. His 1924 study on *The Labor Movement in a Government Industry* was a landmark work on our postal civil service unions. Spero's 1931 contribution to labor relations, *The Black Worker,* co-authored with Abram Harris, was equally a landmark publication. Both these books and his 1948 *Government as Employer* have been accepted as major contributions to the thinking and literature on these issues.

He has now teamed up with John Capozzola, a professor of Public Administration at New York University's Graduate School of Public Administration, an editor and frequent speaker on labor relations and public administration, to produce yet another important contribution to the field of government labor relations.

This is not a "cookbook." It is a careful analysis of municipal labor relations as it is practiced in the world of reality. From the authors' researches, interviews, and personal experience, they have constructed a major statement on collective bargaining in urban America.

The authors have succeeded in describing the state of the art of urban collective bargaining by dealing extensively with four major public employee

Books reviewed in this issue

unions at the local level. They view the recent explosion of collective bargaining at the local level in terms of the old roots and new forms of public employee bargaining. Here the authors examine, on a case-by-case basis, the evolution of collective bargaining in Philadelphia, Detroit, Cincinnati, Milwaukee, New York City, and Hartford, Conn. They trace the history of the bargaining relationship.

From this base, Spero and Capozzola construct a careful analysis of civil servants as they relate through their bargaining instrumentalities to the political arena. They examine the nature of politics, the restrictions on political activities of civil service employees (historic, ideological, and legal), the political tactics and election activities of local employee organizations, and the role of public employee unions vis-a-vis their central city trade union bodies.

The section on electoral activities of municipal employee organizations is particularly prescient. The authors recognize that the real power of public employee unions is not so much in the unions' ability to "bring out the votes," but in the ability to lend bellringers, propaganda, organizational structure to the political process.

Other chapters deal with bargaining as it happens; with the perhaps unique problems of the public sector; with collective bargaining as an instrument of public policy determination; with traditional merit systems under collective bargaining. Chapter 7 is an excellent discussion of bargaining over agency missions.

The authors, in a chapter on the strike issue, call for a unique new system of dispute resolution. As does this reviewer, they call for a cooling-off period and the establishment of a dispute resolution machinery. They give the authority for this machinery to our courts, rather than the legislative body which is responsible for the direction of government. The authors' proposal does not automatically bar the strike, but applies emergency dispute standards to the invocation of impasse resolution procedures.

The 5 years of research and thousands of interviews that went into this book are worth it. It will be read for years.

—JEAN J. COUTURIER
Executive Director
National Civil Service League

What has been and is being done

Job Power: Blue and White Collar Democracy. By David Jenkins. Garden City, N.Y., Doubleday & Co., Inc., 1973. 375 pp. $8.95.

> The mill was made of marble
> The machines were made out of gold
> Nobody ever got tired
> And nobody ever grew old.
>
> Textile workers' song

There has been an interesting reversal of goals since Joe Glazer wrote the above song in the 1940's. The past 2 years have seen many sociologists and psychologists being more utopian than the trade unionists; the latter are among the chief critics of those seeking "job enrichment," "job redesign," or "participative management" on behalf of workers.

Vice President William W. Winpisinger of the International Association of Machinists repeats the message, "job satisfaction comes in the pay envelope"—perhaps forgetting all that his union has done to humanize working conditions in the nonpay clauses of the contract. John Dunlop reflects the attitude of many within the labor relations community in his recent statement: "A good deal of the academic concern on this subject derives from an idealized view of the interests of workers."

David Jenkins is not going to settle any arguments on the subject of worker self-actualization, but he does present a good picture of what has been —and what is being done—across an international spectrum. Moreover, he traces the historical roots of man's attempts to establish a satisfactory relationship between the worker and the industrial environment in which he functions. Thus, the history of the utopian socialists and the impact of Taylorism are traces. The ideas of Maslow, Herzberg, Likert, and McGregor—the original gurus of worker participation—are made clear. The work of Herrick, Thorsrud, and the Tavistock Institute are also detailed.

The author believes industrial democracy—or "open systems"—is the wave of the future; he is honest enough, however, to admit that, as of today, the movement is no more than a ripple on the surface of the water. He avoids the trap into which so many of the behaviorists have fallen of declaring pay and monetary rewards to be immaterial in motivating workers. He also warns of the danger of manipulation of the work force by those who would

provide avenues for worker participation in management in name, but not in fact.

Jenkins does a fine job of tracing efforts in Israel, Yugoslavia, Germany, England, and the United States to introduce a higher degree of worker participation in the decisionmaking process. Many of his examples of success stories have been cited elsewhere—the G.F. dog food plant in Topeka, for example—but his illustrations extend and deepen our knowledge of what has been done.

He saves his most laudatory comments for the work being done in Norway and Sweden and speaks of the wide support in both management and labor circles. Even here, however, Jenkins relates the failures as well as the successess and indicates the efforts are but in their infancy. And, while he remarks about the receptive political climate in these two countries, this reviewer feels Jenkins does not have a true appreciation of the fact that this factor alone may account for the relatively great advances in Scandinavia as contrasted to the United States or England.

The bibliography is extensive, drawn from several languages, and the footnotes are useful without being intrusive.

In short, this book is an extremely useful new resource. It is certainly the point from which all those new to the field of job satisfaction studies should depart.

The missing element in the book is common to most of the work of advocates of greater worker participation. Jenkins conceives the obstacles to progress as being primarily attitudinal, thereby tending to ignore the genuine dilemma faced by management and unions in accommodating existing institutions to the rules of the new order being proposed.

—Bruce H. Millen

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Winterizing construction work

Year-round Employment in the Construction Industry: A Systems Analysis. (Report prepared for the Joint Study Group on Construction Seasonality of the U.S. Departments of Labor and Commerce.) By Jerome B. Gordon and others. New York, Praeger Publishers, Inc., 1973. 148 pp. $16.50.

The eight chapters and four technical appendixes of this book are geared towards developing quantitatively the direct and indirect economic costs of seasonality in construction. This task is facilitated by analyzing empirical information from the construction of the Barnhart Island Powerhouse Project, the main dam and powerhouse complex of the St. Lawrence Power Project built between 1954–59. This project was under the joint sponsorship of Americans and Canadians who used different approaches to construction planning and technology, especially with regard to winter construction work. The Canadians, for example, placed nearly five times the volume of concrete during the winter months as did the Americans and expended 29 percent of the total man-hours in the winter months as contrasted with 18 percent by their American counterpart.

To make a case for increasing winter construction work, the authors rely heavily on statistical tables and charts. In fact, 53 percent of the 120 pages in the eight chapters consists of tables and charts, so that reading continuity is hampered. Because of this orientation, the book can serve mainly as a reference source to students or practitioners who are concerned with the construction industry and public policy related to employment.

The book is organized around three main topics —the review of the findings and policy implications, the construction history of the Barnhart Island Powerhouse Project, and the economic costs of seasonality on the project. Chapter 4, which deals with the key issue of winter work technology, is a disappointment. It details the fact that Canadians had cold weather specifications included in the bids let, while the Americans constrained placement of concrete at temperatures below 40° F, but fails to provide insights into why the difference persists. The authors claim that the Canadian sponsor derived the ability to conduct winter construction work from two sources: (1) a requirement in the contract specifications to continue through the winter, and (2) the simple yet effective specifications for the pouring and protection of concrete. If this is all that made the difference, the authors should have made some attempt to determine why the approach was not undertaken by the Americans—rather than, for example, performing a superfluous regression analysis to verify that concrete poured and labor used are responsive to climatic conditions, but then describing this situation in the text as temperature variations being explained by variations in concrete pourings, and using the magnitude of the correlation

coefficient (R) as that to describe explained variation (R^2).

In the final two chapters the authors develop a mathematical model in which direct costs of winterizing work and social costs of the underemployment of labor and capital and of the impact of seasonality on local employment are taken into account. From this analysis they find that if the Americans had engaged in winter scheduling, 10 percent of the total project civil works cost could have been saved. "Over 62 percent of this saving comes in increased employment of underemployed labor, plus the resulting increase in taxes collected and decrease in unemployment compensation paid."

Is there a solution to the problem of seasonality in construction? The authors conclude that the problem can be alleviated by the development of a federally supported construction research and development institute to facilitate the exchange of necessary information. Is information of this sort sufficient, however, if we do not have insights into the behavior of contractors? Despite all the quantitative work in this book, the question still unanswered is, "Why have Americans not used winter or aseasonal scheduling more extensively?"

—SARA BEHMAN

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Union cooperation in incomes policies

Wage Politics in Britain, 1945–1967. By Gerald A. Dorfman. Ames, Iowa State University Press, 1973. 180 pp., bibliography. $6.95.

Within its terms of reference, this is a useful book. Its subtitle is "Government vs. the TUC," and it seeks to analyze the behavior of the British Trades Union Congress in relation to four efforts during the postwar period by both Labour and Conservative Party governments to secure union cooperation to restrain the rise of money wages. These efforts covered the years 1946–50, 1955–56, 1961–62, and 1964–67. Except peripherally, relations between the government and employers' organizations with regard to incomes policies are not considered.

Professor Dorfman is a political scientist, and the framework for his study is based largely on Samuel Beer's conception of producer group politics. (See Beer's *Modern British Politics,* 2d ed., 1969.) In this view, the far-reaching role that governments in democratic countries have assumed in the management of the economy, especially in sustaining high levels of output and employment, has greatly enhanced the power of producer groups. In consequence, governments must seek the advice, acquiescence, and active cooperation of such groups in the formulation and implementation of national economic policy. Successful producer group politics requires that both government and the relevant producer groups possess the capacity not only to reach but to carry through agreements that are conceived to be broadly in the public interest. Producer group power is essentially negative, consisting in the ability to disrupt and frustrate public policy through noncooperation.

In the British efforts to control the rate of wage change, the Labour government, after prolonged negotiations in a period of severe economic crisis, secured effective TUC cooperation beginning in 1948 for a highly restrictive wage policy. Cooperation broke down in 1950 in the face of pressure from the constituent unions for wage gains to offset continuing rises in the cost of living. Again under a Labour government in 1964–67, TUC cooperation, less effective than in 1948–50, was obtained for an incomes policy that included 6 months of almost complete standstill on wage increases followed by 6 months of severe restraint. Agreement to cooperate was repudiated in September 1967 at the annual TUC conference, at which the government was condemned for its "intervention in collective bargaining as a solution to the country's economic problems." The efforts of Conservative governments to secure TUC cooperation in incomes policies in 1955 and 1961 failed completely.

Dorfman attributes the agreement of the Trades Union Congress to cooperate, however reluctantly, in policies of wage restraint under the two Labour governments to the close relationship between the unions and the Labour Party. In each instance, agreement broke down because of internal pressures within the trade union movement. He raises the question of whether the TUC can participate successfully in producer group politics in that "it is being asked to agree to a wage restraint which, if it were carried to its logical conclusion as a highly efficient and permanent policy, would essentially negate the original purposes for which the TUC and the trade union movement exist." The same question can of course be raised with respect to the AFL–

CIO in this country. But the alternative, if cost pressures on the price level are to be avoided under conditions of reasonably full employment, appears to be some form of compulsion in wage and price determination which may involve extensive consultation, but no formal agreement, with appropriate labor and industry producer groups. It is conceivable that this can be avoided if the producer groups concerned can redefine the nature of their interests and effect structural changes to facilitate the implementation of agreements reached with government on wage and price policies.

—H. M. DOUTY
Washington, D.C.

A worthwhile reading adventure

The Islands of E, CONO, and MY—A fable of a world beset by economic problems from which it almost escapes. By Simon Ramo. New York, Crown Publishers, Inc., 1973. 252 pp. $5.95.

In this highly imaginative and well-written fable on economic development, Dr. Simon Ramo presents the reader with a host of problems confronted by low-income countries on the road to economic maturity. This witty book is intended primarily for the uninitiated in economic principles and, in addition to being appropriate for the layman, could be used as delightful supplementary reading in an introductory economics course. The book is also a parable—from which we may all learn an economics lesson.

The story centers around the development of and interrelationships between three island-countries—E, CONO, and MY, whose names, obviously, add up to "economy." Each island had a different politico-economic base, each trying to achieve the often-times conflicting goals of economic growth with full employment and price stability. The nation of E was a centrally planned economic system, characterized by a preponderance of government ownership and control. MY's economy was based on the assumption that each economic unit decides what choices and policies are best for it. In emphasizing a system of free, competitive markets, it was characterized by private ownership of resources and products. CONO subscribed to a mixture of public and private ownership and decisionmaking. It relied on a system of free markets, with some government intervention for improvement and control.

The author traces the experiences of each country over time, through isolated development and then discovery of one another, through prosperity and recession, international monetary crises, and war. He points to their successes and failures as they pass one another in the growth process, each system trying to find the "right" combination of public and private enterprise to solve the fundamental economic questions: what to produce, how much to produce, how to produce it, and finally, who should consume it?

Dr. Ramo comes across as a dyed-in-the-wool "monetarist," as he emphasizes the particularly important role money plays in a country's economic growth and stability policies. According to Ramo, both the money supply and its velocity must be closely watched since they both are intricately related to the level of economic activity. Overexpansion in the money supply was common to both CONO and MY, and because of this, inflation became a serious problem for these economies. People lost confidence in the economic system, banking crises developed, and depression set in. This precipitated another serious problem—unemployment. The economy of E, though less efficient a system than either CONO or MY, was better able to deal with inflation and unemployment through pervasive governmental control. Price was not the mechanism by which products and resources were allocated.

Dr. Ramo focuses most of his attention on the economy of CONO, since it is the system with which we are most familiar—a mixed economy closely resembling that of the United States. In its "developed" state, this economic system suffered from many ills that have plagued the United States: rising prices at a time when unemployment is high, persistent government deficits, disruptive labor disputes, inefficient enterprises operating under government contract, and repeated devaluations of its currency to enhance the competitive position of its products abroad. Ramo argues that government control should not be a question of quantity, but quality. Remembering as much of Adam Smith and *The Wealth of Nations* as he can, the author holds that government should merely safeguard the essence of free enterprise. CONO, unfortunately, had the worst of both worlds—lots of government intervention, and the worst kind. And therein lay the fundamental issue: a world beset by economic problems due in large part to the dominance of CONO with its counterproductive political and economic policies.

CONO's economic problems were evident on the

international scene as well because the CONO "dollar" had emerged as the international currency. International monetary crises developed since it was CONO that was in least control of its domestic economy. Because foreigners were unwilling to hold CONO dollars as they questioned the economic viability of CONO itself, a surplus of CONO dollars existed on the international market. The long-run solution to this dilemma, according to Dr. Ramo in a weak "Keynesian" moment, is for all nations to adopt a common currency—"monomoney." This universal money under a single control would imply political unity as well, a subject which the author should pursue further.

Economic development to Dr. Ramo includes not only economic growth in terms of increases in real output, but also a concern for the problem of overpopulation as well as a concern for the quality of life in general. These are important considerations, and are areas in which government intervention would be most welcome in allocating scarce resources while taking into account *social* benefits and costs.

One area which Dr. Ramo ignored is the question of distribution of the national income or product. This is related, of course, to a problem facing many free developed economies—that of poverty. Despite this drawback, *The Islands of E, CONO, and MY* remains a worthwhile and charming reading adventure in an area of vital importance and interest.

—CURTIS L. GILROY
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Bureau of Labor Statistics

Characteristics of the unemployed

Men Out of Work: A Study of Unemployment in Three English Towns. By M. J. Hill and others. Cambridge, Cambridge University Press, 1973. 194 pp. $12.95, cloth; $5.95, paper, Cambridge University Press, New York.

Part of a larger study of unemployed men in three urban areas in England, this book represents an exploratory study of the characteristics of these men as determined primarily through personal interviews. Approximately 300 men were interviewed in each of the three towns from 1968 to 1971, with unemployment ranging from under 3 months (for approximately 50 percent of the sample) to over 12 months (for approximately 15 percent of the sample).

The characteristic most closely related to length of unemployment was found to be the age of the worker. Low skill and poor health were also factors in unemployment. These are hardly surprising findings. And in general, there is little that is new in this study. The authors do show that in one of the towns where economic conditions were better, and unemployment shorter, the effect of age was not as striking. They make the important point that unemployment results from the interaction of economic conditions with the characteristics of individuals. In this context the authors help counter the myth that unemployed men lack the desire to work.

The authors made an attempt to see if unemployment of individuals was related to unemployment among friends and relatives. No relationship was found, but the issue did not seem to be pursued thoroughly—mainly because of the difficulty of identifying friends of the unemployed men. Questions were asked about the kinds of satisfactions looked for in a job. Responses were similar to those found in the United States: persons with blue-collar background want interesting work, good pay, and good working conditions. The unemployed in England seem to make more use of the "Employment Exchange" as a source of jobs than in the United States, where friends and relatives are the main source.

The limitation of this study overall is that it merely reports percentage responses to individual questions. There is no attempt to develop scales regarding such matters as orientation toward work or orientation toward family responsibilities. Hence one is presented with a host of separate tables that are not coherently related.

The authors do attempt to remedy the situation by using the Automatic Interaction Detector developed at the University of Michigan to analyze survey data. This statistical program seeks to identify the single best predictor of a criterion, such as length of unemployment, and then split the sample according to those who are high and low on the best predictor. The two subsamples are then each split again according to which variable best predicts the criterion. This approach, however, throws little new light on the data.

Thus, the authors find that the single best predictor of length of unemployment is age of the worker—a finding already noted. Splitting the sample according to age, they then found that for those under 40 years

of age, low skill level was the most effective predictor of unemployment. These kinds of findings are hardly novel or illuminating. Subsequent reports from this longitudinal study may be more so.

—LEONARD GOODWIN
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One alternative among many

The 8 Day Week. By John Ward Pearson. New York, Harper & Row, Publishers, 1973. 161 pp. $6.95.

Most of the alternatives to the current 5-day workweek have come to public attention after a number of firms had put them into operation. This is true of the 4-day, the 3-day, and flexitime schedules. The newest of the new workweek proposals, the "8-day week," is an exception; it is the product of an advertising man's imagination.

Briefly, the 8-day week proposal is that each worker puts in four 10-hour days of work and takes the next 4 days off. Thus, on any 1 day, half the work force are on the job and half are off. On and off periods are staggered evenly throughout 8-day cycles, so that each day one-eighth of the workers return to their jobs and one-eighth begin a rest cycle. The proposal calls for firms to operate 7 days per week, 10 hours per day.

Pearson differs from many proponents of new types of workweeks in that he does not see his schedule as a concession to a weakening work ethic, but as a mechanism to correct what he views as the present overemphasis on work in comparison with other pursuits. Substituting a 4–4 schedule for the present 5-day workweek and 2-day weekend would, he argues, give workers more freedom to set their own priorities.

The author's catalog of advantages for his proposal seems inexhaustible. He claims for it all the benefits cited by proponents of 4-day, 3-day, and flexitime schedules, including easing traffic congestion, increasing usable periods of leisure, and improving productivity and profits. In addition, he argues, his proposal will arrest the trend toward urban decay and human neglect, improve communication among the sexes, races, and generations, promote understanding of one's self, and lead to peace of mind. It is a cure for "urban headaches," inflation, rising taxes, unemployment, and pollution.

It's a big order for any work schedule. *Too* big an order. The book comes across as an advertiser's pitch, rather than a soundly reasoned case. The impression is heightened because what is described as a "carefully assembled system" glosses over some real problems and obstacles.

Pearson does not deal seriously, for example, with the economic impact of reducing annual average hours of work (excluding vacations and holidays) from about 2,080 to 1,825. His arguments that "the most complicated sets of business relationships can be adapted to the 8-day week" are not convincing. One questions, for example, how "Supervisor A" and "Supervisor B" can provide coverage for each other when their work schedules never bring them into communication. It is equally difficult to visualize a salesman in the field adapting to an 8-day schedule by making more calls per hour or sharing clients with another salesman—the alternatives proposed by the author. Pearson alternately argues and hopes that these and other obstacles (the Sabbath as a regular day of work, extending workdays to 10 hours, coordinating schedules of working couples) will be overcome.

In sum, the 8-day workweek has advantages and disadvantages, as is true of every work schedule. It is not, as Pearson labels it, *The* Alternative, but one among many.

—JANICE N. HEDGES
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Diligent and informed intelligence

Household and family in past time: Comparative studies in the size and structure of the domestic group over the last three centuries in England, France, Serbia, Japan and Colonial North America, with further materials from Western Europe. Edited by Peter Laslett, with Richard Wall. London, Cambridge University Press, 1972. 623 pp., bibliography. $37.50.

In 1969, the Cambridge Group for the History of Population and Social Structure, of which the editors are staff members, organized an international conference on the comparative history of household and family. This book contains the papers presented at the conference. It also reflects work done during the 2 years following the conference and stimulated

by it, largely contained in Peter Laslett's long introductory essay.

There is a striking disparity between, on the one hand, the widespread *beliefs* that the large extended family was common in preindustrial society and that societal modernization reduces the co-residential family unit to the nucleus of the couple and their children, and, on the other hand, the dearth of *evidence* supporting these views. Laslett has been a leading figure among the relatively few scholars during the past decade or so who have begun to rectify this deficiency in our knowledge.

Household and Family in Past Time contains the largest collection, by far, of pertinent evidence known to me to be found in a single source. In addition, Laslett and Jack Goody provide valuable discussions of the methodological and conceptual issues involved: who (kin and others) shares the same living space known as the "household"? What is its boundary? What activities occur in this space? Which of these are definitive? How is "family" defined? Are there universal criteria? How are the various family forms to be distinguished, keeping in mind the limitations of the available historical evidence? And so forth.

Working with census and administrative records, which provide lists of household inhabitants, these studies cannot deal with interhousehold kin interaction. This is a recognized limitation on the significance and applicability of the findings. Nevertheless, since the domestic group is often an independent production and/or consumption unit, it is an aspect of economic reality which is of sufficient importance to deserve systematic empirical investigation. Moreover, the domestic group is the social environment in which are concentrated marital, filial, and sibling relations, with all their implications for personality development and stability.

The main conclusion of these studies (subject, of course, to modification as additional information becomes available) is that the large, extended-family household was not in fact the major domestic unit in the preindustrial West. Indeed, Laslett has been persuaded to formulate "the null hypothesis in the history of the family, which is that the present state of evidence forces us to assume that its organization was always and invariably nuclear unless the contrary can be proven."

Of the nations represented in this volume, only in historical Japan do the data indicate the widespread prevalence of extended families, although it appears to have been considerable in at least some parts of Eastern Europe. Several qualifications, however, must be promptly appended to these findings. One, perhaps only for England is the available evidence nationally representative. Two, no studies were provided for countries or regions in Africa, Asia (except Japan), or Latin America. (The omission of studies done in India and China, which are famous for their ostensibly traditionally extended families, is particularly regrettable.) Three, there is an important recognized need to take into account variations in the structure of the domestic group over the course of the family life cycle, which has as yet been only approximated by cross-sectional age differences in the relatively few studies in which information on age has been available.

This well-edited anthology, which focuses on coresidence in pre-industrial society, is a valuable contribution to the empirical study of the form of the family. It is a book by and for scholars. There is a 20-page bibliography, an index of 13 pages, and tables and figures (charts, diagrams, maps, and so on) abound. One paper has a text of 14 pages and an appendix comprising 29 pages of tables. Another has one (repeat, one) table covering 17 pages. There are two papers containing appendixes of diagrams which together take up 18 pages. The total space occupied by figures and tables constitutes a large fraction of the text. The editors seem to have been given an unusually free hand by the publisher, with alarming effects, however, on the price.

The amount of empirical material for such a large variety of dates and places as that presented in this volume is unusual. These data provide a severe test of the validity and generality of the prevailing descriptions and explanations of family and household size, structure, and (to some degree) function. Not surprisingly, they raise more questions than they provide answers. As unusual as they are in scope and variety, they are clearly only a tiny fraction of what is needed in order to obtain a true picture of the range and nature of variation over time and place. Moreover, the existing evidence is often questionable with regard to either completeness, reliability, or representivity. This indicates the scope of the challenge of reconstructing the past. The book makes a major contribution to this task with the methodology, data, and interpretation it provides. But perhaps of more importance is the encourage-

ment it offers by demonstrating how much diligence and informed intelligence can accomplish.

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Collective bargaining in the public sector

Municipal Labor Relations in New York City: Lessons of the Lindsay-Wagner Years. By Raymond D. Horton. New York, Praeger Publishers, Inc., 1973. 168 pp. $15.

This book examines the development of New York City labor relations during the 1960's and early 1970's. Its thesis is that "organized civil servants have been 'winners' in [New York] city labor relations and the public have been 'losers.'" According to the author, this is due primarily to the fact that public officials abdicated their responsibility. The assessment of the roles played by Mayors Wagner and Lindsay rates Wagner as more able.

One of the remedies suggested by Horton is to eliminate the tripartite aspect of the Office of Collective Bargaining. (Under the city's ordinance, two members of the OCB are designated by the mayor, two by the municipal unions, and the other three are impartial members selected by the first four.) Horton rightly observes that ending the tripartite dimension would assist in asserting the control of elected officials.

The major drawback of the study is its assumption that the world ends at Hoboken. It does not take into account the massive surge of public sector unionism across the country during this period and the accompanying militancy of organized employees. Nor does it evaluate the impact of the major State bargaining laws enacted to improve relations between public employees and management. In fact, New York's Taylor Law would have required the city bargain with its employees even if the city's ordinance had not been enacted, and regardless of the parts played by Wagner and Lindsay.

In his attempt to prove his thesis, Horton understandably dwells only on what he regards as the negative effects of collective bargaining. However, in his enthusiasm for his point of view, he is misleading. Incomplete accounts alter the significance of his research and findings.

The essence of collective bargaining is that workers share in the determination of their wages and conditions of employment. Bargaining inevitably means that management shares some of its previously unilateral authority in these areas. In addition, bargaining laws typically establish administration by an independent agency and authorize the use of neutrals in settlement of disputes. It is hardly cricket to characterize New York City public officials as abdicating and delegating their responsibility.

Another of Horton's remedies is to limit the scope of bargaining. He suggests that unions seek attainment of their goals in other, traditional areas. The thrust of this proposal would in effect vitiate bargaining. But collective bargaining, Horton comments, "is not a constitutional right but a political convenience." He also questions the wisdom of dues checkoff, although this is common practice in U. S. local governments.

In the book's discussion of the rising salaries of city workers and the need for managerial control, there is no reference to the inflationary spiral and its impact on U. S. wages in both the public and private sectors. Although the author details the upswing in city wages since bargaining began, the facts do not indicate that New York is much out of line. According to the Bureau of Census reports, the average wage rate of a New York City employee rose 48.2 percent from 1966 to 1971, while the average wage rate of the nine other largest cities rose 50.8 percent over the same period.

In short, if the reader is looking for arguments to refute the viability of the collective bargaining process in city government, he will find them in this book. Those who look for balanced treatment of collective bargaining for municipal employees will be disappointed.

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Labor discipline

Punishment and Redress in a Modern Factory. By Carl Gersuny. Lexington, Mass., D.C. Heath and Co., 1973. 97 pp. $9.50.

This thin little book of less than a hundred pages does two things in its two parts. It first gives a version of the evolution of thought about labor disci-

pline, and then presents a quantified analysis of available grievance and redress records in one actual factory situation.

The book's treatment of the evolution of thought about labor discipline will probably be too narrowly parochial for most of us with an interest in the field. Almost every prominent industrial sociologist beginning with Max Weber is piously named and explained. Outside of Chester Barnard and one or two others, no nonsociologists are so much as mentioned. Further, the treatment is marked by a succession of appeals to authority reminiscent of a bygone era.

A literature review that far more appropriately would serve to introduce the data on labor discipline presented in the second part of the book would have concerned itself with the broad range of recent research on labor discipline carried out in strongly unionized factories. It is true that a review focusing on research literature might have been more difficult to put together. Nevertheless, such a literature has been emerging in recent years. For example, the article by Landen and Carlson in Marrows *The Failure of Success* lists recent reasonably relevant research studies conducted in General Motors, a company in the industry in which the author did his research.

On the other hand, it is perhaps just as well that this academically oriented author stayed away from reviewing research done in real automobile plants. On page 21, in discussing assembly lines, he states, "The conveyor takes over a large part of the control function and the assembly foremen merely stand and watch." In the esoteric theory of industrial sociology there is an element of justification for this statement, but the harried assemblyline foremen I am familiar with would hardly get time for a hollow laugh on hearing this description of their behavior as they run frantically from one problem to the next.

The last part of the book, which might better have been published as a longish journal article, reports an analysis of 255 disciplinary penalties assessed in one part of a Ford Motor Co. engine plant (about 1,700 workers) over a 4-year period (which 4 years were involved are not mentioned) with the United Automobile Workers as the union. Penalties were assessed against violations of the time order characteristic of an industrial society, property, and "miscellaneous." (One off-beat "miscellaneous" variable handled interestingly was gambling.) Redress rates for each type of penalty were reported. Severity of punishment were ingeniously measured and related to redress rates. Technology, seniority, and skill but not age had effects on penalties. Mass disobedience was punished more than individual. The union varied in time with respect to how effectively it obtained redress following initial penalty assessment.

The main value of the book lies in its analysis of penalties and redresses in a specific industrial situation, unfortunately only roughly located in time. Readers with this restricted interest may get something from the book. Readers who are taken in by the attractive title and who see the world of work from more angles than that of a parochial and seemingly quite old-fashioned industrial sociologist will be disappointed.

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Illumination of the Japanese style

Manpower Policy in Japan. By the Organization for Economic Cooperation and Development. (OECD Reviews of Manpower and Social Policies, Vol. 11). Paris, OECD, 1973.

This is a remarkable book. It is a governmental publication, but there is no doubt to this reader that it will long be held as one of the most important contributions toward the clarification of issues concerning the origin and mechanism of the "Japanese employment system" that has puzzled many social researchers in the last 15 years. Note, for example, this statement in the conclusions adopted by the Manpower and Social Affairs Committee of the Organization for Economic Cooperation and Development: "Contrary to common impressions, this [the Japanese employment system] is not an old system inherited from feudal times. Building upon certain prewar habits and tendencies it is, in its more elaborate postwar form, a joint creation of employers and workers in special circumstances of the postwar period with a view to mutual benefits to employers and to the members of the enterprise unions" (p. 10). Scholars who have seen the nature of the "Japanese employment system" characterized by "lifelong commitment and seniority wages" as clearly and accurately as this have been rare. The report of course accomplishes much more than that. It consists of three sections: the summary and con-

clusions adopted by the OECD Manpower and Social Affairs Committee, a shortened version of the background report prepared by the Japanese Government, and the examiners' report. The examiners who have produced this illuminating book are C. D. Stewart from the U.S. Department of Labor, H. Knolle from the Federal Ministry of Labor and Social Affairs, West Germany, and G. Rehn from the OECD itself.

The book also illuminates the Japanese style of policymaking. In the manpower area, the public authorities were remarkably passive during postwar labor surplus years when policy would have been needed most. It is during these years that the private sector responses to labor surplus conditions resulted in the creation of the "Japanese employment system." After economic growth had turned labor surplus into labor shortage, the Japanese Government began to move toward an "active manpower policy" —expansion of vocational training, improvement of employment exchange services, measures to encourage labor mobility, and legal provisions (like quotas) for eliminating discrimination by age, sex, and other attributes. Public policy as a response to labor shortage comes into conflict with certain aspects of the "Japanese employment system" which arose during labor surplus years. The dialectic between private sector practices and public policy is lucidly described in this report. One cannot but feel, however, that in Japan policymakers have the habit of getting a free ride with dynamic innovations of the private sector. Perhaps this is the way the government of a free private enterprise economy should behave. But one often feels that the governmental timidity has neglected a large number of problems which the private sector alone, however ingenious, could not solve.

The assessment of Japan's options for reform or improvement contains several surprises. Especially noteworthy is the suggestion in Section VII (pp. 147-53) that retirement at 55 with a lump-sum separation pay, which is a part of the "Japanese employment system" associated with almost absolute employment security up to 55 (inaccurately called "lifelong" commitment by many) should be retained, because it "has the advantage of coming at an early age for future useful work, enables one to step down without embarrassment, and provides some income maintenance with a reduced work income" (p. 149). The implicit sociology here is perhaps a bit idealistic. On the whole, the examiners give due recognition to a few Japanese innovations in labor market policy. But they are candid enough to express occasional puzzlement about certain blindspots in Japanese policy, particularly at the local level (for example, pp. 124–27). They are also always careful not to rely too much on the "conventional wisdom" of the West for judging the merits or demerits of the Japanese labor market practices.

This report should be required reading for anyone who, like the OECD examiners, wishes to penetrate "the cultural overlay and special circumstances" (p. 9) to reach the substance of industrial relations and labor markets in Japan. A statement in the summary-and-conclusion section appears to be an interesting hypothesis which further research may sustain or falsify: to wit, "Japan is clearly moving towards a more Western type labour market as Western countries may be moving towards more of the security arrangements that can be seen in the Japanese labour market" (pp. 9–10).

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An attempt to save jobs

The Luddites: Machine-Breaking in Regency England. By Malcolm I. Thomis. New York, Schocken Books, Inc., 1972. 196 pp. $2.75, paper.

This is the history of a special era in the British labor movement, that part involving the deliberate destruction of the employers' property as a labor weapon, beginning in 1811 and ending in 1817. Thomis sees the attempt to save jobs through the destruction of the machinery that eliminates them as possibly sound, given the conditions of the times, and argues that had other avenues been open to the employees there would have been no such movement. The rise of this technique is thus related to economic and social conditions, and perhaps, according to the author, came to an end as economic conditions improved. The entire movement is treated sympathetically, and with an understanding of the tensions placed on workers as machinery replaced their skills and permitted others with less skills to replace them.

Thomis, while understanding the causes of the movement, does not hesitate to conclude that the economic consequences were slight, while suggesting that the political consequences were greater. He

discounts, and rightly so, those discussions that make the Luddites revolutionaries; he pictures them as a group turning to violence to relieve a situation in which no other alternatives were available.

This book is well worth reading, for both the specialist and the general reader can get much of value from it. While the time period under consideration is short, and while neither the industrial dispersion nor the numbers involved were great, the drastic nature of the chosen technique should serve as a warning to those who would close the door on protest.

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Displacement effect

Equity and Efficiency Effects from Manpower Programs. By Corry F. Azzi. Lexington, Mass., D.C. Heath and Co., 1973. 92 pp., bibliography. $10.

Professor Azzi has written a thought-provoking essay dealing primarily with the displacement effect in manpower programs. Previous to this work, most researchers have paid only lipservice to the possible existence of the displacement effect (which occurs whenever manpower program trainees are given jobs at the expense of nontrainees who could have handled the job just as well). Thus, this work should be read by all researchers (faculty or graduate students) who are engaged in manpower program evaluation.

Basically, after presenting a good treatment of the theory of human capital and its implications for manpower programs, Professor Azzi examines the employment records of two firms which utilized on-the-job training (OJT) subsidies. He tries to measure the impact of the manpower programs on hiring decisions by identifying comparison groups hired without subsidies into the same entry-port jobs as trainees. Moreover, he evaluates the impact of the programs on job performance as measured by absenteeism, turnover, and productivity.

Although Professor Azzi concludes that in the two firms examined the benefits of the on-the-job training subsidies went almost completely to the shareholders of the company and not to the trainees, the contribution he makes is the presentation of the measure itself and not his empirical findings. The two firms offer only an extremely limited test of the benefits of manpower programs. One firm used 200 on-the-job trainees in 1965–67, and the second firm only 64 in 1970. Moreover, some of the regressions used have painfully low R^2s.

These last comments should not be taken to imply anything negative about Azzi's method. This reviewer believes Azzi has made an important contribution which should be experimented with by future manpower evaluators. Indeed, the only real fault with this book is that it should have been a journal article and *not* a $10 hardcovered book.

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Book notes

Business Organizations: Vol. 18 and 18A, Labor Law. By Theodore Kheel. New York, Matthew Bender & Co., Inc., 1972 and 1973, 779 and 661 pp., respectively. $42.50 each.

These volumes, new additions to the publisher's series on business organizations and the laws which affect them, collate and analyze the vast body of statutes, court rulings, and administrative decisions composing American labor law. Volume 18 examines the evolution of modern labor law principles; the background, structure, and purpose of labor organizations; and the provisions and legal implications of Federal labor and antitrust laws, from the early Clayton, Sherman, and Norris-LaGuardia Acts through the Wagner, Taft-Hartley, and Landrum-Griffin Acts which provide the framework for labor relations today. Volume 18A completes the discussion of procedural and jurisdictional aspects of the Taft-Hartley Law as amended, examining in particular the functions of the National Labor Relations Board and the doctrine of Federal preemption. The volumes are intended primarily for lawyers although, the author adds, "they can be used by specialists in labor relations as well." Supplements will be prepared yearly to keep the volumes current and comprehensive.

The Law of Workmen's Compensation. (3 vols. and index.) By Arthur Larson. New York, Matthew Bender & Co., Inc., reprinted 1972. Looseleaf. $157.50.

This exhaustive compendium of laws and court decisions about workmen's compensation was originally published in 1952 and has been kept up to date through several major revisions, with the latest changes incorporated in the reprint edition, and through annual supplements, with material for 1973 included now in looseleaf form. The text broadly surveys legal guidelines on conditions of coverage, benefits, procedures for third-party actions, notice and claim periods, appeals, conflicts of State and Federal laws, and the relationship of compensation to other wage-loss benefits. References to

thousands of cases are included in footnotes. Appendixes provide tabulations on statutory provisions, benefits, and procedures, as well as other technical information which might be useful to claimants, their legal representatives, or persons framing workmen's compensation provisions. A subject index and alphabetical table of cases compose the final volume.

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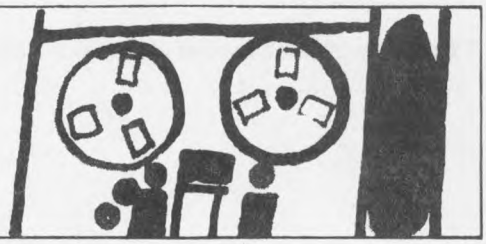

Schedule of release dates for major BLS statistical series

Title	Release date	Period covered	Release date	Period covered	MLR table number
Wholesale Price Index	March 7	February	April 4	March	28–32
Employment situation	March 8	February	April 5	March	1–14
Consumer Price Index	March 21	February	April 19	March	26–27
Real earnings	March 21	February	April 19	March	18–24
Work stoppages	March 28	February	April 26	March	33
Major collective bargaining settlements	.....	.....	April 26	1st quarter	.....
Productivity and costs in the private economy	.....	.....	April 26	1st quarter	.....

Table revisions

The household data in tables 2 through 9 in this issue have been revised to reflect new seasonal factors. In most cases, the changes are minimal. For a discussion of the seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1974 issue of *Employment and Earnings*.

Information on job vacancies in manufacturing, table 17 in the labor turnover series, is being discontinued upon publication of December 1973 survey results. December data in this issue are preliminary; revised data will appear in the April issue.

1. Employment status of the noninstitutional population, 16 years and over, 1947–73

[Numbers in thousands]

Year	Total noninstitutional 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	
1947	103,418	60,941	58.9	59,350	57,039	7,891	49,148	2,311	3.9	42,477
1948	104,527	62,080	59.4	60,621	58,344	7,629	50,713	2,276	3.8	42,447
1949	105,611	62,903	59.6	61,286	57,649	7,656	49,990	3,637	5.9	42,708
1950	106,645	63,858	59.9	62,208	58,920	7,160	51,760	3,288	5.3	42,787
1951	107,721	65,117	60.4	62,017	59,962	6,726	53,239	2,055	3.3	42,604
1952	108,823	65,730	60.4	62,138	60,254	6,501	53,753	1,883	3.0	43,093
1953	110,601	66,560	60.2	63,015	61,181	6,261	54,922	1,834	2.9	44,041
1954	111,671	66,993	60.0	63,643	60,110	6,206	53,903	3,532	5.5	44,678
1955	112,732	68,072	60.4	65,023	62,171	6,449	55,724	2,852	4.4	44,660
1956	113,811	69,409	61.0	66,552	63,802	6,283	57,517	2,750	4.1	44,402
1957	115,065	69,729	60.6	66,929	64,071	5,947	58,123	2,859	4.3	45,336
1958	116,363	70,275	60.4	67,639	63,036	5,586	57,450	4,602	6.8	46,088
1959	117,881	70,921	60.2	68,369	64,630	5,565	59,065	3,740	5.5	46,960
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1961	121,343	73,031	60.2	70,459	65,746	5,200	60,546	4,714	6.7	48,312
1962	122,981	73,442	59.7	70,614	66,702	4,944	61,759	3,911	5.5	49,539
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

NOTE: Figures for period prior to January 1972 in the tables are not strictly comparable with subsequent data because of the introduction of 1970 census data into the estimation procedures. For example, the civilian labor force and employment totals were raised by more than 300,000 as a result of the census adjustment. An explanation of changes and an indication of the differences appear in "Revisions in the Current Population Survey" in the February 1972 issue of **Employment and Earnings.** A subsequent census adjustment, primarily affecting whites and Negro and other races groups, was introduced into the survey in March 1973. As a result, the white labor force and employment levels were lowered by about 150,000, while Negro levels were raised by 210,000. Consequently, the overall labor force and employment showed a net increase of about 60,000. Comparisons with data prior to these two dates should take these adjustments into account.

2. Employment status, by color, sex, and age, seasonally adjusted, quarterly averages

[Numbers in thousands]

Characteristic	Annual average		1970	1971				1972				1973			
	1972 [1]	1973 [1]	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
WHITE															
Civilian labor force	76,958	78,689	74,227	74,172	74,401	74,912	75,589	76,316	76,759	77,276	77,459	77,792	78,510	78,856	79,648
Men, 20 years and over	43,961	44,490	42,762	42,681	43,021	43,223	43,372	43,635	43,371	44,090	44,213	44,265	44,352	44,511	44,815
Women, 20 years and over	25,822	26,647	24,893	24,904	24,834	24,964	25,382	25,577	25,767	26,023	25,920	26,132	26,632	26,879	26,959
Both sexes, 16–19 years	7,175	7,552	6,572	6,587	6,546	6,725	6,835	7,104	7,121	7,163	7,326	7,395	7,526	7,466	7,874
Employed	73,074	75,278	70,223	70,095	70,348	70,838	71,492	72,309	72,772	73,399	73,810	74,270	75,062	75,559	76,287
Men, 20 years and over	42,362	43,183	41,051	40,947	41,281	41,464	41,644	41,962	42,212	42,542	42,720	42,873	43,015	43,281	43,582
Women, 20 years and over	24,554	25,494	23,614	23,562	23,513	23,669	24,048	24,332	24,439	24,721	24,725	25,945	25,490	25,727	25,828
Both sexes, 16–19 years	6,158	6,602	5,558	5,586	5,554	5,705	5,800	6,015	6,121	6,136	6,365	6,452	6,557	6,551	6,877
Unemployed	3,884	3,411	4,004	4,077	4,053	4,074	4,097	4,007	3,987	3,877	3,649	3,522	3,448	3,297	3,361
Men, 20 years and over	1,599	1,307	1,711	1,734	1,740	1,759	1,728	1,673	1,659	1,548	1,493	1,392	1,337	1,230	1,233
Women, 20 years and over	1,268	1,153	1,279	1,342	1,321	1,295	1,334	1,245	1,328	1,302	1,195	1,187	1,142	1,152	1,131
Both sexes, 16–19 years	1,017	950	1,014	1,001	992	1,020	1,035	1,089	1,000	1,027	961	943	969	915	997
Unemployment rate	5.0	4.3	5.4	5.5	5.4	5.4	5.4	5.3	5.2	5.0	4.7	4.5	4.4	4.2	4.2
Men, 20 years and over	3.6	2.9	4.0	4.1	4.0	4.1	4.0	3.8	3.8	3.5	3.4	3.1	3.0	2.8	2.8
Women, 20 years and over	4.9	4.3	5.1	5.4	5.3	5.2	5.3	4.9	5.2	5.0	4.6	4.5	4.3	4.3	4.2
Both sexes, 16–19 years	14.2	12.6	15.4	15.2	15.2	15.2	15.1	15.3	14.0	14.3	13.1	12.8	12.9	12.3	12.7
NEGRO AND OTHER															
Civilian labor force	9,585	10,025	9,215	9,259	9,244	9,389	9,391	9,500	9,445	9,587	9,690	9,820	9,946	10,105	10,232
Men, 20 years and over	4,847	5,049	4,748	4,760	4,752	4,784	4,788	4,789	4,842	4,868	4,879	4,927	5,035	5,076	5,158
Women, 20 years and over	3,889	4,066	3,666	3,722	3,736	3,811	3,808	3,875	3,867	3,862	3,950	4,019	3,990	4,105	4,154
Both sexes, 16–19 years	849	909	801	777	756	794	795	836	836	857	861	874	921	924	920
Employed	8,629	9,131	8,366	8,362	8,343	8,453	8,445	8,484	8,624	8,646	8,733	8,940	9,047	9,191	9,348
Men, 20 years and over	4,518	4,762	4,437	4,423	4,428	4,432	4,420	4,438	4,507	4,533	4,590	4,649	4,729	4,786	4,884
Women, 20 years and over	3,546	3,734	3,384	3,408	3,402	3,477	3,480	3,524	3,544	3,525	3,588	3,680	3,680	3,773	3,805
Both sexes, 16–19 years	565	634	545	531	513	544	545	522	573	588	555	611	638	632	659
Unemployed	956	894	849	897	901	936	946	1,016	921	941	957	880	899	914	884
Men, 20 years and over	329	287	311	237	324	352	368	351	335	335	289	278	306	290	274
Women, 20 years and over	343	332	282	314	334	334	328	351	323	337	362	339	310	332	349
Both sexes, 16–19 years	284	275	256	246	243	250	250	314	263	269	306	263	283	292	261
Unemployment rate	10.0	8.9	9.2	9.7	9.7	10.0	10.1	10.7	9.6	9.8	9.9	9.0	9.0	9.0	8.6
Men, 20 years and over	6.8	5.7	6.6	7.1	6.8	7.4	7.7	7.3	6.9	6.9	5.9	5.6	6.1	5.7	5.3
Women, 20 years and over	8.8	8.2	7.7	8.4	8.9	8.8	8.6	9.1	8.4	8.7	9.2	8.4	7.8	8.1	8.4
Both sexes, 16–19 years	33.5	30.2	32.0	31.7	32.1	31.5	31.4	37.6	31.5	31.4	35.5	30.1	30.7	31.6	28.4

[1] See note, table 1, regarding the introduction of 1970 census population controls.

NOTE: These data have been adjusted to reflect seasonal experience through December 1973. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1974 issue of **Employment and Earnings.**

3. Full-time and part-time status[1] of the civilian labor force, seasonally adjusted[2]

[Numbers in thousands]

Employment status	1973												1974
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
FULL TIME													
Total, 16 years and over:													
Civilian labor force	74,911	75,256	75,438	75,525	75,665	75,930	75,966	75,801	76,127	76,583	76,764	76,807	77,458
Employed	71,484	71,793	72,050	72,162	72,411	72,681	72,800	72,631	72,942	73,473	73,439	73,406	73,842
Unemployed	3,427	3,463	3,388	3,363	3,254	3,249	3,166	3,170	3,185	3,110	3,325	3,401	3,616
Unemployment rate	4.6	4.6	4.5	4.5	4.3	4.3	4.2	4.2	4.2	4.1	4.3	4.4	4.7
PART TIME													
Total, 16 years and over:													
Civilian labor force	12,236	12,563	12,694	12,817	12,779	12,646	12,612	12,810	13,307	13,186	13,190	13,317	13,171
Employed	11,298	11,578	11,718	11,777	11,692	11,526	11,534	11,770	12,278	12,203	12,228	12,314	12,085
Unemployed	938	985	976	1,040	1,087	1,120	1,078	1,040	1,029	983	962	1,003	1,086
Unemployment rate	7.7	7.8	7.7	8.1	8.5	8.9	8.5	8.1	7.7	7.5	7.3	7.5	8.2

[1] Persons on part-time schedules for economic reasons are included in the full-time employed category; unemployed persons are allocated by whether seeking full-time or part-time work.

[2] These data have been adjusted to reflect seasonal experience through December 1973. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1974 issue of **Employment and Earnings.**

4. Employment and unemployment, by age and sex, seasonally adjusted

[In thousands]

Employment status	Annual average		1973												1974
	1972[1]	1973[1]	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
TOTAL															
Total labor force	88,991	91,040	89,404	90,108	90,523	90,622	90,597	91,133	91,139	91,011	91,664	92,038	92,186	92,315	92,801
Civilian labor force	86,542	88,714	87,000	87,716	88,162	88,272	88,263	88,818	88,828	88,704	89,373	89,749	89,903	90,033	90,543
Employed	81,702	84,409	82,619	83,230	83,782	83,854	83,950	84,518	84,621	84,513	85,133	85,649	85,649	85,669	85,811
Agriculture	3,472	3,452	3,489	3,446	3,469	3,356	3,320	3,430	3,512	3,425	3,376	3,455	3,561	3,643	3,794
Nonagriculture	78,230	80,957	79,130	79,784	80,313	80,498	80,630	81,088	81,109	81,088	81,757	82,194	82,088	82,026	82,017
Unemployed	4,840	4,304	4,381	4,486	4,380	4,418	4,313	4,300	4,207	4,191	4,240	4,100	4,254	4,364	4,732
MEN, 20 YEARS AND OVER															
Total labor force	50,881	51,440	51,030	51,154	51,307	51,254	51,237	51,350	51,498	51,403	51,522	51,790	51,791	51,931	52,197
Civilian labor force	48,808	49,539	49,061	49,195	49,373	49,329	49,325	49,460	49,612	49,520	49,651	49,921	49,926	50,085	50,371
Employed	46,880	47,946	47,398	47,513	47,694	47,655	47,668	47,859	48,087	47,992	48,138	48,432	48,425	48,559	48,660
Agriculture	2,501	2,500	2,546	2,496	2,524	2,472	2,447	2,498	2,479	2,480	2,472	2,489	2,544	2,569	2,687
Nonagriculture	44,379	45,445	44,852	45,017	45,170	45,183	45,221	45,361	45,608	45,512	45,666	45,943	45,881	45,990	45,973
Unemployed	1,928	1,594	1,663	1,682	1,679	1,674	1,657	1,601	1,525	1,528	1,513	1,489	1,501	1,526	1,711
WOMEN, 20 YEARS AND OVER															
Civilian labor force	29,710	30,713	29,884	30,187	30,330	30,500	30,536	30,850	30,981	30,970	30,999	31,042	31,183	31,169	31,133
Employed	28,100	29,228	28,322	28,687	28,834	29,036	29,145	29,338	29,481	29,483	29,517	29,661	29,704	29,596	29,519
Agriculture	560	550	536	561	568	547	508	545	620	545	500	531	550	595	628
Nonagriculture	27,540	28,678	27,786	28,126	28,266	28,489	28,637	28,793	28,861	28,938	29,017	29,130	29,154	29,001	28,891
Unemployed	1,610	1,485	1,562	1,500	1,496	1,464	1,391	1,512	1,500	1,487	1,482	1,381	1,479	1,573	1,614
BOTH SEXES, 16–19 YEARS															
Civilian labor force	8,024	8,461	8,055	8,334	8,459	8,443	8,402	8,508	8,235	8,214	8,723	8,786	8,794	8,779	9,039
Employed	6,722	7,236	6,899	7,030	7,254	7,163	7,137	7,321	7,035	7,038	7,478	7,556	7,520	7,514	7,632
Agriculture	411	402	407	389	377	337	365	387	413	400	404	435	467	479	479
Nonagriculture	6,311	6,834	6,492	6,641	6,877	6,826	6,772	6,934	6,640	6,638	7,074	7,121	7,053	7,035	7,153
Unemployed	1,302	1,225	1,156	1,304	1,205	1,280	1,265	1,187	1,182	1,176	1,245	1,230	1,274	1,265	1,407

[1] See note, table 1, regarding the introduction of 1970 census population controls.

NOTE: These data have been adjusted to reflect seasonal experience through December 1973. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1974 issue of **Employment and Earnings.**

5. Employment totals and unemployment rates, seasonally adjusted,[1] quarterly averages

[Numbers in thousands]

Characteristic	Annual average		1970	1971				1972				1973			
	1972	1973	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
EMPLOYMENT	81,702	84,409	78,600	78,464	78,687	79,290	79,948	80,807	81,393	82,040	82,555	83,210	84,107	84,755	85,656
White-collar workers	39,092	40,386	38,093	37,888	38,064	38,413	38,590	38,683	38,880	39,283	39,510	39,999	40,047	40,430	41,089
Professional and technical	11,459	11,777	11,129	10,903	11,098	11,098	11,165	11,280	11,418	11,562	11,570	11,712	11,581	11,820	12,000
Managers and administrators, except farm	8,032	8,644	8,350	8,664	8,689	8,764	8,564	8,017	7,917	8,005	8,180	8,457	8,561	8,610	8,950
Sales workers	5,354	5,415	4,956	5,049	5,001	5,052	5,160	5,269	5,339	5,390	5,421	5,454	5,459	5,390	5,368
Clerical workers	14,247	14,548	13,658	13,272	13,276	13,499	13,701	14,117	14,206	14,326	14,339	14,376	14,446	14,610	14,771
Blue-collar workers	28,576	29,869	27,602	27,044	26,978	27,154	27,543	28,286	28,494	28,629	28,870	29,322	29,900	30,102	30,154
Craft and kindred workers	10,810	11,288	10,181	10,045	10,094	10,159	10,410	10,848	10,788	10,816	10,796	11,018	11,370	11,400	11,365
Operatives	13,549	14,269	13,700	12,937	12,923	12,955	13,103	13,388	13,512	13,524	13,764	14,076	14,242	14,360	14,402
Nonfarm laborers	4,217	4,312	3,721	4,062	3,961	4,040	4,030	4,050	4,194	4,289	4,310	4,228	4,288	4,342	4,387
Service workers	10,966	11,128	9,842	10,625	10,559	10,718	10,792	10,862	11,023	11,003	10,978	10,874	11,158	11,206	11,286
Farm workers	3,069	3,027	3,015	2,980	3,057	2,994	2,992	3,023	2,962	3,119	3,171	3,061	2,965	3,003	3,083
UNEMPLOYMENT RATE	5.6	4.9	5.8	6.0	5.9	5.9	5.9	5.9	5.7	5.5	5.3	5.0	4.9	4.7	4.7
White-collar workers	3.4	2.9	3.4	3.6	3.5	3.5	3.4	3.5	3.4	3.4	3.3	3.0	3.0	2.9	2.8
Professional and technical	2.4	2.2	2.3	3.1	2.9	2.9	2.8	2.6	2.3	2.4	2.4	2.2	2.1	2.1	2.2
Managers and administrators, except farm	1.8	1.4	1.5	1.6	1.7	1.6	1.7	1.8	1.6	1.9	1.8	1.5	1.5	1.4	1.3
Sales workers	4.3	3.7	4.6	4.3	4.5	4.3	3.9	4.3	4.1	4.4	4.2	3.7	3.7	3.6	3.6
Clericl workers	4.7	4.2	4.8	4.9	4.9	4.8	4.7	4.8	5.0	4.7	4.4	4.3	4.2	4.1	4.0
Blue-collar workers	6.5	5.3	7.4	7.5	7.4	7.4	7.3	7.0	6.6	6.3	5.8	5.6	5.3	5.2	5.3
Craft and kindred workers	4.3	3.7	4.6	4.9	4.2	5.1	4.7	4.4	4.4	4.1	4.0	3.8	3.7	3.8	3.6
Operatives	6.9	5.7	8.5	8.5	8.6	8.2	8.0	7.6	7.2	6.8	6.1	6.0	5.6	5.3	5.6
Nonfarm laborers	10.3	8.4	10.9	10.6	10.9	10.4	11.4	11.7	10.3	10.0	9.0	8.6	8.6	8.3	8.3
Service workers	6.3	5.7	6.0	6.2	6.4	6.4	6.3	6.2	6.1	6.6	6.3	6.0	5.6	5.6	5.7
Farm workers	2.6	2.5	2.8	2.9	2.1	2.8	2.5	2.5	2.6	2.6	2.8	2.5	3.0	2.3	2.4

[1] These data have been adjusted to reflect seasonal experience through December 1973. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1974 issue of **Employment and Earnings.**

NOTE: In addition to the 1970 census population control adjustments in total employment (see note, table 1), reclassification of census occupations introduced in January 1971 affected comparisons of 1971 occupational employment data and those of prior years. Moreover, 1972 data are not completely comparable with 1971 because of the addition of a question to the Current Population Survey in December 1971 relating to major activities and duties.

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1973												1974
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
NUMBER OF UNEMPLOYED													
Lost last job	1,773	1,745	1,710	1,677	1,610	1,716	1,581	1,565	1,611	1,461	1,664	1,761	2,006
Left last job	569	661	701	657	621	670	674	646	670	678	783	765	731
Reentered labor force	1,393	1,374	1,291	1,451	1,505	1,218	1,304	1,362	1,303	1,253	1,227	1,266	1,252
Never worked before	665	677	689	682	682	636	649	608	641	612	590	593	682
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Lost last job	40.3	39.2	38.9	37.5	36.4	40.5	37.6	37.4	38.1	36.5	39.0	40.2	42.9
Left last job	12.9	14.8	16.0	14.7	14.1	15.8	16.0	15.5	15.9	16.9	18.4	17.4	15.6
Reentered labor force	31.7	30.8	29.4	32.5	34.1	28.7	31.0	32.6	30.8	31.3	28.8	28.9	26.8
Never worked before	15.1	15.2	15.7	15.3	15.4	15.0	15.4	14.5	15.2	15.3	13.8	13.5	14.6
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Lost last job	2.0	2.0	1.9	1.9	1.8	1.9	1.8	1.8	1.8	1.6	1.9	2.0	2.2
Left last job	.7	.8	.8	.7	.7	.8	.8	.7	.7	.8	.9	.8	.9
Reentered labor force	1.6	1.6	1.5	1.6	1.7	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.4
Never worked before	.8	.8	.8	.8	.8	.7	.7	.7	.7	.7	.7	.7	.8

NOTE: These data have been adjusted to reflect seasonal experience through December 1973. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1974 issue of Employment and Earnings.

7. Unemployment rates, by age and sex, seasonally adjusted

Age and sex	Annual average		1973												1974
	1972	1973	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Total, 16 years and over	5.6	4.9	5.0	5.1	5.0	5.0	4.9	4.8	4.7	4.7	4.7	4.6	4.7	4.8	5.2
16 to 19 years	16.2	14.5	14.4	15.6	14.2	15.2	15.1	14.0	14.4	14.3	14.3	14.0	14.5	14.4	15.6
16 and 17 years	18.5	17.3	17.6	18.1	17.3	18.8	18.1	17.5	16.4	16.6	17.2	16.4	17.2	16.7	19.4
18 and 19 years	14.6	12.4	12.5	13.3	12.1	12.4	13.0	10.7	12.6	12.8	12.6	12.1	12.5	12.9	13.3
20 to 24 years	9.3	7.8	8.2	8.1	7.9	8.1	7.9	7.8	8.0	7.8	7.8	6.7	7.2	7.7	8.5
25 years and over	3.6	3.1	3.3	3.3	3.2	3.2	3.1	3.2	3.0	3.0	2.9	2.9	3.0	3.1	3.2
25 to 54 years	3.7	3.2	3.4	3.4	3.4	3.3	3.2	3.3	3.0	3.1	3.0	2.9	3.1	3.3	3.4
55 years and over	3.3	2.7	2.9	2.8	2.7	2.5	2.5	2.6	2.8	2.7	2.6	2.6	2.7	2.6	2.8
Male, 16 years and over	4.9	4.1	4.2	4.3	4.3	4.4	4.3	4.1	4.0	4.0	4.0	3.9	4.0	4.0	4.4
16 to 19 years	15.9	13.9	13.5	14.2	13.4	14.5	14.3	13.6	13.9	14.1	13.7	13.4	14.3	13.6	14.1
16 and 17 years	18.2	17.0	17.5	17.6	17.1	19.0	17.8	17.2	16.6	16.5	15.6	15.6	17.2	16.3	18.8
18 and 19 years	14.0	11.4	11.1	11.1	10.7	10.8	11.8	10.0	11.6	12.3	12.6	11.3	12.1	11.9	11.2
20 to 24 years	9.2	7.3	7.8	7.8	7.5	7.8	7.7	7.5	7.0	7.2	7.0	6.3	6.6	6.7	7.9
25 years and over	3.1	2.5	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.7
25 to 54 years	3.1	2.5	2.7	2.8	2.8	2.7	2.7	2.5	2.3	2.4	2.3	2.2	2.3	2.5	2.7
55 years and over	3.3	2.5	2.5	2.3	2.3	2.4	2.6	2.7	2.8	2.6	2.7	2.7	2.6	2.4	2.6
Female, 16 years and over	6.6	6.0	6.3	6.3	6.1	6.0	5.8	6.0	5.9	5.8	5.9	5.6	5.9	6.2	6.6
16 to 19 years	16.7	15.2	15.5	17.4	15.2	16.0	15.9	14.3	14.9	14.6	15.0	14.8	14.8	15.4	17.3
16 and 17 years	18.8	17.7	17.8	18.8	17.7	18.5	18.5	17.9	16.1	16.6	19.3	17.3	17.2	17.2	20.1
18 and 19 years	15.2	13.5	14.1	15.8	13.6	14.3	14.4	11.4	13.8	13.3	12.6	13.0	13.1	14.0	15.6
20 to 24 years	9.3	8.4	8.8	8.4	8.4	8.4	8.2	8.1	9.3	8.5	8.7	7.3	7.9	8.9	9.3
25 years and over	4.6	4.0	4.4	4.3	4.1	4.0	3.8	4.2	3.9	3.9	3.9	3.8	4.1	4.2	4.2
25 to 54 years	4.9	4.4	4.7	4.5	4.3	4.3	4.1	4.7	4.2	4.3	4.1	4.1	4.4	4.6	4.6
55 years and over	3.4	2.8	3.5	3.5	3.4	2.8	2.3	2.4	2.6	2.9	2.5	2.5	2.7	2.8	3.1

NOTE: These data have been adjusted to reflect seasonal experience through December 1973. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1974 issue of Employment and Earnings.

8. Unemployment rates, seasonally adjusted

Selected categories	Average annual		1973												1974
	1972	1973	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Total (all civilian workers)	5.6	4.9	5.0	5.1	5.0	5.0	4.9	4.8	4.7	4.7	4.7	4.6	4.7	4.8	5.2
Men, 20 years and over	4.0	3.2	3.4	3.4	3.4	3.4	3.4	3.2	3.1	3.1	3.0	3.0	3.0	3.0	3.4
Women, 20 years and over	5.4	4.8	5.2	5.0	4.9	4.8	4.6	4.9	4.8	4.8	4.8	4.4	4.7	5.0	5.2
Both sexes, 16–19 yeras	16.2	14.5	14.4	15.6	14.2	15.2	15.1	14.0	14.4	14.3	14.3	14.0	14.5	14.4	15.6
White	5.0	4.3	4.6	4.6	4.4	4.5	4.4	4.3	4.1	4.2	4.2	4.1	4.2	4.4	4.7
Negro and other	10.0	8.9	8.9	9.0	9.0	9.2	9.2	8.8	9.2	8.8	9.2	8.4	8.9	8.6	9.4
Household heads	3.3	2.9	3.0	3.0	3.0	3.0	2.9	2.9	2.7	2.8	2.7	2.7	2.8	2.8	3.0
Married men	2.8	2.3	2.4	2.4	2.5	2.4	2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.2	2.3
Full-time workers	5.1	4.3	4.6	4.6	4.5	4.5	4.3	4.3	4.2	4.2	4.2	4.1	4.3	4.4	4.7
Unemployed 15 weeks and over [1]	1.3	.9	1.1	1.0	1.0	.9	.9	.9	.9	.9	.9	.9	.8	.8	.8
State insured [2]	3.5	1.7	2.9	2.8	2.8	2.7	2.7	2.7	2.6	2.7	2.7	2.7	2.7	2.7	2.9
Labor force time lost [3]	6.0	5.2	5.3	5.4	5.3	5.3	5.2	5.2	5.1	5.1	5.1	5.1	5.2	5.4	5.7
Vietnam-era veterans, men: [4]															
20 to 34 years	6.7	4.9	5.4	5.2	5.4	5.5	5.2	5.4	4.9	5.0	4.9	4.5	3.7	4.3	5.2
20 to 24 years	10.6	8.8	8.9	9.8	9.1	9.0	8.9	10.3	8.8	9.3	8.0	8.2	7.2	7.5	10.6
25 to 29 years	4.9	3.7	4.1	3.2	3.9	4.3	4.1	3.8	4.0	3.9	4.0	3.4	2.5	3.4	3.6
30 to 34 years	3.0	2.6	2.9	3.0	3.4	2.8	2.2	2.5	1.8	2.1	3.1	2.7	2.4	2.8	3.1
Nonveterans, men:															
20 to 34 years	5.7	4.9	5.1	5.2	5.3	5.1	5.2	4.8	4.7	4.9	4.7	4.2	4.6	4.7	5.2
20 to 24 years	8.7	6.8	7.4	7.1	7.0	7.5	7.3	6.7	6.6	6.9	6.6	5.7	6.5	6.6	7.2
25 to 29 years	4.2	4.3	4.1	4.2	5.0	3.8	4.6	4.3	4.5	4.5	4.2	4.0	4.2	4.0	4.0
30 to 34 years	3.0	2.4	2.5	3.3	2.8	2.7	2.7	2.2	2.2	2.4	2.2	2.1	2.0	2.1	3.2
OCCUPATION															
White-collar workers	3.4	2.9	3.1	3.0	2.9	3.1	2.9	2.9	2.9	2.9	2.9	2.6	2.8	3.1	3.2
Professional and managerial	2.1	1.8													
Sales workers	4.3	3.7	3.9	3.7	3.6	3.9	3.6	3.5	3.6	3.8	3.5	3.0	3.3	4.5	4.0
Clerical workers	4.7	4.2	4.5	4.3	4.2	4.3	4.1	4.2	4.1	4.1	4.2	3.6	4.0	4.3	4.5
Blue-collar workers	6.5	5.3	5.6	5.7	5.5	5.4	5.3	5.3	5.2	5.2	5.1	5.1	5.4	5.2	6.0
Craft and kindred workers	4.3	3.7	3.7	3.9	3.8	3.8	3.7	3.6	3.9	3.7	3.7	3.5	3.9	3.2	3.8
Operatives	6.9	5.7	6.2	6.1	5.9	5.6	5.6	5.7	5.3	5.4	5.3	5.4	5.6	5.8	7.0
Nonfarm laborers	10.3	8.4	8.4	8.8	8.5	8.7	8.6	8.6	8.3	8.4	8.1	8.0	8.6	8.3	8.4
Service workers	6.3	5.7	5.5	6.2	6.2	6.0	5.8	5.1	5.5	5.5	5.7	5.1	5.9	6.2	5.5
INDUSTRY															
Nonagricultureal private wage and salary workers [5]	5.7	4.8	5.1	5.1	4.9	4.9	4.8	4.7	4.7	4.7	4.7	4.5	4.8	5.0	5.3
Construction	10.3	8.8	9.1	8.9	8.7	9.3	8.9	8.2	9.4	8.5	9.6	9.0	9.1	8.2	9.1
Manufacturing	5.6	4.3	5.0	4.5	4.6	4.4	4.4	4.4	3.8	4.0	4.2	3.9	4.3	4.3	5.1
Durable goods	5.4	3.9	4.7	4.2	4.4	3.8	4.0	3.7	3.3	3.6	4.0	3.7	3.6	3.9	5.0
Nondurable goods	5.7	4.9	5.4	5.0	4.9	5.1	5.1	5.3	4.6	4.7	4.4	4.1	5.3	4.9	5.3
Transportation and public utilities	3.5	3.0	2.9	3.1	3.0	2.7	3.0	3.5	2.8	3.0	2.8	2.9	3.1	3.1	2.9
Wholesale and retail trade	6.4	5.6	5.7	6.0	5.4	5.7	5.6	5.2	5.9	5.9	5.6	5.1	5.4	6.1	6.1
Finance and service industries	4.8	2.7	4.4	4.6	4.5	4.4	4.2	4.1	4.0	4.1	4.0	4.1	4.3	4.6	4.5
Government wage and salary workers	2.9	2.7	2.3	2.6	2.7	3.3	2.7	2.7	2.9	2.7	3.0	2.7	2.5	2.5	2.5
Agricultural wage and salary workers	7.7	6.9	6.5	7.2	7.1	8.0	8.8	7.0	5.4	7.1	5.8	6.7	7.4	6.4	6.3

[1] Unemployment rate calculated as a percent of civilian labor force.
[2] Insured unemployment under State programs as a percent of average covered employment.
[3] Man-hours lost by the unemployed and persons on part time for economic reasons (that is, those persons who worked less than 35 hours during the survey week because of slack work, job changing during the week, material shortages, inability to find full-time work, and so on) as a percent of potentially available labor force man-hours.
[4] Vietnam-era veterans are those who served after August 4, 1964. Over 90 percent of Vietnam-era veterans of all ages are 20 to 34 years old.
[5] Includes mining, not shown separately.

NOTE: These data have been adjusted to reflect seasonal experience through December 1973. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1974 issue of **Employment and Earnings.**

9. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Period	Annual average		1973												1974
	1972	1973	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Less than 5 weeks	2,223	2,196	2,081	2,264	2,168	2,207	2,251	2,244	2,225	2,206	2,158	2,001	2,243	2,308	2,466
5 to 14 weeks	1,458	1,296	1,369	1,264	1,337	1,487	1,287	1,210	1,267	1,220	1,339	1,283	1,235	1,270	1,437
15 weeks and over	1,158	812	917	898	869	787	818	789	755	777	768	756	820	740	768
15 to 26 weeks	597	475	510	533	496	467	470	463	478	446	476	431	469	409	440
27 weeks and over	562	337	407	365	373	320	348	326	277	331	292	325	351	331	328
15 weeks and over as a percent of civilian labor force	1.3	.9	1.1	1.0	1.0	.9	.9	.9	.8	.9	.9	.8	.9	.8	.8
Average (mean) duration, in weeks	12.1	10.0	10.9	10.5	10.5	10.0	10.0	9.7	9.8	10.0	9.4	10.3	10.0	9.3	9.4

NOTE: These data have been adjusted to reflect seasonal experience through December 1973. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1974 issue of **Employment and Earnings.**

10. Unemployment insurance and employment service operations [1]

[All items except average benefits amounts are in thousands]

Item	1972	1973											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
All programs: [2]													
Insured unemployment	1,993	2,333	2,250	2,075	1,828	1,610	1,523	1,640	1,572	1,440	1,451	1,665	2,092
State unemployment insurance program: [3]													
Initial claims [4] [5]	1,347	1,539	1,000	916	920	887	865	1,231	954	747	978	1,125	----
Insured unemployment [6] (average weekly volume)	1,801	2,124	2,062	1,898	1,669	1,465	1,384	1,505	1,436	1,299	1,298	1,501	1,921
Rate of insured unemployment [7]	3.3	3.8	3.7	3.4	2.8	2.5	2.4	2.5	2.4	2.1	2.1	2.4	3.1
Weeks of unemployment compensated	5,699	8,123	7,210	7,707	6,315	5,975	5,083	5,290	5,653	4,408	4,923	4,832	----
Average weekly benefit amount for total unemployment	$58.10	$58.69	$59.08	$59.09	$59.41	$58.44	$58.12	$57.42	$57.46	$58.12	$58.97	$59.55	----
Total benefits paid	$342,197	$465,288	$414,957	$440,880	$363,825	$339,220	$286,639	$296,334	$316.321	$248,345	$280,717	$279,030	----
Unemployment compensation for ex-servicemen [8]**:**													
Initial claims [3] [4]	35	39	35	33	26	27	28	32	31	26	27	27	----
Insured unemployment (average weekly volume)	70	76	76	72	64	58	56	59	59	53	51	54	60
Weeks of unemployment compensated	268	340	292	326	274	267	225	240	270	209	220	213	----
Total benefits paid	$16,722	$21,212	$17,974	$20,101	$17,014	$16,681	$14,258	$15,325	$17,355	$13,537	$14,300	$13,947	----
Unemployment compensation for Federal civilian employees: [9] [10]													
Initial claims [4]	12	18	11	11	11	12	15	31	18	12	17	14	----
Insured unemployment [6] (average weekly volume)	39	39	37	34	31	28	28	39	42	42	44	47	46
Weeks of unemployment compensated	154	177	149	155	129	127	114	127	178	161	190	190	----
Total benefits paid	$9,406	$10,590	$8,802	$9,202	$7,696	$7,672	$6,782	$7,752	$11,460	$10,400	$12,386	$12,355	----
Railroad unemployment insurance:													
Applications [11]	1	7	3	26	9	3	7	13	7	6	4	4	4
Insured unemployment (average weekly volume)	16	20	17	15	13	10	9	9	9	10	9	10	9
Number of payments [12]	38	60	41	58	38	28	21	18	21	20	21	22	18
Average amount of benefit payment [13]	$102.29	$103.81	$95.35	$66.66	$74.74	$91.34	$93.50	$96.64	$96.22	$92.52	$94.38	$95.69	$97.52
Total benefits paid [14]	$3,757	$5,918	$3,850	$3,651	$2,885	$2,291	$1,700	$1,524	$1,760	$1,612	$1,946	$1,895	$1,614
Employment service: [p]													
New applicants	689	1,026	794	858	769	991	1,108	----	----	----	----	----	----
Nonfarm placements	287	330	315	384	383	443	526	----	----	----	----	----	----

[1] Includes data for Puerto Rico.

[2] Represents an unduplicated count of insured unemployment under the State, Ex-servicemen, and UCFE programs and the Railroad Unemployment Insurance Act. Includes claims filed under Extended Duration (ED) provisions of regular State laws.

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

[4] Initial claims are notices filed by workers to indicate they are starting periods of unemployment. Excludes transition claims under State programs.

[5] Includes interstate claims for the Virgin Islands.

[6] Number of workers reporting the completion of at least 1 week of unemployment.

[7] The rate is the number of insured unemployed expressed as a percent of the average covered employment in a 12-month period.

[8] Excludes data on claims and payments made jointly with other programs.

[9] Includes the Virgin Islands.

[10] Excludes data on claims and payments made jointly with State programs.

[11] 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.

[12] Payments are for unemployment in 14-day registration periods.

[13] The average amount is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments.

[14] Adjusted for recovery of overpayments and settlement of underpayments.

[p]=preliminary.

NOTE: Dashes indicate data not available.

SOURCE: U.S. Department of Labor, Office of Financial and Management Information Systems for all items except railroad unemployment insurance which is prepared by the U.S. Railroad Retirement Board.

11. Employees on nonagricultural payrolls, by industry division, 1947-72

[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[1]	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

[1] Data include Alaska and Hawaii beginning 1959. This inclusion has resulted in an increase of 212,000 (0.4 percent) in the nonagricultural total for the March 1959 benchmark month.

NOTE: The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to November 1972. Comparable back data are published in **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9). These series are based upon establishment reports which cover all full-time and part-time employees in nonagricultural establishments who worked during, or received pay for any part of, the pay period which includes the 12th of the month. Therefore, persons who worked in more than one establishment during the reporting period are counted more than once. Proprietors, self-employed persons, unpaid family workers, and domestic servants are excluded.

12. Employees on nonagricultural payrolls, by State

[In thousands]

State	Dec. 1972	Nov. 1973	Dec. 1973 p	State	Dec. 1972	Nov. 1973	Dec. 1973 p
Alabama	1,089.5	1,110.6	1,112.6	Montana	220.1	227.3	227.7
Alaska	103.1	107.6	105.3	Nebraska	522.4	537.5	535.4
Arizona [1]	683.9	721.6	726.7	Nevada	227.8	247.3	247.2
Arkansas	595.0	620.0	620.5	New Hampshire	277.3	291.2	290.9
California [1]	7,394.3	7,793.3	7,798.3	New Jersey	2,722.7	2,768.9	2,767.9
Colorado	886.0	918.5	914.5	New Mexico [1]	340.1	353.3	354.5
Connecticut	1,214.7	1,242.7	1,252.4	New York	7,113.0	7,135.1	7,135.8
Delaware	236.6	239.8	241.0	North Carolina	1,963.9	2,011.2	2,019.7
District of Columbia	687.5	688.0	689.6	North Dakota	180.0	187.6	185.7
Florida	2,535.4	2,638.0	2,667.3	Ohio	4,043.9	4,150.3	4,158.8
Georgia	1,699.1	1,739.4	1,750.7	Oklahoma	819.0	843.9	846.7
Hawaii	312.5	316.5	317.7	Oregon	779.6	832.0	826.5
Idaho	238.7	250.9	249.1	Pennsylvania	4,460.0	4,522.8	4,519.5
Illinois	4,352.0	4,419.6	4,429.9	Rhode Island	368.4	365.0	364.8
Indiana	1,945.0	2,008.8	2,003.9	South Carolina	950.8	990.5	996.4
Iowa	952.2	973.8	976.6	South Dakota [1]	199.0	208.8	208.6
Kansas	736.8	769.9	768.5	Tennessee	1,501.1	1,536.8	1,537.0
Kentucky	1,018.5	1,052.5	1,056.9	Texas	3,996.2	4,133.0	4,162.2
Louisiana	1,143.0	1,160.1	1,165.3	Utah	409.3	430.0	427.9
Maine	339.3	344.1	344.3	Vermont	157.7	163.3	165.1
Maryland	1,388.0	1,424.7	1,433.1	Virginia	1,614.4	1,663.9	1,667.5
Massachusetts	2,335.6	2,382.6	2,386.4	Washington	1,120.7	1,175.2	1,173.2
Michigan	3,226.5	3,322.2	3,329.6	West Virginia	542.4	544.9	545.3
Minnesota	1,392.1	1,451.7	1,442.2	Wisconsin	1,614.2	1,658.5	1,655.4
Mississippi	645.7	665.8	668.4	Wyoming	118.9	128.7	127.7
Missouri	1,734.3	1,773.9	1,772.8				

[1] Revised series: not strictly comparable with previously published data.

p = preliminary.

NOTE: Current State employment data by major industry division are published in **Employment and Earnings**, table B–7. For historical data in available industry detail, see the annual compendium, **Employment and Earnings, States and Areas, 1939–71** (BLS Bulletin 1370–9).

SOURCE: State agencies in cooperation with U.S. Department of Labor, Bureau of Labor Statistics. More detailed industry data are available from the State agencies. For addresses see inside back cover of **Employment and Earnings.**

13. Employees on nonagricultural payrolls, by industry division and major manufacturing group [1]

[In thousands]

Industry division and group	Annual average		1973												1974
	1971	1972	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.p	Jan.p
TOTAL	70,645	72,764	73,343	73,724	74,255	74,861	75,404	76,308	75,368	75,686	76,238	76,914	77,322	77,399	75,467
MINING	602	607	598	598	598	603	608	642	644	648	641	640	643	641	633
CONTRACT CONSTRUCTION	3,411	3,521	3,155	3,184	3,294	3,442	3,616	3,837	3,934	3,981	3,944	3,923	3,822	3,637	3,248
MANUFACTURING	18,529	18,933	19,279	19,420	19,521	19,586	19,667	20,002	19,729	20,018	20,132	20,168	20,202	20,113	19,781
Production workers [2]	13,434	13,838	14,130	14,258	14,345	14,394	14,457	14,739	14,458	14,727	14,841	14,866	14,886	14,800	14,491
Durable goods	10,565	10,884	11,253	11,359	11,431	11,498	11,575	11,755	11,608	11,676	11,801	11,856	11,909	11,873	11,666
Production workers [2]	7,598	7,919	8,243	8,334	8,397	8,452	8,514	8,665	8,507	8,560	8,681	8,725	8,765	8,731	8,540
Ordnance and accessories	192.1	188.2	197.3	197.0	195.7	193.0	191.2	191.7	192.4	192.3	191.8	190.6	187.8	191.6	186.3
Lumber and wood products	580.8	612.0	606.3	611.9	616.9	617.6	624.9	648.5	644.0	650.6	642.6	641.2	636.7	635.3	623.2
Furniture and fixtures	458.5	492.7	511.3	511.4	513.7	514.5	516.8	527.6	512.3	530.3	528.4	534.4	534.9	531.3	525.8
Stone, clay, and glass products	633.7	660.0	653.4	661.9	672.1	681.6	692.3	708.3	709.3	711.5	708.8	709.4	704.3	697.4	684.1
Primary metal industries	1,227.4	1,234.8	1,274.5	1,283.6	1,287.4	1,297.9	1,310.3	1,331.8	1,322.4	1,326.1	1,331.0	1,332.3	1,339.2	1,338.3	1,323.9
Fabricated metal products	1,328.2	1,371.1	1,411.6	1,423.1	1,430.2	1,439.5	1,448.3	1,468.5	1,441.2	1,457.2	1,467.4	1,467.1	1,486.4	1,479.8	1,461.1
Machinery, except electrical	1,805.3	1,864.2	1,961.0	1,985.0	2,002.1	2,016.3	2,022.7	2,054.1	2,036.2	2,048.5	2,066.3	2,075.5	2,108.4	2,126.2	2,105.2
Electrical equipment	1,768.5	1,833.0	1,920.7	1,939.2	1,947.0	1,958.2	1,970.0	2,007.5	1,992.9	2,005.8	2,028.1	2,050.8	2,066.2	2,069.1	2,041.0
Transportation equipment	1,723.9	1,746.8	1,827.7	1,844.8	1,855.7	1,869.2	1,876.7	1,882.3	1,834.3	1,803.8	1,881.6	1,878.7	1,875.8	1,847.1	1,773.9
Instruments and related products	437.0	455.9	475.2	478.8	482.3	479.3	488.4	494.8	494.0	502.3	503.9	507.5	513.9	516.5	513.3
Miscellaneous manufacturing	409.6	425.2	414.2	422.6	427.8	430.7	433.0	439.4	428.5	447.1	451.2	459.4	455.4	440.1	428.1
Nondurable goods	7,964	8,049	8,026	8,061	8,090	8,088	8,092	8,247	8,121	8,342	8,331	8,312	8,293	8,240	8,115
Production workers [2]	5,836	5,919	5,887	5,924	5,948	5,942	5,943	6,074	5,951	6,167	6,160	6,141	6,121	6,069	5,951
Food and kindred products	1,758.3	1,751.1	1,684.0	1,673.5	1,670.9	1,665.4	1,673.4	1,725.4	1,759.4	1,834.2	1,840.7	1,804.8	1,767.9	1,731.4	1,684.8
Tobacco manufactures	76.3	72.0	71.3	70.5	69.9	68.4	67.6	68.5	67.8	79.6	81.7	81.5	80.8	78.8	73.9
Textile mill products	957.0	991.0	1,011.3	1,019.6	1,022.0	1,020.5	1,020.2	1,035.8	1,006.8	1,029.5	1,026.5	1,027.1	1,033.4	1,034.9	1,028.4
Apparel and other textile products	1,335.7	1,335.3	1,316.9	1,350.0	1,359.0	1,354.4	1,350.7	1,364.7	1,270.4	1,346.4	1,349.3	1,353.4	1,347.6	1,329.7	1,302.7
Paper and allied products	683.6	697.0	703.5	704.8	709.5	708.9	711.3	727.2	716.3	727.1	722.3	724.9	729.6	727.0	721.4
Printing and publishing	1,071.2	1,079.6	1,091.0	1,090.6	1,093.8	1,095.4	1,091.9	1,100.2	1,097.2	1,097.8	1,095.2	1,101.1	1,106.5	1,113.6	1,102.1
Chemicals and allied products	1,008.2	1,002.2	1,007.8	1,007.4	1,016.2	1,021.1	1,022.8	1,038.1	1,041.0	1,040.6	1,038.9	1,041.0	1,039.6	1,040.0	1,038.1
Petroleum and coal products	190.6	189.6	184.7	180.6	182.5	180.8	181.7	189.8	191.5	193.3	191.9	190.9	190.1	190.6	188.1
Rubber and plastics products, nec	580.9	627.0	660.2	668.2	671.7	677.0	673.9	691.6	682.0	691.6	688.8	691.5	698.9	696.7	683.5
Leather and leather products	302.4	304.4	294.8	295.3	294.5	295.7	298.2	305.5	288.4	302.3	295.7	296.1	298.5	296.9	292.2
TRANSPORTATION AND PUBLIC UTILITIES	4,442	4,495	4,510	4,507	4,539	4,559	4,593	4,661	4,653	4,659	4,671	4,680	4,659	4,639	4,600
WHOLESALE AND RETAIL TRADE	15,142	15,683	15,865	15,776	15,880	16,088	16,200	16,335	16,262	16,279	16,367	16,515	16,780	17,115	16,236
Wholesale trade	3,809	3,918	3,973	3,974	3,989	4,000	4,014	4,096	4,112	4,136	4,127	4,162	4,188	4,180	4,127
Retail trade	11,333	11,765	11,892	11,802	11,891	12,088	12,186	12,239	12,150	12,143	12,240	12,353	12,592	12,935	12,109
FINANCE, INSURANCE, AND REAL ESTATE	3,796	3,927	3,959	3,978	4,000	4,019	4,040	4,089	4,113	4,121	4,082	4,076	4,079	4,078	4,062
SERVICES	11,869	12,309	12,406	12,530	12,627	12,771	12,865	12,999	12,982	13,009	12,982	13,057	13,096	13,058	12,884
Hotels and other lodging places	793.1	849.0	801.8	820.4	825.4	844.0	868.0	934.3	999.0	1,015.7	925.8	866.6	845.8	835.8	-------
Personal services	935.1	913.0	897.1	892.2	898.3	899.5	901.8	904.1	897.6	889.6	892.7	897.6	897.5	895.5	-------
Medical and other health services	3,256.8	3,441.5	3,545.1	3,572.8	3,593.9	3,611.1	3,630.8	3,684.9	3,704.1	3,722.3	3,729.4	3,757.7	3,778.4	3,790.9	-------
Educational services	1,138.4	1,166.8	1,209.8	1,252.9	1,262.2	1,257.2	1,245.0	1,154.1	1,040.7	1,019.3	1,150.6	1,267.6	1,293.7	1,285.9	-------
GOVERNMENT	12,856	13,290	13,571	13,731	13,796	13,793	13,815	13,743	13,051	12,971	13,419	13,855	14,041	14,118	14,023
Federal	2,664	2,650	2,619	2,619	2,623	2,631	2,638	2,631	2,616	2,617	2,608	2,613	2,628	2,677	2,632
State and local	10,191	10,640	10,952	11,112	11,173	11,162	11,177	11,112	10,435	10,354	10,811	11,242	11,413	11,441	11,391

[1] The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to November 1972. Comparable back data are published in **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

[2] Production workers include working foremen and all nonsupervisory workers (including leadmen and trainees) engaged in fabricating, processing, assembling, inspection, receiving, storage, handling, packing, warehousing, shipping, maintenance, repair, janitorial, and watchman services, product development, auxiliary production for plant's own use (e.g., powerplant), and recordkeeping and other services closely associated with the above production operations.

p=preliminary.

NOTE: For additional detail, see **Employment and Earnings,** table B–2.

14. Employees on nonagricultural payrolls, by industry division and major manufacturing group, seasonally adjusted [1]

[In thousands]

Industry division and group	1973												1974
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.p	Jan.p
TOTAL	74,252	74,715	74,914	75,105	75,321	75,526	75,478	75,747	75,961	76,363	76,679	76,631	76,372
MINING	610	612	610	608	608	629	631	634	633	639	644	645	645
CONTRACT CONSTRUCTION	3,498	3,594	3,604	3,571	3,620	3,654	3,680	3,676	3,700	3,694	3,711	3,730	3,601
MANUFACTURING	19,463	19,586	19,643	19,727	19,782	19,856	19,804	19,861	19,882	20,016	20,095	20,091	19,966
Production workers [2]	14,295	14,402	14,451	14,521	14,551	14,614	14,566	14,611	14,609	14,720	14,774	14,773	14,661
Durable goods	11,326	11,421	11,463	11,534	11,602	11,654	11,646	11,692	11,708	11,802	11,859	11,852	11,739
Production workers [2]	8,307	8,386	8,425	8,483	8,528	8,573	8,562	8,597	8,599	8,674	8,712	8,707	8,607
Ordnance and accessories	197	198	197	195	193	192	193	192	190	191	186	190	186
Lumber and wood products	624	628	630	631	629	628	628	631	631	634	637	644	642
Furniture and fixtures	511	514	517	520	523	527	522	527	525	528	528	527	526
Stone, clay, and glass products	674	682	687	687	692	693	697	694	696	701	701	704	705
Primary metal industries	1,284	1,286	1,280	1,288	1,299	1,308	1,308	1,323	1,339	1,353	1,357	1,353	1,333
Fabricated metal products	1,419	1,432	1,436	1,448	1,456	1,457	1,459	1,459	1,456	1,466	1,473	1,468	1,468
Machinery, except electrical	1,965	1,973	1,990	2,006	2,021	2,040	2,040	2,065	2,073	2,086	2,121	2,126	2,109
Electrical equipment	1,925	1,945	1,957	1,970	1,984	2,008	2,009	2,006	2,010	2,039	2,048	2,057	2,045
Transportation equipment	1,817	1,845	1,846	1,869	1,877	1,871	1,858	1,859	1,850	1,858	1,857	1,827	1,763
Instruments and related products	477	481	484	481	490	494	494	500	503	507	512	514	515
Miscellaneous manufacturing	433	437	439	439	438	436	438	436	435	439	439	442	447
Nondurable goods	8,137	8,165	8,180	8,193	8,180	8,202	8,158	8,169	8,174	8,214	8,236	8,239	8,227
Production workers [2]	5,988	6,016	6,026	6,038	6,023	6,041	6,004	6,014	6,010	6,046	6,062	6,066	6,054
Food and kindred products	1,749	1,751	1,748	1,746	1,736	1,729	1,720	1,706	1,719	1,735	1,749	1,749	1,750
Tobacco manufactures	72	73	76	76	76	76	76	72	70	72	75	75	74
Textile mill products	1,014	1,023	1,023	1,023	1,022	1,024	1,021	1,026	1,025	1,027	1,028	1,030	1,031
Apparel and other textile products	1,337	1,349	1,350	1,357	1,351	1,351	1,319	1,337	1,337	1,340	1,333	1,331	1,323
Paper and allied products	708	711	715	712	719	719	716	721	719	725	725	723	726
Printing and publishing	1,093	1,092	1,094	1,096	1,095	1,100	1,101	1,100	1,097	1,098	1,102	1,106	1,104
Chemicals and allied products	1,016	1,014	1,018	1,021	1,025	1,030	1,034	1,031	1,038	1,043	1,043	1,043	1,046
Petroleum and coal products	189	185	186	183	182	186	186	189	190	190	190	193	193
Rubber and plastics products, nec	664	672	674	680	676	687	690	691	683	687	694	693	687
Leather and leather products	295	295	296	299	298	300	295	296	296	297	297	296	293
TRANSPORTATION AND PUBLIC UTILITIES	4,574	4,580	4,580	4,591	4,593	4,597	4,598	4,617	4,629	4,671	4,654	4,639	4,665
WHOLESALE AND RETAIL TRADE	16,013	16,114	16,163	16,217	16,256	16,262	16,294	16,352	16,388	16,465	16,520	16,400	16,363
Wholesale trade	4,001	4,022	4,029	4,044	4,046	4,072	4,071	4,099	4,111	4,137	4,163	4,151	4,156
Retail trade	12,012	12,092	12,134	12,173	12,210	12,190	12,223	12,253	12,277	12,328	12,357	12,249	12,207
FINANCE, INSURANCE, AND REAL ESTATE	3,995	4,014	4,024	4,031	4,044	4,049	4,048	4,064	4,078	4,088	4,095	4,098	4,099
SERVICES	12,621	12,682	12,716	12,746	12,776	12,820	12,828	12,906	12,995	13,044	13,122	13,124	13,107
Hotels and other lodging places	861	872	867	865	871	888	877	890	901	894	904	890	--------
Personal services	905	903	904	901	896	891	898	894	895	892	891	893	--------
Medical and other health services	3,556	3,580	3,601	3,622	3,642	3,663	3,678	3,711	3,733	3,758	3,778	3,798	--------
Educational services	1,179	1,191	1,193	1,196	1,194	1,206	1,196	1,196	1,209	1,221	1,229	1,229	--------
GOVERNMENT	13,478	13,533	13,574	13,614	13,642	13,659	13,595	13,637	13,656	13,746	13,838	13,904	13,926
Federal	2,634	2,628	2,631	2,628	2,641	2,613	2,588	2,599	2,613	2,626	2,638	2,654	2,648
State and local	10,844	10,905	10,943	10,986	11,001	11,046	11,007	11,038	11,043	11,120	11,200	11,250	11,278

[1] The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment). Data shown in this table are not comparable with those published in issues prior to July 1973. Comparable data from January 1968 forward appear in the June 1973 issue of **Employment and Earnings**. For comparable data prior to January 1968 see **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

[2] Production workers include working foremen and all nonsupervisory workers including leadmen and trainees) engaged in fabricating, processing, assembling, inspection, receiving, storage, handling, packing, warehousing, shipping, maintenance, repair, janitorial, and watchman services, product development, auxiliary production for plant's own use (e.g., powerplant), and recordkeeping and other services closely associated with the above production operations.

p=preliminary.

NOTE: These data have been seasonally adjusted to reflect experience through March 1973. For additional detail, see June 1973 issue of **Employment and Earnings.**

15. Labor turnover rates in manufacturing, 1964 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total accessions													
1964	4.0	3.6	3.4	3.7	3.8	3.9	5.1	4.4	5.1	4.8	4.0	3.2	2.6
1965	4.3	3.8	3.5	4.0	3.8	4.1	5.6	4.5	5.4	5.5	4.5	3.9	3.1
1966	5.0	4.6	4.2	4.9	4.6	5.1	6.7	5.1	6.4	6.1	5.1	3.9	2.9
1967	4.4	4.3	3.6	3.9	3.9	4.6	5.9	4.7	5.5	5.3	4.7	3.7	2.8
1968	4.6	4.2	3.8	4.0	4.3	4.7	5.9	5.0	5.8	5.7	5.1	3.9	3.1
1969	4.7	4.6	3.9	4.4	4.5	4.8	6.6	5.1	5.6	5.9	4.9	3.6	2.9
1970	4.0	4.0	3.6	3.7	3.7	4.2	5.4	4.4	5.1	4.7	3.8	3.0	2.4
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	----	4.6	4.0	4.4	4.5	5.3	5.9	5.1	6.2	5.7	5.2	3.8	p2.7
New hires													
1964	2.6	2.0	2.0	2.2	2.4	2.5	3.6	2.9	3.4	3.5	3.8	2.2	1.6
1965	3.1	2.4	2.4	2.8	2.6	3.0	4.3	3.2	3.9	4.0	.5	2.9	2.2
1966	3.8	3.2	3.1	3.7	3.6	4.1	5.6	3.9	4.8	4.7	4.2	3.1	2.1
1967	3.3	3.0	2.7	2.8	2.8	3.3	4.6	3.3	4.0	4.1	3.7	2.8	2.0
1968	3.5	3.0	2.7	2.9	3.2	3.6	4.7	3.7	4.3	4.6	4.0	2.9	2.2
1969	3.7	3.3	3.0	3.4	3.5	3.8	5.4	3.9	4.3	4.8	4.0	2.8	2.1
1970	2.8	2.9	2.5	2.6	2.6	2.8	3.9	3.0	3.5	3.4	2.7	1.9	1.4
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	----	3.5	3.1	3.5	3.6	4.4	5.0	4.1	5.0	4.7	4.3	3.0	p2.0
Total separations													
1964	3.9	4.0	3.3	3.5	3.5	3.6	3.5	4.4	4.3	5.1	4.2	3.6	3.7
1965	4.1	3.7	3.1	3.4	3.7	3.6	3.6	4.3	5.1	5.6	4.5	3.9	4.1
1966	4.6	4.0	3.6	4.1	4.3	4.3	4.4	5.3	5.8	6.6	4.8	4.3	4.2
1967	4.6	4.5	4.0	4.6	4.3	4.2	4.3	4.8	5.3	6.2	4.7	4.0	3.9
1968	4.6	4.4	3.9	4.1	4.1	4.3	4.1	5.0	6.0	6.3	5.0	4.1	3.8
1969	4.9	4.5	4.0	4.4	4.5	4.6	4.6	5.3	6.2	6.6	5.4	4.3	4.2
1970	4.8	4.8	4.3	4.4	4.8	4.6	4.4	5.3	5.6	6.0	5.3	4.3	4.1
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	----	4.2	3.7	4.2	4.1	4.3	4.4	5.1	6.5	5.7	4.9	4.1	p4.0
Quits													
1964	1.5	1.2	1.1	1.2	1.3	1.5	1.4	1.5	2.1	2.7	1.7	1.2	1.0
1965	1.9	1.4	1.3	1.5	1.7	1.7	1.7	1.8	2.6	3.5	2.2	1.7	1.4
1966	2.6	1.9	1.8	2.3	2.5	2.5	2.5	2.5	3.6	4.5	2.8	2.1	1.7
1967	2.3	2.1	1.9	2.1	2.2	2.2	2.3	2.1	3.2	4.0	2.5	1.9	1.5
1968	2.5	2.0	1.9	2.1	2.2	2.4	2.3	2.4	3.8	4.2	2.8	2.1	1.6
1969	2.7	2.3	2.1	2.4	2.6	2.7	2.6	2.7	4.0	4.4	3.0	2.1	1.6
1970	2.1	2.1	1.9	2.0	2.1	2.1	2.1	2.1	3.0	3.3	2.1	1.4	1.2
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	----	2.2	2.1	2.5	2.4	2.7	2.8	2.8	4.5	3.9	3.0 p	2.2	p1.7
Layoffs													
1964	1.7	2.0	1.6	1.6	1.4	1.4	1.3	2.1	1.4	1.5	1.8	1.7	2.1
1965	1.4	1.6	1.2	1.2	1.3	1.1	1.1	1.8	1.6	1.3	1.4	1.5	1.9
1966	1.2	1.3	1.0	1.0	1.0	.9	1.0	2.0	1.1	1.0	1.1	1.3	1.7
1967	1.4	1.5	1.3	1.5	1.3	1.1	1.1	1.9	1.2	1.2	1.3	1.3	1.6
1968	1.2	1.5	1.2	1.1	1.0	1.0	.9	1.8	1.3	1.1	1.2	1.2	1.4
1969	1.2	1.2	1.0	1.0	.9	.9	.9	1.6	1.1	1.1	1.3	1.3	1.8
1970	1.8	1.7	1.5	1.6	1.7	1.5	1.5	2.3	1.7	1.7	2.2	2.1	2.2
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	----	1.0	.8	.8	.7	.6	.6	1.4	.8	.7	.8	1.0	p1.5

p=preliminary.

NOTE: The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to November 1972. Comparable back data are published in **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

Month to-month changes in total employment in manufacturing and nonmanufacturing industries as indicated by labor turnover rates are not comparable with the changes shown by the Bureau's employment series because (1) the labor turnover series measures changes during the calendar month, while the employment series measures changes from midmonth to midmonth, and (2) the turnover series excludes personnel changes caused by strikes, but the employment series reflects the influence of such stoppages.

16. Labor turnover rates in manufacturing, by major industry group [1]

[Per 100 employees]

Major industry group	Accession rates						Separation rates								
	Total			New hires			Total			Quits			Layoffs		
	Dec. 1972	Nov. 1973	Dec. 1973 p	Dec. 1972	Nov. 1973	Dec. 1973 p	Dec. 1972	Nov. 1973	Dec. 1973 p	Dec. 1972	Nov. 1973	Dec. 1973 p	Dec. 1972	Nov. 1973	Dec. 1973 p
MANUFACTURING	2.7	3.8	2.7	2.0	3.0	2.0	3.6	4.1	4.0	1.6	2.2	1.7	1.3	1.0	1.5
Seasonally adjusted [2]	4.2	4.8	4.3	3.4	3.8	3.5	4.0	4.6	4.5	2.6	2.8	2.7	1.0	.9	1.1
Durable Goods	2.5	3.3	2.4	1.9	2.7	1.8	3.1	3.6	3.6	1.3	1.9	1.4	1.0	.8	1.4
Ordnance and accessories	1.5	1.9	------	.9	1.1	------	1.8	1.8	------	.6	.8	------	.6	.6	------
Lumber and wood products	3.3	4.7	3.7	2.8	4.1	3.1	5.4	6.0	5.2	2.6	3.5	2.7	2.1	1.7	1.7
Furniture and fixtures	3.6	5.4	3.6	3.2	5.0	3.0	4.5	5.6	4.6	2.9	3.7	2.8	.7	.7	.9
Stone, clay, and glass products	2.6	3.6	2.7	2.0	3.1	2.2	4.8	4.4	4.4	1.6	2.4	1.9	2.4	1.1	1.8
Primary metal industries	2.2	2.6	2.0	1.5	2.1	1.4	2.1	2.6	2.5	.8	1.2	.9	.5	.4	.6
Fabricated metal products	2.9	4.1	------	2.3	3.4	------	3.4	4.5	------	1.5	2.3	------	1.0	1.1	------
Machinery, except electrical	2.4	3.0	2.2	1.9	2.5	1.8	2.0	2.5	2.1	1.0	1.4	1.0	.3	.4	.4
Electrical equipment	2.5	3.1	------	1.9	2.5	------	2.6	3.1	------	1.4	1.7	------	.5	.5	------
Transportation equipment	2.1	2.8	------	1.3	1.9	------	2.7	3.4	------	.8	1.3	------	1.2	1.2	------
Instruments and related products	2.1	3.1	2.4	1.7	2.6	2.0	2.2	2.8	2.6	1.2	1.7	1.2	.4	.4	.6
Miscellaneous manufacturing	2.8	4.4	2.8	2.3	3.8	2.2	7.2	6.3	8.6	2.2	2.9	2.2	4.0	2.3	5.5
Nondurable goods	3.0	4.3	3.1	2.2	3.5	2.3	4.4	4.9	4.6	2.0	2.8	2.1	1.7	1.4	1.7
Food and kindred products	3.9	5.7	4.2	2.7	4.4	3.1	7.0	7.1	6.9	2.4	3.4	2.7	3.9	3.0	3.5
Tobacco manufactures	3.9	4.1	3.7	2.4	2.5	2.5	4.3	3.7	4.8	1.5	1.8	1.6	1.8	1.3	2.0
Textile mill products	3.9	5.9	3.8	3.2	4.8	3.0	4.5	6.1	4.7	3.1	4.3	3.0	.5	.8	.8
Apparel and other textile products	3.0	5.1	3.2	2.0	3.9	2.2	5.1	5.9	6.0	2.3	3.4	2.4	2.1	1.7	2.8
Paper and allied products	2.2	2.6	2.1	1.7	2.2	1.7	3.1	3.0	2.7	1.3	1.6	1.2	1.0	.7	.7
Printing and publishing	2.3	3.0	2.4	1.9	2.5	2.0	3.1	3.1	3.0	1.6	1.9	1.6	.9	.7	.9
Chemicals and allied products	1.5	1.8	1.4	1.1	1.6	1.2	1.9	2.0	1.7	.7	.9	.7	.6	.5	.4
Petroleum and coal products	1.1	1.7	1.1	.9	1.6	.9	2.5	1.9	1.6	.6	.7	.6	1.3	.6	.5
Rubber and plastics products, nec	3.3	4.7	3.0	2.8	3.9	2.5	3.8	5.0	4.3	2.1	3.0	2.2	.7	.8	1.1
Leather and leather products	4.3	6.5	5.1	3.2	5.3	3.8	6.1	6.7	6.8	2.9	4.3	3.2	2.2	1.4	2.5

[1] The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to November 1972. Comparable back data are published in **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

Month-to-month changes in total employment in manufacturing and nonmanufacturing industries as indicated by labor turnover rates are not comparable with the changes shown by the Bureau's employment series because (1) the labor turnover series measures changes during the calendar month, while the employment series measures changes from midmonth to midmonth, and (2) the turnover series excludes personnel changes caused by strikes, but the employment series reflects the influence of such stoppages.

[2] These data have been seasonally adjusted to reflect experience through March 1973, and are not comparable with those published in issues prior to July 1973. Comparable data from January 1968 forward appear in the June 1973 issue of **Employment and Earnings.** For comparable data prior to January 1968 see **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

p=preliminary.

NOTE: For additional detail, see **Employment and Earnings,** table D–2.

17. Job vacancies in manufacturing [1]

Industry	Annual average		1972	1973										
	1971	1972	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.p
Job vacancies in manufacturing (number in thousands)	88	127	132	155	163	176	190	194	190	201	231	217	198	168	151
Seasonally adjusted [2]	------	------	161	170	175	178	178	179	192	192	190	194	203	198	183
JOB VACANCY RATES [3]															
Manufacturing	0.5	0.7	0.7	0.8	0.8	0.9	1.0	1.0	0.9	1.0	1.1	1.1	1.0	.8	.7
Seasonally adjusted [2]	------	------	.8	.9	.9	.9	.9	.9	1.0	1.0	.9	1.0	1.0	1.0	.9
Durable goods industries	.4	.6	.7	.8	.9	.9	1.0	1.0	1.0	1.0	1.2	1.1	1.0	.9	.8
Nondurable goods industries	.6	.7	.7	.8	.8	.9	1.0	1.0	.9	1.0	1.1	1.0	.9	.8	.7
Selected durable goods industries:															
Primary metal industries	.2	.3	.3	.4	.5	.5	.6	.6	.6	.6	.8	.6	.5	.4	.4
Machinery, except electrical	.4	.7	.8	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.4	1.3	1.4	1.2	1.1
Electrical equipment and supplies	.5	.8	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.5	1.3	1.2	1.0	.9
Transportation equipment	.4	.6	.5	.8	.8	.8	.8	.9	.9	1.0	1.0	.9	.9	.8	.6
Instruments and related products	.7	1.1	1.1	1.2	1.2	1.4	1.5	1.5	1.3	1.6	1.7	1.6	1.4	1.2	1.3
Selected nondurable goods industries:															
Textile mill products	.8	1.2	1.2	1.3	1.4	1.6	1.8	1.7	1.6	1.8	1.9	1.7	1.4	1.2	.9
Apparel and other textile products	1.2	1.4	1.4	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.7	1.4	1.4
Printing and publishing	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.6	.6	.5	.4	.5
Chemicals and allied products	.4	.5	.5	.6	.7	.7	.8	.7	.8	.8	.8	.8	.7	.6	.7

[1] Data have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and are not comparable with those published in issues prior to November 1972. Comparable back data are published in **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

[2] These data have been seasonally adjusted to reflect experience through March 1973, and are not compatible with those published in issues prior to July 1973. Comparable data from January 1969 forward appear in the June 1973 issue of **Employment and Earnings.**

[3] Computed by dividing the total number of job vacancies by the sum of employment plus the total number of job vacancies and multiplying the quotient of 100.

p=preliminary.

NOTE: For additional detail on this series, see **Employment and Earnings,** tables E–1, E–2, E–3, and E–4.

18. Gross average hours and earnings of production or nonsupervisory workers [1] on private nonagricultural payrolls, by industry division, 1947-72

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	75.70	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	96.08	38.9	2.47	103.78	36.8	2.82	82.71	39.2	2.11
1959 [2]	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	212.24	37.3	5.69	142.04	39.9	3.56
1972	135.78	37.2	3.65	186.15	42.5	4.38	224.22	37.0	6.06	154.69	40.6	3.81
	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 [2]				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	92.13	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	168.84	40.2	4.20	100.74	35.1	2.87	121.36	37.0	3.28	102.94	34.2	3.01
1972	187.46	40.4	4.64	106.00	35.1	3.02	128.34	37.2	3.45	108.44	34.1	3.18

[1] The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to November 1972. Comparable back data are published in **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

[2] Data include Alaska and Hawaii beginning 1959.

NOTE: For additional detail, see **Employment and Earnings**, table C–1.

19. Gross average weekly hours of production or nonsupervisory workers [1] on private nonagricultural payrolls, by industry division and major manufacturing group

Industry division and group	Annual average		1973												1974
	1971	1972	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.p	Jan.p
TOTAL PRIVATE	37.0	37.2	36.6	36.8	36.9	36.9	37.0	37.4	37.6	37.5	37.3	37.0	37.0	37.2	36.3
MINING	42.3	42.5	41.3	41.4	41.4	41.7	42.4	42.9	42.6	42.8	43.0	42.9	42.9	43.4	42.1
CONTRACT CONSTRUCTION	37.3	37.0	34.8	34.9	36.6	36.8	37.5	38.1	38.4	38.3	37.9	37.7	37.5	36.6	34.9
MANUFACTURING	39.9	40.6	40.0	40.6	40.8	40.7	40.7	40.9	40.5	40.5	41.0	40.7	40.8	41.2	39.6
Overtime hours	2.9	3.5	3.6	3.7	3.7	3.8	3.8	3.9	3.7	3.8	4.1	3.9	3.9	3.8	3.2
Durable goods	40.4	41.3	41.0	41.6	41.6	41.6	41.6	41.7	41.1	40.9	41.7	41.4	41.5	41.9	40.0
Overtime hours	2.8	3.6	3.9	4.1	4.0	4.1	4.1	4.2	3.9	3.9	4.4	4.1	4.1	4.1	3.3
Ordnance and accessories	41.7	42.2	42.4	42.7	42.6	42.0	41.9	42.1	42.2	41.5	42.5	42.3	42.2	43.1	43.1
Lumber and wood products	40.3	41.0	39.0	40.1	40.9	41.1	41.0	41.5	40.4	40.9	40.9	40.7	40.2	41.2	39.7
Furniture and fixtures	39.8	40.5	38.4	39.8	40.3	39.8	39.8	40.4	39.4	40.2	40.2	39.9	39.8	40.5	39.4
Stone, clay, and glass products	41.6	41.9	40.2	41.4	42.1	42.2	42.4	42.6	42.3	42.5	42.6	42.3	42.2	42.0	40.0
Primary metal industries	40.4	41.6	42.4	42.4	42.3	42.5	42.1	42.3	42.1	41.7	42.8	42.2	43.0	42.5	40.6
Fabricated metal products	40.4	41.2	41.0	41.4	41.5	41.5	41.7	42.0	41.4	41.4	41.8	41.6	41.7	42.1	40.4
Machinery, except electrical	40.6	42.0	42.4	42.8	42.9	42.4	42.6	42.6	41.7	42.0	43.0	42.5	42.4	43.4	41.9
Electrical equipment	39.9	40.5	40.3	40.6	40.6	40.3	40.5	40.3	39.7	40.1	40.6	40.2	40.5	40.7	39.3
Transportation equipment	40.7	41.8	41.9	42.7	42.0	42.5	42.3	42.5	42.0	40.0	41.6	41.7	41.4	42.6	38.3
Instruments and related products	39.8	40.5	40.2	40.5	40.7	40.7	40.6	40.6	40.2	40.2	41.1	40.9	41.3	41.6	40.5
Miscellaneous manufacturing	38.9	39.3	38.4	39.1	39.3	39.0	39.0	39.0	38.4	38.9	39.1	38.8	39.3	39.2	38.3
Nondurable goods	39.3	39.7	38.7	39.3	39.6	39.5	39.5	39.8	39.7	39.8	40.0	39.7	39.9	40.0	39.0
Overtime hours	3.0	3.3	3.2	3.2	3.3	3.3	3.3	3.4	3.4	3.5	3.8	3.5	3.6	3.4	2.9
Food and kindred products	40.3	40.4	39.8	39.6	39.7	39.5	40.2	40.3	40.6	41.0	41.3	40.6	40.9	41.1	40.1
Tobacco manufactures	37.8	37.4	36.1	37.3	37.4	38.0	37.6	38.4	35.9	39.1	39.0	40.6	40.9	40.0	39.5
Textile mill products	40.6	41.3	39.1	40.9	41.2	41.3	40.7	41.2	40.5	40.9	41.0	40.6	41.0	41.1	39.9
Apparel and other textile products	35.6	36.0	34.1	35.8	36.3	36.0	35.9	36.1	36.0	36.0	35.9	35.8	36.0	35.9	34.6
Paper and allied products	42.1	42.8	42.3	42.6	42.8	42.6	42.6	42.8	42.7	42.6	43.1	42.8	42.9	43.2	42.7
Printing and publishing	37.5	37.9	37.3	37.6	38.0	37.8	37.9	37.9	37.8	37.9	38.3	37.9	38.0	38.3	37.1
Chemicals and allied products	41.6	41.8	41.5	41.8	42.0	42.1	42.0	42.1	41.9	41.8	42.0	41.9	42.1	42.2	41.3
Petroleum and coal products	42.4	42.2	41.2	41.2	41.4	42.0	42.3	42.0	43.0	42.3	43.0	42.6	43.1	42.5	41.9
Rubber and plastics products, nec	40.3	41.2	40.9	41.2	41.3	41.3	40.8	40.9	40.5	40.6	41.3	40.9	41.3	41.1	40.0
Leather and leather products	37.7	38.3	37.2	37.7	37.6	37.5	38.1	38.7	38.3	38.1	37.8	37.6	38.1	38.3	37.6
TRANSPORTATION AND PUBLIC UTILITIES	40.2	40.4	40.2	40.3	40.2	40.2	40.7	40.9	41.1	41.1	40.8	40.9	40.8	40.8	40.3
WHOLESALE AND RETAIL TRADE	35.1	35.1	34.5	34.5	34.5	34.4	34.5	35.2	35.6	35.4	34.7	34.3	34.3	34.8	33.8
Wholesale trade	39.8	39.8	39.5	39.5	39.6	39.3	39.5	39.6	39.7	39.6	39.5	39.3	39.4	39.7	38.5
Retail trade	33.7	33.6	32.9	32.9	32.9	33.0	33.0	33.8	34.3	34.1	33.2	32.8	32.8	33.3	32.3
FINANCE, INSURANCE, AND REAL ESTATE	37.0	37.2	37.0	37.1	37.0	37.2	36.9	37.1	37.3	37.1	37.1	37.0	37.0	37.1	36.7
SERVICES	34.2	34.1	33.9	33.9	33.9	34.0	33.9	34.4	34.8	34.7	34.1	33.9	33.9	34.0	33.7

[1] The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to November 1972. Comparable back data are published in **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

p=preliminary.

NOTE: For additional detail, see **Employment and Earnings,** table C–2.

20. Gross average weekly hours of production or nonsupervisory workers [1] on private nonagricultural payrolls, by industry division and major manufacturing group, seasonally adjusted

Industry division and group	1973												1974
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.p	Jan.p
TOTAL PRIVATE	36.9	37.2	37.1	37.2	37.2	37.1	37.2	37.0	37.2	37.0	37.1	37.0	36.6
MINING	41.5	42.0	41.9	41.7	42.5	42.5	42.4	42.6	42.9	42.5	42.8	43.2	42.4
CONTRACT CONSTRUCTION	36.1	36.2	37.0	37.0	37.5	37.4	37.5	37.1	36.7	36.9	38.5	37.2	36.2
MANUFACTURING	40.3	41.0	40.9	40.9	40.7	40.6	40.7	40.5	40.8	40.6	40.6	40.7	39.9
Overtime hours	3.7	3.9	3.9	4.1	3.9	3.8	3.8	3.7	3.8	3.7	3.8	3.7	3.3
Durable goods	41.3	42.0	41.6	41.8	41.6	41.4	41.4	41.1	41.4	41.3	41.4	41.3	40.3
Overtime hours	4.1	4.4	4.1	4.4	4.2	4.0	4.1	3.9	4.0	3.9	4.0	3.9	3.4
Ordnance and accessories	42.5	42.7	42.4	42.0	41.9	41.9	42.7	41.5	42.5	42.4	42.1	42.7	43.2
Lumber and wood products	39.9	40.7	41.0	41.1	40.7	40.9	40.5	40.7	40.7	40.3	40.3	41.2	40.6
Furniture and fixtures	39.0	40.6	40.6	40.4	40.1	40.1	39.8	39.7	39.7	39.4	39.4	39.7	40.0
Stone, clay, and glass products	41.1	42.2	42.3	42.3	42.3	42.2	42.1	42.0	42.2	41.9	42.1	42.1	40.9
Primary metal industries	42.4	42.4	42.1	42.2	41.9	41.9	42.2	41.8	42.7	42.7	43.4	42.5	40.6
Fabricated metal products	41.4	41.9	41.7	41.8	41.6	41.5	41.6	41.3	41.5	41.5	41.6	41.6	40.8
Machinery, except electrical	42.4	42.9	42.6	42.5	42.6	42.5	42.2	42.4	43.0	42.6	42.3	42.6	41.9
Electrical equipment	40.4	41.1	40.6	40.6	40.6	40.1	40.2	40.1	40.4	40.0	40.2	40.1	39.4
Transportation equipment	42.3	43.2	42.0	43.5	42.1	41.9	42.3	41.0	41.1	41.5	41.1	41.2	38.6
Instruments and related products	40.4	40.8	40.7	40.8	40.7	40.5	40.6	40.4	40.9	40.8	40.9	41.1	40.7
Miscellaneous manufacturing	38.7	39.4	39.3	39.0	39.1	38.9	38.9	38.7	39.1	38.6	38.9	38.9	38.6
Nondurable goods	39.1	39.7	39.8	39.8	39.6	39.6	39.6	39.5	39.8	39.7	39.7	39.7	39.4
Overtime hours	3.4	3.4	3.5	3.6	3.4	3.3	3.4	3.3	3.4	3.3	3.5	3.3	3.1
Food and kindred products	40.1	40.2	40.2	40.1	40.4	40.1	40.2	40.4	40.6	40.6	40.8	40.8	40.4
Tobacco manufactures	36.6	38.4	38.8	39.2	37.9	37.8	36.0	38.5	37.9	39.2	40.7	39.1	40.1
Textile mill products	39.5	41.2	41.3	41.6	40.9	40.8	40.8	40.8	40.9	40.5	40.6	40.7	40.3
Apparel and other textile products	34.5	36.0	36.2	36.1	36.0	36.0	35.9	35.7	35.9	35.8	35.7	35.9	35.1
Paper and allied products	42.5	43.0	43.1	42.8	42.8	42.7	42.7	42.4	42.8	42.6	42.7	42.8	42.9
Printing and publishing	37.8	38.0	38.0	38.0	38.0	37.8	37.7	37.7	38.0	37.9	37.9	37.8	37.6
Chemicals and allied products	41.6	42.0	42.0	41.9	42.0	42.0	42.1	42.1	42.0	41.9	42.0	41.9	41.4
Petroleum and coal products	41.9	41.9	42.0	41.9	42.1	41.7	42.4	42.1	42.5	42.2	43.0	42.8	42.6
Rubber and plastics products, nec	41.0	41.5	41.5	41.5	40.8	40.7	40.8	40.5	41.0	40.8	41.2	40.8	40.1
Leather and leather products	37.2	37.8	37.9	38.2	37.9	38.1	37.8	38.1	38.4	38.0	38.0	37.5	37.6
TRANSPORTATION AND PUBLIC UTILITIES	40.6	40.4	40.4	40.7	41.0	40.7	40.7	40.9	40.6	40.8	40.7	40.6	40.7
WHOLESALE AND RETAIL TRADE	34.9	35.0	34.8	34.8	34.8	34.9	34.7	34.5	34.6	34.5	34.6	34.6	34.2
Wholesale trade	39.7	39.7	39.7	39.5	39.7	39.5	39.5	39.4	39.5	39.3	39.4	39.3	38.7
Retail trade	33.4	33.5	33.4	33.4	33.4	33.5	33.2	33.0	33.2	33.0	33.1	33.0	32.8
FINANCE, INSURANCE, AND REAL ESTATE	37.0	37.1	37.0	37.2	37.0	37.1	37.2	37.0	37.2	36.9	37.0	37.1	36.7
SERVICES	34.1	34.1	34.0	34.1	34.2	34.4	34.2	34.2	34.1	34.0	34.0	34.0	33.9

[1] The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment). Data shown in this table are not comparable with those published in issues prior to July 1973. Comparable data from January 1968 forward appear in the June 1973 issue of **Employment and Earnings.** For comparable data prior to January 1968 see **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

p=preliminary.

NOTE: These data have been seasonally adjusted to reflect experience through March 1973. For additional details, see June 1973 issue of **Employment and Earnings**

21. Gross average hourly earnings of production or nonsupervisory workers [1] on private nonagricultural payrolls, by industry division and major manufacturing group

Industry division and group	Annual average		1973											1974
	1971	1972	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.p	Jan.p
TOTAL PRIVATE	$3.43	$3.65	$3.77	$3.78	$3.80	$3.83	$3.85	$3.87	$3.90	$3.91	$3.99	$3.99	$4.00	$4.01	$4.02
MINING	4.06	4.38	4.60	4.55	4.55	4.60	4.61	4.67	4.70	4.69	4.78	4.76	4.86	4.94	4.99
CONTRACT CONSTRUCTION	5.69	6.06	6.42	6.31	6.28	6.31	6.34	6.35	6.40	6.46	6.64	6.66	6.67	6.72	6.78
MANUFACTURING	3.56	3.81	3.98	3.97	3.98	4.01	4.02	4.04	4.06	4.06	4.13	4.14	4.16	4.21	4.20
Durable goods	3.79	4.05	4.23	4.23	4.23	4.26	4.28	4.30	4.31	4.31	4.39	4.39	4.42	4.48	4.45
Ordnance and accessories	3.84	4.09	4.16	4.15	4.17	4.18	4.23	4.22	4.28	4.29	4.37	4.38	4.48	4.50	4.53
Lumber and wood products	3.15	3.31	3.45	3.47	3.47	3.51	3.54	3.61	3.59	3.62	3.68	3.67	3.65	3.69	3.68
Furniture and fixtures	2.90	3.06	3.15	3.17	3.19	3.21	3.24	3.25	3.25	3.28	3.33	3.34	3.34	3.37	3.37
Stone, clay, and glass products	3.66	3.91	4.03	4.04	4.07	4.11	4.14	4.17	4.20	4.21	4.26	4.27	4.28	4.29	4.28
Primary metal industries	4.23	4.66	4.87	4.86	4.88	4.92	4.95	4.96	5.00	5.10	5.16	5.14	5.23	5.26	5.22
Fabricated metal products	3.74	3.99	4.13	4.15	4.15	4.19	4.21	4.24	4.24	4.24	4.30	4.32	4.35	4.37	4.38
Machinery, except electrical	3.99	4.27	4.44	4.45	4.46	4.49	4.50	4.50	4.51	4.53	4.61	4.63	4.65	4.73	4.71
Electrical equipment	3.48	3.67	3.80	3.78	3.79	3.81	3.81	3.83	3.86	3.88	3.91	3.91	3.93	3.98	3.99
Transportation equipment	4.41	4.73	5.00	5.00	4.96	5.00	5.00	5.05	5.06	5.02	5.10	5.14	5.16	5.30	5.20
Instruments and related products	3.52	3.72	3.82	3.82	3.82	3.81	3.86	3.84	3.87	3.87	3.93	3.93	3.95	4.04	4.04
Miscellaneous manufacturing	2.97	3.11	3.24	3.22	3.23	3.22	3.26	3.27	3.26	3.26	3.13	3.31	3.33	3.36	3.39
Nondurable goods	3.26	3.47	3.61	3.59	3.61	3.63	3.64	3.66	3.70	3.70	3.75	3.76	3.78	3.80	3.82
Food and kindred products	3.38	3.60	3.75	3.75	3.77	3.78	3.82	3.82	3.82	3.83	3.85	3.89	3.91	3.97	3.99
Tobacco manufactures	3.15	3.43	3.56	3.65	3.70	3.81	3.84	3.91	3.97	3.73	3.68	3.73	3.81	3.87	3.96
Textile mill products	2.57	2.73	2.87	2.88	2.88	2.90	2.90	2.90	2.89	2.92	3.02	3.03	3.06	3.06	3.06
Apparel and other textile products	2.49	2.61	2.72	2.72	2.73	2.74	2.74	2.75	2.74	2.79	2.84	2.85	2.86	2.84	2.85
Paper and allied products	3.67	3.94	4.06	4.07	4.08	4.11	4.12	4.16	4.23	4.24	4.26	4.27	4.30	4.31	4.32
Printing and publishing	4.20	4.48	4.56	4.58	4.60	4.63	4.67	4.68	4.70	4.70	4.76	4.75	4.76	4.78	4.78
Chemicals and allied products	3.94	4.20	4.36	4.35	4.36	4.40	4.42	4.46	4.49	4.50	4.53	4.54	4.58	4.59	4.66
Petroleum and coal products	4.57	4.95	5.09	5.09	5.15	5.22	5.22	5.24	5.26	5.24	5.29	5.26	5.29	5.27	5.44
Rubber and plastics products, nec	3.40	3.60	3.74	3.73	3.73	3.76	3.71	3.75	3.82	3.81	3.86	3.86	3.90	3.91	3.90
Leather and leather products	2.60	2.71	2.77	2.78	2.80	2.79	2.80	2.80	2.79	2.80	2.84	2.85	2.87	2.87	2.91
TRANSPORTATION AND PUBLIC UTILITIES	4.20	4.64	4.87	4.90	4.89	4.96	4.96	4.99	5.04	5.12	5.19	5.18	5.19	5.20	5.23
WHOLESALE AND RETAIL TRADE	2.87	3.02	3.11	3.13	3.14	3.16	3.17	3.19	3.20	3.21	3.26	3.27	3.29	3.28	3.34
Wholesale trade	3.67	3.88	3.99	4.02	4.03	4.07	4.09	4.10	4.12	4.13	4.19	4.18	4.22	4.26	4.27
Retail trade	2.57	2.70	2.78	2.80	2.81	2.83	2.84	2.86	2.86	2.87	2.92	2.93	2.94	2.93	2.99
FINANCE, INSURANCE, AND REAL ESTATE	3.28	3.45	3.54	3.56	3.55	3.59	3.57	3.58	3.61	3.60	3.66	3.64	3.67	3.71	3.75
SERVICES	3.01	3.18	3.27	3.28	3.30	3.32	3.32	3.34	3.36	3.34	3.44	3.44	3.45	3.48	3.48

[1] The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to November 1972. Comparable back data are published in **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

p=preliminary.

NOTE: For additional detail, see **Employment and Earnings**, table C–2.

Table 22. 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	
	Jan.	Feb.	Mar.	Ape.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.p	Jan.p	Dec. 1973 to Jan. 1974	Jan. 1973 to Jan. 1974
TOTAL PRIVATE (in current dollars)	142.3	142.5	143.3	144.4	144.7	146.0	146.9	147.6	149.0	149.6	150.3	151.3	151.8	0.4	6.7
Mining	142.4	141.5	142.5	144.0	144.8	146.2	147.9	147.5	149.5	148.4	150.2	152.5	153.7	.8	8.0
Contract construction	154.0	151.8	152.6	153.4	153.7	155.4	156.3	157.2	159.1	159.2	160.3	161.7	161.0	−.4	4.5
Man=facturing	139.5	139.7	140.4	141.1	141.8	142.7	143.7	144.5	414.4	146.5	147.0	147.9	148.7	.5	6.6
Transportation and public utilities	150.4	151.5	152.1	154.6	153.5	155.0	155.6	157.7	158.5	159.8	160.0	160.8	161.5	.5	7.4
Wholesale and retail trade	138.7	139.2	140.2	141.2	141.7	142.9	143.6	144.4	145.7	146.2	146.9	147.5	148.5	.7	7.1
Finance, insurance, and real estate	136.8	137.0	136.9	139.1	138.5	139.5	140.9	140.9	143.4	142.7	143.6	145.3	145.9	.4	6.6
Services	142.2	142.3	143.6	144.6	144.7	146.3	147.3	146.9	148.8	149.1	149.9	151.2	151.8	.4	6.8
TOTAL PRIVATE (in constant dollars)	111.3	110.7	110.4	110.5	110.1	110.4	110.9	109.3	110.0	109.5	109.1	109.3	108.5	−.7	−2.5

p=preliminary.

NOTE: The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to November 1972. The index excludes 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 in the proportion of workers in high-wage and low-wage industries. (See also table 21, footnote 1, par. 2.)

23. Gross average weekly earnings of production or nonsupervisory workers [1] on private nonagricultural payrolls, by industry division and major manufacturing group

Industry division and group	Annual average		1973												1974
	1971	1972	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[p]	Jan.[p]
TOTAL PRIVATE	$126.91	$135.78	$137.98	$139.10	$140.22	$141.33	$142.45	$144.74	$146.64	$146.63	$148.83	$147.63	$148.00	$149.17	$145.93
MINING	171.74	186.15	189.98	188.37	188.37	191.82	195.46	200.34	200.22	200.73	205.54	204.20	208.49	214.40	210.08
CONTRACT CONSTRUCTION	212.24	224.22	223.42	220.22	229.85	232.21	237.75	241.94	245.76	247.42	251.66	251.08	250.13	245.95	236.62
MANUFACTURING	142.04	154.69	159.20	161.18	162.38	163.21	163.61	165.24	164.43	164.43	169.33	168.50	169.73	173.45	166.32
Durable goods	153.12	167.27	173.43	175.97	175.97	177.22	178.05	179.31	177.14	176.28	183.06	181.75	183.43	187.71	178.00
Ordnance and accessories	160.13	172.60	176.38	177.21	177.64	175.56	177.24	177.66	180.62	178.04	185.73	185.27	189.06	193.95	195.24
Lumber and wood products	126.95	135.71	134.55	139.15	141.92	144.26	145.14	149.82	145.04	148.06	150.51	149.37	146.73	152.03	146.10
Furniture and fixtures	115.42	123.93	120.96	126.17	128.56	127.76	128.95	131.30	128.05	131.86	133.87	133.27	132.93	136.49	132.78
Stone, clay, and glass products	152.26	163.83	162.01	167.26	171.35	173.44	175.54	177.64	177.66	178.93	181.48	180.62	180.62	180.18	171.20
Primary metal industries	170.89	193.86	206.49	206.06	206.42	209.10	208.40	209.81	210.50	212.67	220.85	216.91	224.89	223.55	211.93
Fabricated metal products	151.10	164.39	169.33	171.81	172.23	173.89	175.56	178.08	175.54	175.54	179.74	179.71	181.40	183.98	176.95
Machinery, except electrical	161.99	179.34	188.26	190.46	191.33	190.38	191.70	191.70	188.07	190.26	198.23	196.78	197.16	205.28	197.35
Electrical equipment	138.85	148.64	153.14	153.47	153.87	153.54	154.31	154.35	153.24	155.59	158.75	157.18	159.17	161.99	156.81
Transportation equipment	179.49	197.71	209.50	213.50	208.32	212.50	211.50	214.63	212.52	200.80	212.16	214.34	213.62	225.78	199.16
Instruments and related products	140.10	150.66	153.56	154.71	155.47	155.07	156.72	155.90	155.57	155.57	161.52	160.74	163.14	168.06	163.62
Miscellaneous manufacturing	115.53	122.22	124.42	125.90	126.94	125.58	127.14	127.53	125.18	126.81	129.42	128.43	130.87	131.71	129.84
Nondurable goods	128.12	137.76	139.71	141.09	142.96	143.39	143.78	145.67	146.89	147.26	150.00	149.27	150.82	152.00	148.98
Food and kindred products	136.21	145.44	149.25	148.50	149.67	149.31	153.56	153.95	155.09	157.03	159.01	157.93	159.92	163.17	160.00
Tobacco manufactures	119.07	128.28	128.52	136.15	138.38	144.78	144.38	150.14	142.52	145.84	143.52	151.44	155.83	154.80	156.42
Textile mill products	104.34	112.75	112.22	117.79	181.66	119.77	118.03	119.48	117.05	119.43	123.82	123.02	125.46	125.77	122.09
Apparel and other textile products	88.64	93.96	92.75	97.38	99.10	98.64	98.37	99.28	98.64	100.44	101.96	102.03	102.96	101.96	98.61
Paper and allied products	154.51	168.63	171.74	173.38	174.62	175.09	175.51	178.05	180.62	180.62	183.61	182.76	184.47	186.19	184.46
Printing and publishing	157.50	169.79	170.09	172.21	174.80	175.01	176.99	177.37	177.66	178.13	182.31	180.03	180.88	183.07	177.34
Chemicals and allied products	163.90	175.56	180.94	181.83	183.12	185.24	185.64	187.77	188.13	188.10	190.26	190.23	192.82	193.70	192.46
Petroleum and coal products	193.77	208.89	209.71	209.71	213.21	219.24	220.81	220.08	226.18	221.65	227.47	224.08	228.00	223.98	227.94
Rubber and plastics products, nec	137.02	148.32	152.97	153.68	154.05	155.29	151.37	153.38	154.71	154.69	159.42	157.87	161.07	160.70	156.00
Leather and leather products	98.02	103.79	103.04	104.81	105.28	104.63	106.68	108.36	106.86	106.68	107.35	107.16	109.35	109.92	109.42
TRANSPORTATION AND PUBLIC UTILITIES	168.84	187.46	195.77	197.47	196.58	199.39	201.87	204.09	207.14	210.43	211.75	211.86	211.75	212.16	210.77
WHOLESALE AND RETAIL TRADE	100.74	106.00	107.30	107.99	108.33	108.70	109.37	112.29	113.92	113.63	113.12	112.16	112.85	114.14	112.89
Wholesale trade	146.07	154.42	157.61	158.79	159.59	159.95	161.56	162.36	163.56	163.55	165.51	164.27	166.27	169.12	164.40
Retail trade	86.61	90.72	91.46	92.12	92.45	93.39	93.72	96.67	98.10	97.87	96.94	96.10	96.43	97.57	96.58
FINANCE, INSURANCE, AND REAL ESTATE	121.36	128.34	130.98	132.08	131.35	133.55	131.73	132.82	134.65	133.56	135.79	134.68	135.79	137.64	137.63
SERVICES	102.94	108.44	110.85	111.19	111.87	112.88	112.55	114.90	116.93	115.90	117.30	116.62	116.96	118.32	117.28

[1] The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to November 1972. Comparable back data are published in **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

[p] = preliminary.

NOTE: For additional detail, see **Employment and Earnings**, table C–2.

24. Gross and spendable average weekly earnings of production or nonsupervisory workers [1] on private nonagricultural payrolls, in current and 1967 dollars, 1960 to date

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:												
January	137.98	108.05	112.09	87.78	121.63	95.25	159.20	124.67	127.48	99.83	138.03	108.09
February	139.10	108.16	112.91	87.80	122.51	95.26	161.18	125.33	128.87	100.21	139.54	108.51
March	140.22	108.03	113.73	87.62	123.38	95.05	162.38	125.10	129.71	99.93	140.44	108.20
April	141.33	108.13	114.54	87.64	124.25	95.07	163.21	124.87	130.29	99.69	141.06	107.93
May	142.45	108.33	115.36	87.73	125.11	95.14	163.61	124.42	130.57	99.29	141.36	107.50
June	144.74	109.32	117.04	88.40	126.88	95.83	165.24	124.80	131.72	99.49	142.59	107.70
July	146.64	110.50	118.43	89.25	128.34	96.71	164.43	123.91	131.15	98.83	141.98	106.99
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	96.96	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[p]	145.93	104.46	117.91	84.40	127.79	91.47	166.32	119.06	132.47	94.82	143.40	102.65

[1] The industry series have been adjusted to March 1971 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to November 1972. Comparable back data are published in **Employment and Earnings, United States, 1909–72** (BLS Bulletin 1312–9).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

Spendable average weekly earnings are based on gross average weekly earnings as published in table 23 less the estimated amount of the worker's Federal social security and income tax liability. Since the amount of tax liability depends on the number of dependents supported by the worker as well as on the level of his gross income, spendable earnings have been computed for 2 types of income receivers: (1) a worker with no dependents and (2) a married worker with 3 dependents.

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.

[p] = preliminary.

NOTE: For additional detail, see **Employment and Earnings,** table C–5.

25. 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	67.3	4.3	87.4	−1.4	96.0	−6.5	84.8	.8
1954	80.5	.5	85.9	−.9	69.5	3.3	87.6	.2	−95.7	−.3	85.0	.2
1955	80.2	−.4	85.1	−.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	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	93.7	.0	94.8	−.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	93.8	−1.0	94.7	−.1
1964	92.9	1.3	94.6	1.1	90.2	1.9	94.7	.2	93.2	−.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

NOTE: Historical price changes are shown in greater detail and for earlier years in the Bureau's Handbook of Labor Statistics, 1972 (BLS Bulletin 1735).

26. 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
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All items	133.1	127.7	128.6	129.8	130.7	131.5	132.4	132.7	135.1	135.5	136.6	137.6	138.5	139.7
All items (1957–59=100)	154.7	148.5	149.5	150.9	152.0	153.0	154.0	154.4	157.1	157.6	158.8	160.0	161.1	162.5
Food	141.4	128.6	131.1	134.5	136.5	137.9	139.8	140.9	149.4	148.3	148.4	150.0	151.3	153.7
Food at home	141.4	127.2	130.1	134.2	136.4	137.6	139.9	140.9	151.3	149.2	148.7	150.1	151.5	154.3
Food away from home	141.4	134.2	134.7	135.7	137.0	138.9	139.8	140.9	142.4	145.1	147.7	149.7	150.7	151.6
Housing	135.0	131.5	132.0	132.4	132.8	133.3	133.9	134.2	135.2	136.6	138.1	139.4	r140.6	142.2
Rent	124.2	121.8	122.3	122.8	123.2	123.7	124.0	124.4	125.0	125.4	125.9	126.3	126.9	127.3
Homeownership	146.7	142.6	142.9	143.2	143.6	144.2	145.0	145.2	147.0	149.2	151.5	152.6	153.6	154.8
Apparel and upkeep	126.8	123.0	123.6	124.8	125.8	126.7	126.8	125.8	126.5	128.3	129.6	130.5	130.5	128.8
Transportation	123.8	121.0	121.1	121.5	122.6	123.5	124.6	124.8	124.5	123.9	125.0	125.8	126.7	128.1
Health and recreation	130.2	127.8	128.1	128.6	129.2	129.6	130.0	130.3	130.5	131.1	132.1	132.6	133.0	133.7
Medical care	137.7	134.9	135.3	135.8	136.2	136.6	137.0	137.3	137.6	138.3	140.6	140.9	141.4	142.2
Special groups														
All items less shelter	131.1	125.3	126.4	127.8	128.9	129.7	130.6	131.0	133.5	133.6	134.5	135.6	136.5	137.8
All items less food	130.7	127.5	127.9	128.4	129.1	129.7	130.3	130.4	130.9	131.8	133.1	134.0	r134.8	135.6
All items less medical care	132.9	127.3	128.2	129.5	130.5	131.3	132.2	132.5	135.0	135.4	136.4	137.5	138.4	139.7
Appliances (including radio and TV)	105.5	105.7	105.5	105.4	105.4	105.4	105.4	105.4	105.3	105.5	105.7	105.8	105.7	106.0
Commodities	129.9	123.4	124.5	126.1	127.4	128.3	129.4	129.7	132.8	132.8	133.5	134.7	135.7	137.0
Nondurables	132.8	124.7	126.2	128.3	129.7	130.7	132.0	132.4	136.6	136.5	137.4	138.9	140.3	142.1
Durables	121.9	119.9	119.9	120.2	121.0	121.8	122.3	122.4	122.6	122.6	123.2	123.3	123.2	123.3
Services	139.1	135.7	136.2	136.6	r137.1	r137.6	138.1	138.4	139.3	140.6	142.2	143.0	143.8	144.8
Commodities less food	123.5	120.5	120.9	121.5	122.3	123.0	123.7	123.5	123.8	124.3	125.4	126.3	127.1	127.9
Nondurables less food	124.8	120.9	121.6	122.4	123.3	124.0	124.7	124.4	124.7	125.5	127.0	128.5	130.0	131.3
Apparel commodities	127.1	123.1	123.8	125.2	126.2	127.2	127.2	126.0	126.6	128.7	130.0	130.8	130.7	128.6
Apparel commodities less footwear	126.5	122.5	123.1	124.5	125.5	126.5	126.7	125.2	125.9	128.1	129.6	130.4	130.3	127.7
Nondurables less food and apparel	123.4	119.7	120.4	120.8	121.7	122.2	123.3	123.5	123.6	123.8	125.3	127.3	129.6	132.9
Household durables	118.8	116.1	116.3	116.9	117.7	118.5	119.2	119.4	119.6	120.1	120.4	120.8	121.0	121.8
Housefurnishings	119.0	116.9	117.2	117.6	118.0	118.5	119.1	119.1	119.2	119.8	120.3	121.1	121.3	122.0
Services less rent	141.8	138.3	138.7	139.2	139.6	140.1	140.7	141.0	141.9	143.4	145.2	146.1	146.9	148.0
Household services less rent	146.8	142.3	142.8	143.2	143.6	144.2	144.9	145.3	146.8	149.3	151.7	153.2	r154.3	155.8
Transportation services	136.9	136.0	136.1	136.3	136.5	136.6	137.0	137.0	137.1	137.2	137.4	137.4	138.1	138.8
Medical care services	144.3	141.0	141.5	142.2	142.7	143.1	143.6	143.9	144.3	145.1	147.8	148.2	148.7	149.7
Other services	131.6	128.1	128.6	129.2	129.9	130.6	131.3	131.7	132.1	133.3	134.0	134.8	135.3	135.9

See footnotes at end of table.

26. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1972	1973												1974
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
FOOD	123.5	128.6	131.1	134.5	136.5	137.9	139.8	140.9	149.4	148.3	148.4	150.0	151.3	153.7
Food away from home	131.1	134.2	134.7	135.7	137.0	138.9	139.8	140.9	142.4	145.1	147.7	149.7	150.7	151.6
Restaurant meals	131.1	134.3	134.9	135.9	137.4	139.5	140.5	141.7	143.2	146.2	148.8	151.0	152.0	152.7
Snacks	131.2	133.6	133.9	134.3	135.3	136.1	136.6	137.4	138.2	139.7	142.6	143.4	144.3	146.1
Food at home	121.6	127.2	130.1	134.2	136.4	137.6	139.9	140.9	151.3	149.2	148.7	150.1	151.5	154.3
Cereals and bakery products	114.7	116.3	117.8	119.0	120.2	122.1	123.0	123.5	124.7	132.4	139.0	145.8	148.5	149.7
Flour	100.4	105.4	108.1	111.8	113.9	116.3	117.1	117.7	119.1	134.2	156.2	162.6	163.3	163.5
Cracker meal	135.3	136.5	138.2	139.1	138.8	140.7	142.6	142.9	143.8	146.6	151.8	155.6	157.4	158.8
Corn flakes	100.6	99.3	99.4	99.5	101.1	103.4	105.0	105.4	105.8	106.4	107.2	107.8	112.4	115.7
Rice	109.9	113.4	116.5	118.7	121.6	124.2	126.8	127.5	128.2	137.1	158.0	208.1	223.0	230.5
Bread, white	113.0	114.3	115.2	117.0	118.5	120.6	121.3	121.6	124.8	135.5	140.4	144.7	146.4	146.4
Bread, whole wheat	120.1	122.1	124.5	125.4	126.1	126.9	127.6	128.2	130.0	138.9	142.9	146.4	148.7	148.8
Cookies	110.2	111.4	113.3	112.6	112.6	113.4	111.7	113.5	113.0	117.4	120.2	120.0	121.4	122.5
Layer cake	120.0	120.5	121.5	123.7	124.9	126.5	126.5	127.1	126.9	134.4	137.4	138.7	139.6	139.7
Cinnamon rolls	120.7	122.9	123.5	123.2	124.2	127.0	129.1	129.0	128.4	135.2	139.0	143.5	143.7	144.1
Meats, poultry, and fish	128.0	136.1	142.8	152.7	155.4	155.6	156.5	157.8	184.0	180.2	170.7	167.4	165.8	169.2
Meats	129.2	137.7	145.2	153.0	156.1	155.9	156.7	157.8	180.0	180.8	172.7	169.2	167.6	169.9
Beef and veal	136.6	142.9	152.3	160.2	162.9	162.7	163.5	164.3	175.4	177.0	170.6	167.7	165.7	168.6
Steak, round	134.2	141.9	152.7	158.9	159.1	158.2	158.2	160.4	170.8	171.5	160.0	158.9	156.0	161.2
Steak, sirloin	132.1	136.5	144.2	149.4	151.6	150.3	151.4	151.8	160.0	159.5	153.2	149.5	145.9	148.9
Steak, porterhouse	134.7	139.6	146.6	149.8	152.1	151.8	153.5	154.4	161.2	160.9	154.5	150.5	149.0	150.8
Rump roast	133.0	139.6	149.5	154.1	154.4	154.2	154.9	156.1	165.0	165.5	156.8	155.6	152.6	157.4
Rib roast	138.1	146.0	151.4	158.2	161.0	162.4	163.5	164.4	170.6	172.1	167.4	164.0	163.3	165.2
Chuck roast	136.2	142.0	160.2	167.9	172.5	173.0	172.6	173.6	190.5	191.8	177.8	170.2	168.1	169.9
Hamburger	137.4	143.4	153.7	166.0	170.4	170.6	172.2	171.6	188.9	193.2	188.3	183.7	182.0	184.1
Beef liver	129.4	135.8	139.9	150.7	156.2	155.3	156.1	156.8	163.0	165.8	170.1	169.7	170.8	171.1
Veal cutlets	161.6	168.3	174.9	185.4	188.7	188.9	188.5	189.8	195.5	195.6	196.4	196.7	195.9	198.0
Pork	121.6	135.0	142.2	149.8	150.7	150.0	151.4	153.4	197.0	191.3	177.2	172.2	170.1	173.5
Chops	123.7	138.4	146.5	153.0	143.9	145.8	148.8	150.9	195.0	168.4	156.6	156.4	152.2	161.6
Loin roast	123.3	138.7	147.3	156.3	152.9	151.7	153.8	155.9	211.7	183.5	168.7	167.3	163.3	172.0
Pork sausage	128.4	138.0	145.1	157.6	166.0	166.1	167.0	169.1	209.6	223.3	211.3	200.6	195.0	194.4
Ham, whole	114.9	131.2	129.4	135.0	142.0	140.5	139.6	140.9	174.4	182.2	167.2	169.0	176.2	178.1
Picnics	123.9	132.7	141.8	154.2	161.2	159.2	158.0	159.1	198.0	203.5	188.8	181.8	179.9	182.5
Bacon	116.9	130.5	139.5	143.5	147.8	145.2	147.3	149.6	195.7	202.3	185.7	173.7	171.9	169.2
Other meats	124.0	130.4	134.0	142.1	148.9	149.4	149.2	149.9	166.3	174.4	171.0	168.5	168.2	168.1
Lamb chops	129.3	131.4	140.0	144.7	145.5	145.0	143.8	146.5	154.7	154.5	145.9	143.5	147.7	149.0
Frankfurters	124.7	130.7	134.3	147.9	156.0	156.4	156.6	156.5	180.1	191.7	184.0	178.2	175.1	174.6
Ham, canned	115.2	126.9	128.7	134.0	139.8	140.8	140.8	140.9	157.6	165.8	170.4	171.6	172.1	174.1
Bologna sausage	129.1	135.0	138.4	148.0	157.3	156.7	156.5	157.0	175.5	187.8	183.8	179.6	178.2	176.3
Salami sausage	126.0	132.4	133.8	142.1	148.6	150.3	149.7	149.6	165.0	172.5	171.6	170.1	168.2	167.0
Liverwurst	119.6	126.0	128.6	135.9	146.8	147.8	148.1	149.0	165.8	175.4	171.6	169.1	169.3	168.4
Poultry	110.4	116.1	120.7	150.7	150.1	150.4	150.8	154.6	225.4	185.9	157.7	149.7	145.9	157.0
Frying chicken	109.6	116.6	121.7	158.8	155.7	154.8	153.7	158.2	244.5	193.0	154.6	144.7	141.2	156.9
Chicken breasts	113.1	116.8	122.5	145.5	145.2	144.5	145.4	147.3	202.7	168.0	149.2	144.7	141.9	147.0
Turkey	111.8	113.3	114.2	118.0	129.0	136.0	142.8	145.4	158.7	170.8	180.8	178.5	172.3	168.2
Fish	141.9	149.2	151.3	152.8	156.1	160.2	163.7	163.8	165.2	167.1	170.8	175.8	178.1	180.4
Shrimp, frozen	134.9	140.3	141.7	145.6	149.4	154.1	156.9	158.1	159.2	162.7	167.4	172.9	175.6	176.3
Fish, fresh or frozen	152.3	167.9	173.8	174.5	179.2	185.1	189.6	190.1	194.2	195.2	200.2	207.4	209.1	212.9
Tuna fish, canned	133.0	135.7	136.2	136.8	138.9	140.9	144.7	145.8	144.9	146.0	147.8	150.6	153.2	156.7
Sardines, canned	147.3	152.8	153.7	154.5	157.1	161.0	163.9	161.7	163.1	164.9	168.4	173.1	174.9	176.3
Dairy products	117.1	119.1	121.0	121.5	121.8	123.2	124.1	124.1	126.6	130.3	137.3	141.2	144.9	146.3
Milk, fresh, grocery	116.3	117.9	120.5	120.5	120.4	121.9	122.8	122.9	125.9	129.0	136.7	142.2	146.5	147.8
Milk, fresh, delivered	120.3	122.7	124.7	125.0	125.5	126.5	127.1	127.2	129.2	132.0	139.0	143.2	146.4	------
Milk, fresh, skim	121.9	124.2	127.8	127.8	128.0	130.2	131.0	130.9	134.6	138.0	147.0	150.9	155.4	157.1
Milk, evaporated	120.0	122.4	123.7	125.8	129.2	131.4	133.5	134.1	135.5	136.0	141.2	147.1	151.4	154.7
Ice cream	106.5	107.2	107.7	109.1	109.3	110.0	110.6	110.3	111.5	115.1	119.6	122.5	123.7	124.4
Cheese, American process	124.7	128.3	129.7	130.5	132.3	134.7	135.9	136.3	137.5	139.1	145.7	153.1	158.5	162.3
Butter	105.3	105.7	105.6	105.9	103.2	103.0	102.6	102.6	107.1	120.7	128.0	121.1	122.6	121.0
Fruits and vegetables	125.0	130.5	133.3	136.8	141.8	144.6	151.7	153.7	152.6	137.3	138.8	143.7	145.3	149.7
Fresh fruits and vegetables	128.0	135.5	139.8	145.1	152.6	156.9	168.2	171.3	168.4	141.3	141.6	145.1	144.0	148.5
Fresh fruits	123.9	123.5	126.3	127.6	136.8	137.7	150.1	154.6	149.4	141.3	140.8	139.9	136.1	138.5
Apples	121.6	118.0	122.6	125.8	134.2	145.5	165.3	177.4	168.1	154.7	137.4	142.2	147.9	150.6
Bananas	101.6	97.5	101.3	97.2	106.9	100.6	110.1	113.2	117.6	110.7	111.1	107.3	100.4	107.1
Oranges	125.4	129.7	129.5	133.3	135.7	137.6	135.4	135.4	147.5	147.5	157.7	155.3	141.6	139.9
Orange juice, fresh	130.8	132.1	132.4	132.0	131.7	132.0	132.8	132.6	132.8	133.4	132.3	133.5	133.9	134.1
Grapefruit	144.8	126.4	128.9	128.9	127.2	130.6	143.5	160.1	183.8	178.6	185.7	138.7	133.0	136.7
Grapes [1]	163.0	------	------	------	------	------	------	199.6	157.9	140.5	159.1	170.5	------	------
Strawberries [1]	112.5	------	------	------	146.7	120.6	127.7	------	------	------	------	------	------	------
Watermelon [1]	130.0	------	------	------	------	------	166.7	164.8	129.1	------	------	------	------	------
Fresh vegetables	131.5	145.3	150.7	159.2	165.4	172.4	182.8	184.9	183.8	141.5	142.4	149.4	150.6	156.7
Potatoes	126.6	142.0	152.7	163.9	171.4	184.3	226.2	248.6	252.4	177.3	169.1	180.2	186.6	189.0
Onions	128.8	148.1	175.4	210.6	251.7	303.6	203.0	175.4	170.9	140.9	137.3	140.5	148.3	146.5
Asparagus [1]	141.8	------	------	182.1	145.5	134.4	156.7	156.5	------	------	------	------	------	------
Cabbage	129.3	131.4	133.7	166.6	167.7	195.2	162.4	167.1	175.9	159.8	178.4	153.4	149.2	149.9
Carrots	135.5	140.8	144.4	145.2	131.1	131.4	136.8	143.2	157.0	129.8	139.3	135.2	136.0	131.4
Celery	143.4	148.3	147.0	145.6	132.5	146.7	144.7	159.0	193.0	141.8	136.6	131.6	125.9	131.7
Cucumbers	122.1	121.5	161.8	187.9	170.4	144.7	137.8	127.9	103.7	101.1	127.4	142.9	115.9	142.1
Lettuce	124.7	142.4	133.2	133.7	160.5	165.2	223.0	188.5	184.9	131.6	125.8	126.7	119.0	120.0
Peppers, green	136.9	141.3	153.1	146.4	185.7	188.7	153.9	144.9	131.9	116.7	114.3	144.4	173.1	182.4

See footnotes at end of table.

26. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1972	1973												1974
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
FOOD—Continued														
Spinach	139.6	148.7	151.1	152.6	154.4	152.8	160.2	166.2	170.5	163.7	163.2	159.4	162.6	165.2
Tomatoes	132.7	164.4	146.8	138.4	133.6	126.9	136.6	161.3	142.0	103.1	111.2	135.3	138.2	160.1
Processed fruits and vegetables	120.5	123.1	123.7	124.5	125.7	126.3	127.2	127.6	129.1	131.2	134.7	141.6	147.2	151.5
Fruit cocktail, canned	121.7	125.1	126.7	127.7	129.2	128.8	129.4	129.2	129.4	130.1	132.6	135.9	137.7	138.7
Pears, canned	118.3	121.2	121.6	122.8	123.4	123.9	125.0	125.0	125.7	125.5	127.1	129.3	130.2	131.0
Pineapple-grapefruit drink	115.3	117.6	118.0	118.2	119.2	119.0	119.7	119.6	119.9	120.4	121.5	121.5	121.5	122.7
Orange juice concentrate, frozen	136.0	136.5	136.9	137.3	139.0	137.2	135.6	136.0	135.8	136.3	136.4	138.1	138.9	139.3
Lemonade concentrate, frozen	117.4	119.3	119.5	119.7	120.8	120.5	119.2	119.0	119.2	119.8	121.1	122.5	123.2	123.7
Beets, canned	122.0	128.4	130.0	132.8	134.1	138.0	138.4	139.4	143.9	145.8	145.6	146.5	146.0	148.6
Peas, green, canned	107.7	107.8	108.2	109.4	110.0	109.2	110.2	110.2	110.4	111.2	112.5	113.6	114.4	115.6
Tomatoes, canned	116.6	119.7	121.6	121.7	123.4	124.6	124.8	125.1	125.6	126.2	127.3	130.8	131.9	133.6
Dried beans	137.9	141.2	141.3	141.1	142.1	144.3	149.0	151.0	157.8	172.0	194.0	241.6	286.5	315.1
Broccoli, frozen	118.5	119.0	117.9	119.0	120.7	120.7	122.3	122.6	123.2	123.1	124.5	125.8	126.2	127.2
Other food at home	116.7	123.8	123.1	123.2	124.3	125.4	127.7	128.5	135.6	135.9	137.2	137.9	141.2	143.9
Eggs	107.7	151.6	141.2	136.2	138.8	138.7	146.6	151.3	198.4	188.4	179.2	169.1	182.7	191.0
Fats and oils:														
Margarine	117.6	116.3	116.6	117.5	119.6	121.1	125.3	125.7	131.4	147.1	158.1	161.0	160.1	163.7
Salad dressing, Italian	110.0	110.3	109.9	110.4	110.4	111.3	110.5	109.5	110.8	111.4	114.9	117.3	118.5	119.4
Salad or cooking oil	121.4	119.0	119.0	120.1	123.2	125.7	127.7	128.2	129.4	136.1	153.9	158.6	159.8	160.6
Sugar and sweets	120.9	121.7	122.8	124.0	125.3	126.3	127.6	127.9	128.8	129.6	131.2	135.6	138.4	140.3
Sugar	115.0	116.7	117.9	118.6	119.3	120.5	122.7	123.5	124.6	127.0	132.3	136.6	138.8	140.5
Grape jelly	124.8	126.8	129.6	131.3	132.5	132.9	134.4	134.6	135.1	135.0	135.6	140.2	141.7	142.9
Chocolate bar	130.7	130.9	131.1	131.3	133.0	134.8	135.9	136.6	137.6	138.6	138.5	139.0	139.9	141.0
Syrup, chocolate flavored	111.8	111.2	111.7	113.8	115.3	115.9	116.2	116.0	116.9	117.1	118.0	126.2	133.2	136.9
Nonalcoholic beverages	121.3	123.9	125.6	126.4	127.2	129.5	131.4	131.7	131.9	132.1	133.2	134.2	135.4	137.3
Coffee, can and bag	119.4	124.3	127.3	128.4	129.7	133.4	137.3	138.2	138.6	139.0	140.4	141.2	142.1	145.3
Coffee, instant	124.1	125.0	127.6	128.1	128.9	131.7	132.8	133.2	133.2	133.3	132.9	134.9	135.6	137.8
Tea	108.7	109.7	110.1	110.1	110.5	110.9	111.2	111.3	111.1	111.1	111.6	111.9	113.4	114.2
Carbonated drink, cola flavored	128.3	129.6	129.5	130.2	130.5	131.4	132.0	131.7	131.3	131.2	133.2	134.4	135.6	136.4
Carbonated drink, fruit flavored	128.0	128.7	129.3	129.9	130.4	131.1	131.4	131.3	131.6	132.1	132.9	134.3	136.4	136.6
Prepared and partially prepared foods	114.7	115.7	116.2	117.0	117.5	117.8	118.3	118.3	118.4	119.6	120.9	123.3	125.0	126.8
Bean soup, canned	116.1	116.7	117.0	117.0	117.4	117.7	118.2	118.3	118.2	121.0	123.1	126.7	128.4	133.6
Chicken soup, canned	105.3	104.2	104.7	105.2	105.3	105.3	105.6	105.9	105.8	107.8	110.1	115.1	116.8	117.4
Spaghetti, canned	119.6	122.3	122.5	122.8	122.4	123.0	124.0	123.6	124.0	124.4	125.0	125.9	126.5	129.0
Mashed potatoes, instant	112.1	112.4	113.0	115.1	117.0	117.9	118.7	118.4	118.2	118.7	119.2	120.4	121.7	123.3
Potatoes, French fried, frozen	110.9	112.3	111.8	112.5	113.0	113.5	114.1	114.3	114.8	116.5	118.1	120.7	123.4	124.1
Baby food, can or jar	110.6	109.9	110.7	111.7	112.8	113.7	114.7	114.6	114.9	115.4	116.6	118.5	120.3	121.6
Sweet pickle relish	125.5	130.1	130.4	132.0	132.2	131.3	131.3	131.2	131.2	131.3	132.6	134.8	137.7	139.2
Pretzels	115.0	114.7	116.6	117.0	117.0	117.0	117.5	117.8	117.6	119.4	120.0	122.0	123.0	124.0
HOUSING	129.2	131.5	132.0	132.4	132.8	133.3	133.9	134.2	135.2	136.6	138.1	139.4	[r]140.6	142.2
Shelter	134.5	137.0	137.4	137.7	138.1	138.7	139.4	139.7	141.1	142.9	144.7	145.6	-------	147.4
Rent, residential	119.2	121.8	122.3	122.8	123.2	123.7	124.0	124.4	125.0	125.4	125.9	126.3	-------	127.3
Homeownership	140.1	142.6	142.9	143.2	143.6	144.2	145.0	145.2	147.0	149.2	151.5	152.6	-------	154.8
Mortgage interest rates	117.5	117.9	118.1	117.8	117.8	118.2	118.7	119.1	121.8	127.6	132.7	134.2	-------	135.1
Property taxes	145.7	150.8	151.7	151.9	152.1	152.4	152.5	152.6	152.6	152.7	152.7	153.6	-------	151.9
Property insurance premiums	123.2	124.5	124.5	124.7	124.8	125.0	124.9	124.8	124.2	123.9	123.8	123.7	-------	123.6
Maintenance and repairs	140.7	144.7	145.3	146.5	148.1	149.6	151.5	152.2	153.0	153.9	154.6	155.3	-------	158.3
Commodities	124.1	127.9	128.6	130.3	134.2	136.5	138.1	138.7	139.8	139.9	140.0	140.2	-------	142.0
Exterior house paint	117.7	119.0	118.8	119.1	119.3	119.2	118.9	119.2	120.3	120.5	120.8	122.2	-------	123.7
Interior house paint	117.1	119.1	119.3	119.2	119.6	119.9	120.5	119.4	120.0	121.3	122.4	121.5	-------	123.0
Services	147.9	151.9	152.5	153.5	154.1	155.2	157.2	158.0	158.7	159.9	161.0	161.8	-------	165.3
Repainting living and dining rooms	159.4	164.1	165.1	166.0	167.1	168.9	170.8	171.5	172.2	173.4	174.7	175.3	-------	176.8
Reshingling roofs	155.5	159.6	160.2	161.0	161.4	162.9	164.1	165.1	165.6	166.4	167.1	168.3	-------	173.8
Residing houses	135.7	139.1	139.6	140.7	141.1	142.1	145.2	145.9	146.6	146.9	147.9	149.0	-------	155.2
Replacing sinks	146.4	150.5	150.7	152.1	152.7	153.3	154.7	155.2	156.1	158.0	159.1	159.3	-------	161.7
Repairing furnaces	153.3	157.9	158.3	158.9	159.5	160.4	161.8	163.0	163.5	166.5	167.5	168.5	-------	167.9
Fuel and utilities	120.1	122.8	124.1	124.6	125.1	125.4	125.6	125.7	126.3	126.8	128.6	132.1	[r]135.9	140.8
Fuel oil and coal	118.5	120.7	127.2	127.8	128.3	129.3	131.6	131.7	132.8	133.6	141.1	155.6	-------	194.6
Fuel oil, #2	116.6	118.3	125.1	125.7	126.2	127.3	130.6	130.8	132.0	132.4	140.0	154.2	-------	194.5
Gas and electricity	120.5	124.1	124.5	125.0	125.5	125.7	125.4	125.5	125.8	126.5	127.4	129.8	-------	134.3
Gas	122.3	126.2	126.6	126.7	127.1	127.4	126.3	126.5	126.7	127.3	128.4	132.3	-------	135.1
Electricity	118.9	122.1	122.6	123.4	124.0	124.0	124.6	124.6	125.0	125.8	126.5	127.5	-------	133.5
Other utilities:														
Residential telephone	113.5	114.5	115.1	115.3	115.5	115.6	115.9	115.9	117.0	117.1	117.5	117.5	[r]120.5	120.9
Residential water and sewerage	138.5	141.7	141.7	143.2	146.5	146.5	146.8	147.0	147.1	147.1	147.4	148.5	-------	149.2
Household furnishings and operations	121.0	122.2	122.6	123.0	123.6	123.9	124.7	125.0	125.3	126.1	126.7	127.5	-------	129.0
House furnishings	116.2	116.9	117.2	117.6	118.0	118.5	119.1	119.1	119.2	119.8	120.3	121.1	-------	122.0
Textiles	113.6	113.1	115.2	115.1	115.8	115.7	116.4	115.1	114.8	116.3	117.6	119.7	-------	119.5
Sheets, percale or muslin	115.1	113.6	117.5	117.7	118.2	117.0	120.7	116.7	114.9	119.4	121.7	123.3	-------	118.3
Curtains, tailored, polyester marquisette	112.1	114.1	113.5	111.3	113.4	114.7	113.4	115.2	115.4	114.7	114.9	119.1	-------	121.2
Bedspreads, chiefly cotton	110.5	110.2	113.6	113.7	112.4	112.1	112.6	110.6	109.3	109.8	112.4	115.2	-------	115.0
Drapery fabric, cotton or rayon/acetate	122.6	125.0	125.3	126.0	126.7	126.8	127.4	127.6	129.0	129.8	130.4	133.1	-------	136.6
Slipcovers, throws, ready-made, chiefly cotton	114.0	113.1	115.1	115.3	115.5	115.1	115.9	116.1	116.5	[r]117.6	118.0	118.2	-------	118.1

See footnotes at end of table.

26. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1972	1973												1974
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
HOUSING—Continued														
Furniture and bedding	121.1	121.8	121.7	122.8	123.6	124.8	125.7	125.9	126.2	127.0	127.3	128.2	128.5	129.3
Bedroom furniture, chest and dresser [2]	105.1	105.7	105.4	106.9	107.7	109.0	109.9	110.4	110.7	111.6	112.0	112.9	113.4	114.2
Dining room chairs [2]	104.3	104.4	104.0	106.5	107.3	108.2	109.2	110.1	109.4	110.4	111.4	112.3	112.6	113.5
Sofas, upholstered	120.4	120.5	120.9	121.8	122.3	123.4	124.3	124.0	124.6	125.3	125.2	126.1	126.3	126.3
Sofas, convertible	117.1	117.7	116.5	117.4	118.0	119.0	120.1	120.4	120.4	121.7	121.8	122.3	123.2	124.0
Bedding, mattress, and box springs [3]	104.7	105.3	105.2	105.7	106.0	106.2	107.0	107.8	108.9	109.4	109.6	109.9	109.9	110.8
Cribs	118.6	120.0	120.1	120.8	120.4	122.3	124.3	125.5	126.3	127.2	127.5	127.7	126.9	128.2
Cocktail table [4]	100.7	101.8	102.1	102.4	102.8	103.3	104.5	104.2	105.2	105.6	106.2	107.4	107.6	109.7
Recliner, upholstered [4]	98.5	98.5	98.8	98.6	99.7	100.1	99.9	99.9	99.6	99.6	100.1	101.8	101.4	102.2
Floor coverings	106.5	106.6	107.1	107.2	107.6	107.4	107.9	108.6	108.4	109.1	109.4	109.6	109.7	110.4
Broadloom carpeting, manmade fibers	101.5	101.2	101.6	101.6	102.2	102.0	102.6	103.4	103.1	103.9	104.2	104.1	104.1	104.4
Vinyl sheet goods	118.0	119.6	119.8	120.3	120.1	120.4	120.6	121.2	121.6	122.1	122.9	124.3	124.5	124.8
Vinyl asbestos tile	118.0	119.0	119.7	119.7	119.7	119.4	119.8	120.0	120.1	120.1	120.2	120.4	120.8	124.2
Appliances (excluding radio and TV)	109.7	109.9	109.7	109.5	109.5	109.5	109.7	109.7	109.6	109.8	110.0	110.2	110.1	110.6
Washing machines, automatic	110.5	111.0	110.9	110.8	110.8	110.8	110.9	110.8	111.0	111.1	111.0	111.2	111.3	111.7
Vacuum cleaners	103.8	103.7	103.8	103.8	103.8	103.5	104.2	104.8	104.0	104.3	104.4	104.6	103.9	104.1
Refrigerator-freezers, electric	108.1	108.1	108.3	108.2	108.2	108.4	108.2	108.0	107.9	108.2	108.5	108.6	108.4	108.7
Ranges, freestanding, gas or electric	110.9	111.1	110.9	109.8	110.0	110.0	109.7	109.5	110.3	110.3	110.8	110.7	110.4	110.2
Clothes dryers, electric	114.2	114.6	114.0	114.2	114.2	114.1	114.4	114.4	114.1	114.5	114.5	114.8	114.9	114.9
Air conditioners, demountable [1]	110.7			110.0	109.9	109.7	110.6	110.5	109.9					
Room heaters, electric, portable [1]	108.7	108.7	107.8	108.0							108.6	109.5	109.8	111.2
Garbage disposal units	111.0	111.8	111.4	111.1	111.0	111.5	111.7	111.9	112.0	112.4	112.5	112.5	112.4	113.3
Other house furnishings:														
Dinnerware, fine china	124.1	126.9	128.6	128.7	128.8	129.6	130.2	131.3	132.2	133.2	133.0	134.4	135.4	137.5
Flatware, stainless steel	124.8	130.7	130.8	130.9	131.1	131.4	131.7	132.1	132.4	133.3	133.5	132.9	132.7	134.0
Table lamps, with shade	123.8	126.8	127.1	127.8	127.7	128.5	129.1	129.3	129.6	128.4	127.9	127.9	127.9	128.8
Housekeeping supplies:														
Laundry soaps and detergents	111.2	111.4	111.7	112.2	112.4	112.0	112.8	112.7	113.4	113.9	115.2	116.1	117.4	118.9
Paper napkins	131.1	135.6	137.2	137.4	138.5	138.5	139.1	139.1	139.3	139.6	139.2	139.1	140.5	143.3
Toilet tissue	124.9	125.2	126.2	126.6	127.1	121.0	127.8	129.5	130.0	130.7	131.2	132.1	132.9	135.7
Housekeeping services:														
Domestic service, general housework	139.1	141.9	142.2	143.8	144.4	145.7	146.0	146.2	146.7	151.4	152.3	153.3	153.4	154.1
Baby sitter service	136.3	139.2	139.4	140.7	140.7	141.1	142.2	142.7	143.2	144.8	145.8	146.3	146.9	147.4
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	138.7	142.1	143.8	144.6	145.9	147.5	148.6	149.0	149.7	152.0	153.1	154.2	155.7	157.9
Licensed day care service, preschool child	122.5	125.8	126.1	126.4	128.8	129.1	129.5	131.0	131.0	133.0	133.9	135.2	135.9	136.3
Washing machine repair	140.7	144.1	144.9	146.2	147.2	148.2	148.8	149.1	150.1	150.5	151.0	151.4	153.4	154.7
APPAREL AND UPKEEP	122.3	123.0	123.6	124.8	125.8	126.7	126.8	125.8	126.5	128.3	129.6	130.5	130.5	128.8
Men's and boys'	121.9	123.5	123.3	124.6	125.9	126.7	127.1	125.4	126.3	127.3	128.3	128.9	129.1	127.7
Men's:														
Topcoats, wool or all weather coats, polyester blend [1]	125.8	128.8	126.6	130.0						132.5	133.9	137.1	136.5	135.1
Suits, year-round weight	130.3	129.4	129.2	131.7	133.6	134.6	134.2	129.8	132.4	133.9	135.8	135.4	136.1	131.8
Suits, tropical weight [1]	134.0				146.1	145.9	146.0	137.0						
Jackets, lightweight	114.2	115.3	116.0	116.8	117.5	118.0	118.4	117.7	118.4	119.8	119.9	119.9	120.5	120.3
Slacks, wool, manmade fibers or blends	115.7	115.7	115.7	115.1	115.7	116.0	115.8	114.6	114.4	116.9	117.8	118.0	117.1	116.0
Slacks, cotton, manmade fibers or blends	137.6	142.4	141.8	141.7	143.0	142.8	143.1	138.3	137.4	137.1	138.3	138.9	138.6	139.3
Trousers, work	114.8	115.8	116.7	117.1	118.1	119.2	119.8	120.2	121.6	122.5	123.1	123.6	124.1	123.9
Shirt, work	115.2	116.1	116.7	118.0	119.0	119.6	120.6	121.0	122.3	123.1	123.4	124.4	126.0	127.4
Shirts, business or dress	112.6	110.7	111.0	111.3	111.9	112.4	114.3	113.3	114.0	116.2	116.8	117.6	117.8	115.9
T-shirts	117.9	118.6	118.9	119.0	119.7	121.7	122.6	122.8	123.3	124.1	124.3	124.4	124.7	127.1
Socks	115.8	116.2	116.3	116.6	116.6	117.3	117.3	117.7	117.8	118.0	117.8	118.0	118.1	118.6
Handkerchiefs	116.4	117.7	118.4	119.4	119.2	120.1	119.9	120.0	121.1	122.1	122.7	123.6	124.5	125.8
Boys':														
Coats, all purpose, cotton or cotton blend [1]	119.9	123.1	123.3	122.0							126.0	123.6	123.5	112.6
Sport coats, wool or blend [1]	121.1	119.6									122.5	122.1	122.7	120.8
Dungarees, cotton or blend	127.5	130.6	131.1	131.6	133.0	134.0	135.9	138.2	140.0	141.2	142.3	143.1	143.2	143.8
Undershorts, cotton	120.4	121.1	121.2	121.2	122.1	122.5	123.2	123.4	124.4	125.0	125.8	126.4	127.0	128.3
Women's and girls'	123.0	122.2	123.3	125.1	126.0	127.2	127.1	125.5	126.0	129.5	131.4	132.2	131.8	127.8
Women's:														
Coats, heavyweight, wool or wool blend [1]	130.1	121.7								138.4	142.3	143.6	139.2	125.6
Skirts, winter weight	139.4	140.1	127.6								148.7	155.5	153.0	144.1
Skirts, summer weight	117.1				123.3	130.5	129.1	121.4	117.4					
Blouses	123.1	124.2	125.5	124.8	124.7	125.9	125.0	124.6	126.0	127.7	129.2	128.5	128.8	127.4
Dresses, street, chiefly manmade fiber	130.1	130.9	132.4	133.6	134.6	135.0	134.7	132.9	136.3	138.4	139.9	139.8	140.7	139.0
Slips, nylon	110.9	110.6	110.9	111.0	110.9	110.9	110.9	111.3	111.3	111.6	111.4	111.6	111.6	112.0
Panties, acetate or nylon	117.7	118.4	118.7	118.9	119.0	119.4	119.8	119.9	120.0	120.3	121.1	121.8	122.3	122.5
Girdles, manmade blend	117.6	116.7	117.8	117.9	118.7	119.0	117.7	117.7	119.4	119.8	119.6	120.1	120.0	119.1
Brassieres, nylon	122.4	121.5	121.6	123.2	124.2	125.0	125.3	124.1	125.8	124.4	124.9	127.0	128.1	127.6
Hose or panty hose, nylon, seamless	96.2	94.6	94.4	95.3	94.3	94.5	94.3	94.2	93.9	94.3	93.5	92.2	92.0	92.0
Anklets or knee-length socks, various fibers	114.8	114.7	114.3	114.7	114.3	113.9	113.7	114.3	113.4	114.3	114.4	114.5	113.0	115.6
Gloves, fabric, nylon	110.6	110.5	111.6	111.0	111.5	112.0	112.6	111.4	112.0	113.1	113.3	114.4	114.4	114.3
Handbags, rayon faille or plastic	143.7	146.0	146.4	145.3	148.3	148.5	149.9	151.5	153.7	155.3	157.2	158.0	158.9	154.3

See footnotes at end of table.

26. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1973	1973											1974
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
APPAREL AND UPKEEP—Continued														
Girls':														
Raincoats, vinyl plastic or chiefly cotton [1]	117.0	110.1	109.8	114.3	------	------	------	------	------	------	122.7	124.3	121.0	118.7
Skirts, wool or wool blend [1]	121.0	104.7	------	------	------	------	------	------	------	121.0	127.6	125.6	126.1	115.2
Dresses, cotton manmade fibers or blends	122.9	120.6	123.4	124.9	122.6	123.2	123.7	122.7	122.2	117.2	124.7	125.6	124.4	119.0
Slacks	141.9	137.1	138.7	------	------	------	------	------	------	140.4	142.7	146.2	146.3	146.7
Slips, cotton blend	109.6	109.9	109.4	109.0	109.2	109.4	109.3	109.7	110.0	110.2	109.9	109.9	109.7	110.4
Handbags	129.6	122.8	123.5	126.2	124.9	126.1	128.6	130.2	130.2	133.4	135.7	137.3	136.1	134.0
Footwear	130.2	126.6	127.6	128.7	129.7	130.3	130.0	129.9	130.6	131.3	132.0	132.6	132.6	133.0
Men's:														
Shoes, street (oxford or buckle strap)	132.6	126.7	129.1	130.4	132.1	133.0	133.6	133.5	133.8	133.5	134.4	135.3	136.0	136.0
Shoes, work, high	135.9	127.4	129.4	130.3	132.4	134.8	137.6	138.0	138.8	139.7	140.4	141.0	141.1	141.6
Women's:														
Shoes, street, pump	129.4	125.5	127.0	128.9	130.1	130.0	128.9	128.1	129.2	130.3	131.5	131.9	131.1	130.6
Shoes, evening, pump	124.5	123.0	123.3	123.8	123.7	123.7	123.4	124.7	124.8	125.5	125.6	126.3	125.6	126.5
Shoes, casual, pump	130.2	128.0	126.8	128.3	130.1	130.5	130.3	129.3	129.6	131.2	132.2	132.5	133.0	134.0
Houseslippers, scuff	128.7	127.2	126.7	126.9	127.5	128.6	128.7	128.6	128.7	129.8	130.0	130.6	130.7	131.0
Children's:														
Shoes, oxford	132.7	129.5	130.1	131.3	132.5	133.0	132.8	132.6	132.9	134.2	134.4	134.3	134.6	134.6
Sneakers, boys', oxford type	125.9	124.9	124.8	125.3	125.6	125.6	125.5	125.6	125.8	125.5	126.8	127.8	127.5	128.0
Dress shoes, girls', strap or pump	133.6	130.8	132.9	134.3	135.2	135.3	130.9	129.7	133.2	134.0	134.7	135.6	136.6	138.8
Miscellaneous apparel:														
Diapers, cotton gauze or disposable	118.9	116.3	117.1	117.9	118.3	118.6	119.2	119.1	119.1	119.2	119.4	121.1	121.7	122.6
Yard goods, polyester blend	125.2	118.7	118.7	119.8	120.8	122.4	123.2	124.9	124.7	126.5	131.9	134.8	135.5	137.3
Apparel services:														
Drycleaning, men's suits and women's dresses	122.0	119.0	119.3	119.5	120.2	120.8	121.4	121.6	122.2	123.4	124.2	125.9	126.6	127.7
Automatic laundry service	117.7	115.8	115.8	116.4	116.5	117.9	118.3	118.0	118.1	118.3	118.6	119.1	119.5	120.6
Laundry, men's shirts	129.0	125.3	126.5	126.9	127.1	127.6	128.3	128.7	129.7	130.3	131.7	132.5	133.7	136.0
Tailoring charges, hem adjustment	138.9	135.9	135.7	136.2	136.8	137.6	138.1	138.3	139.5	140.5	142.6	142.4	143.7	143.7
Shoe repairs, women's heel lift	122.1	119.1	119.6	120.1	120.4	120.8	121.2	121.7	122.5	123.8	124.4	125.0	126.7	127.2
TRANSPORTATION	123.8	121.0	121.1	121.5	122.6	123.5	124.6	124.8	124.5	123.9	125.0	125.8	126.7	128.1
Private	121.5	118.5	118.7	119.1	120.3	121.3	122.4	122.6	122.3	121.6	122.9	123.8	124.6	126.2
Automobiles, new	111.1	111.1	111.0	110.8	111.1	111.1	111.0	110.9	110.6	109.1	111.9	112.2	112.0	112.9
Automobiles, used	117.6	112.8	112.4	113.7	117.3	120.6	122.3	122.7	121.3	120.3	118.5	116.1	112.6	107.0
Gasoline, regular and premium	118.1	110.7	111.4	112.0	113.8	115.3	118.4	118.8	118.7	117.8	121.8	126.3	131.9	140.1
Motor oil, premium	127.9	125.1	125.3	125.8	126.5	127.2	127.7	128.1	128.4	128.7	129.2	130.4	132.1	134.9
Tires, new, tubeless	110.6	113.1	112.9	112.1	111.2	110.7	110.5	110.3	109.1	108.8	108.3	109.9	110.3	110.3
Auto repairs and maintenance	142.2	138.4	139.3	140.1	140.7	141.4	142.1	142.5	142.9	143.8	144.4	144.9	145.9	147.3
Auto insurance rates	138.0	138.4	138.2	138.1	138.4	138.4	138.2	138.1	138.2	138.0	137.5	137.4	137.4	137.7
Auto registration	123.6	123.0	123.0	123.6	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	128.9
Public	144.8	144.3	144.3	144.5	143.9	143.9	144.9	144.9	144.9	145.5	145.2	144.6	146.5	146.0
Local transit fares	150.1	150.6	150.5	150.7	149.8	149.9	150.3	150.3	150.3	150.6	150.2	149.2	149.2	148.4
Taxicab fares	137.8	135.6	135.6	135.7	135.7	135.7	138.3	138.3	138.3	138.3	138.3	138.3	145.3	145.3
Railroad fares, coach	122.8	122.2	122.2	122.3	122.3	122.4	122.6	122.6	122.6	122.8	122.6	122.6	126.7	126.8
Airplane fares, chiefly coach	134.7	132.1	132.1	132.1	132.1	132.1	134.5	134.5	134.5	137.1	137.1	137.1	141.4	141.4
Bus fares, intercity	145.7	144.0	144.0	144.6	144.6	144.6	145.9	145.9	145.9	145.9	145.9	145.9	150.9	150.9
HEALTH AND RECREATION	130.2	127.8	128.1	128.6	129.2	129.6	130.0	130.3	130.5	131.1	132.1	132.6	133.0	133.7
Medical care	137.7	134.9	135.3	135.8	136.2	136.6	137.0	137.3	137.6	138.3	140.6	140.9	141.4	142.2
Drugs and prescriptions	105.9	105.7	105.8	105.6	105.7	105.9	105.9	105.9	105.9	106.1	106.1	106.2	106.3	106.7
Over-the-counter items	112.4	111.7	111.8	112.1	112.2	112.5	112.5	112.4	112.4	112.6	112.8	112.8	113.0	113.5
Multiple vitamin concentrates	94.9	94.5	93.6	94.5	94.7	95.5	94.2	94.6	94.8	95.3	95.2	95.7	95.8	96.2
Aspirin compounds	117.7	117.6	118.2	118.4	117.5	117.7	117.3	117.6	117.3	117.4	117.7	117.8	118.0	118.2
Liquid tonics	101.6	101.2	101.2	101.1	101.2	101.7	101.7	101.8	101.6	101.8	101.8	101.9	102.2	102.5
Adhesive bandages, package	126.6	125.2	125.1	125.4	126.1	126.7	127.7	126.3	126.3	126.6	127.6	127.8	128.4	128.9
Cold tablets or capsules	114.5	114.3	114.1	114.4	114.4	114.1	114.5	114.8	115.0	114.9	114.8	114.5	114.6	115.2
Cough syrup	115.2	113.9	114.7	115.1	115.1	115.3	115.4	115.4	115.6	115.6	115.7	115.4	115.1	116.0
Prescriptions	100.5	100.6	100.8	100.2	100.3	100.4	100.4	100.4	100.5	100.7	100.5	100.6	100.7	101.1
Anti-infectives	71.1	72.6	72.9	71.3	71.1	71.3	70.9	71.0	70.9	70.7	70.2	70.0	69.9	69.0
Sedatives and hypnotics	129.4	127.8	128.1	128.2	128.4	129.0	129.2	129.0	129.5	130.3	130.6	130.8	131.5	133.4
Ataractics	103.8	103.8	103.7	103.7	103.6	103.8	103.8	103.8	103.8	103.9	103.9	103.7	104.1	104.2
Anti-spasmodics	107.8	107.8	108.0	107.6	107.4	107.6	107.7	107.9	107.9	108.0	107.9	107.9	108.0	108.6
Cough preparations	136.9	133.4	134.6	135.1	135.3	136.0	137.3	137.6	137.8	138.4	138.4	139.0	139.5	140.6
Cardiovasculars and antihypertensives	113.0	112.1	112.4	112.4	112.9	112.8	112.8	112.8	112.9	113.6	113.7	114.0	114.1	114.1
Analgesics, internal	111.2	110.7	110.6	110.8	111.5	111.7	111.7	111.2	111.2	111.3	110.8	111.1	111.2	111.5
Anti-obesity	117.5	117.6	117.7	116.3	116.4	116.6	116.9	117.1	117.4	117.9	118.1	118.9	119.0	119.8
Hormones	91.6	92.6	92.8	91.5	91.5	91.3	91.4	91.3	91.4	91.4	91.5	91.4	91.3	92.8
Professional services:														
Physicians' fees	138.2	135.7	136.1	136.7	136.9	137.5	138.0	138.2	138.6	139.6	139.9	140.3	140.8	141.3
General physician, office visits	139.5	137.0	137.1	137.9	138.1	138.5	139.1	139.5	139.8	141.2	141.6	141.9	142.8	143.4
General physician, house visits	141.7	139.3	139.5	140.7	141.0	141.3	141.4	141.5	141.9	143.4	143.6	143.7	142.7	143.1
Obstetrical cases	138.1	134.7	136.2	136.8	137.0	137.9	138.3	138.4	138.7	139.1	139.6	139.9	140.1	140.4
Pediatric care, office visits	140.5	138.0	138.7	139.2	139.6	140.0	140.0	140.4	141.5	141.8	142.0	142.1	142.5	143.4
Psychiatrist, office visits	133.6	131.8	132.6	132.9	132.9	133.6	133.6	133.8	133.9	134.2	134.3	135.1	135.0	135.1
Herniorrhaphy, adult	131.3	129.7	129.9	130.6	130.5	130.8	131.2	131.3	131.8	132.0	132.1	132.5	132.8	132.9
Tonsillectomy and adenoidectomy	132.8	130.6	130.9	131.1	131.1	132.7	133.1	133.3	133.3	133.5	133.9	135.0	135.2	135.9

See footnotes at end of table.

26. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1973	1973												1974
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
HEALTH AND RECREATION—Continued														
Dentists' fees	136.4	134.3	134.4	134.7	135.4	135.7	136.1	136.7	136.7	137.0	138.2	138.4	138.6	140.3
Fillings, adult, amalgam, one surface	138.7	136.6	136.8	137.0	137.8	137.9	138.4	139.0	139.1	139.5	140.4	140.7	140.8	142.7
Extractions, adult	135.4	133.2	133.3	133.7	134.3	134.7	135.3	136.0	135.9	136.1	137.4	137.5	137.9	140.3
Dentures, full uppers	132.6	130.7	130.8	131.1	131.9	132.1	132.3	132.7	132.8	132.9	134.3	134.6	134.9	135.5
Other professional services:														
Examination, prescription, and dispensing of eyeglasses	129.5	126.5	126.7	127.2	127.6	129.4	129.6	129.8	130.6	130.9	131.2	131.8	132.1	132.5
Routine laboratory tests, urinalysis	122.8	121.4	121.6	121.1	121.2	121.9	122.2	122.5	123.8	124.0	124.2	124.5	124.7	125.2
Hospital service charges [5]	105.6	103.6	104.1	104.6	104.9	105.1	105.3	105.6	106.0	106.3	107.0	107.2	107.6	108.3
Semiprivate rooms	182.1	177.6	178.9	180.1	180.8	181.0	181.4	181.8	182.5	183.6	185.2	185.8	186.4	188.4
Operating room charges	179.1	173.5	175.6	177.3	178.4	178.5	179.0	179.2	179.7	180.2	181.5	182.2	183.8	184.4
X-ray, diagnostic series, upper G.I.	131.8	130.7	130.8	130.9	131.2	131.2	131.4	131.9	132.1	132.1	133.0	133.3	133.3	133.5
Laboratory test, urinalysis [5]	104.3	102.7	102.8	103.0	103.0	103.3	103.3	104.3	105.2	105.6	105.7	105.8	106.5	106.9
Anti-infective, tetracycline, HCL [5] and Meprobamate	97.6	99.7	98.3	98.2	97.7	97.8	97.5	97.6	97.4	97.1	97.0	96.0	96.6	96.4
Tranquilizer, chlordizepoxide, HCL [6]	104.3	102.0	102.4	102.4	102.4	104.4	104.9	104.9	105.3	105.3	105.3	106.2	106.2	106.2
Electrocardiogram [5]	104.7	104.0	104.1	104.4	104.5	104.5	104.5	104.5	104.7	104.9	105.4	105.2	105.5	106.0
Intravenous solution, saline [6]	103.9	103.0	103.3	103.6	103.6	103.8	103.8	103.8	103.8	103.8	104.6	104.7	105.0	105.3
Physical therapy, whirlpool bath [6]	106.2	102.9	103.6	104.0	106.3	106.4	106.5	106.7	107.9	108.0	107.2	107.3	107.5	108.0
Oxygen, inhalation therapy [6]	103.9	101.9	102.1	103.1	103.1	103.1	103.1	103.5	103.8	103.8	105.5	106.9	106.7	107.4
Personal care	125.2	121.8	122.4	123.1	123.8	124.4	124.9	125.3	125.7	126.3	127.3	128.1	129.2	129.8
Toilet goods	120.0	118.1	118.2	118.7	119.3	119.5	119.5	119.7	120.1	120.4	121.1	122.1	123.3	124.1
Toothpaste, standard dentifrice	109.8	109.4	109.1	110.1	110.7	110.1	109.4	109.1	109.3	110.2	110.5	110.1	109.3	108.3
Toilet soap, hard milled	128.8	123.3	123.1	124.7	126.0	126.9	127.8	128.0	128.4	129.9	130.2	136.3	141.2	145.4
Hand lotions, liquid	126.6	127.3	127.5	127.0	126.6	125.3	125.6	125.5	127.0	126.7	126.9	126.5	126.9	127.1
Shaving cream, aerosol	108.7	108.3	108.2	107.8	108.5	108.9	108.8	108.8	108.7	108.8	109.3	109.2	109.1	108.5
Face powder, pressed	145.6	140.6	140.4	140.4	142.9	144.3	146.2	146.6	148.2	148.4	149.4	149.8	150.0	150.0
Deodorants, aerosol	104.8	104.4	104.2	104.4	104.7	104.8	104.7	104.9	105.2	104.7	105.1	105.4	105.0	105.2
Cleansing tissues	126.0	122.2	123.2	125.3	125.4	126.1	124.1	125.0	124.7	124.5	127.8	129.4	133.9	136.4
Home permanent wave sets	109.5	109.9	109.9	110.1	109.3	109.4	109.4	109.5	109.3	109.3	109.4	109.2	109.3	109.5
Personal care services	130.6	125.6	126.8	127.6	128.5	129.5	130.6	131.1	131.6	132.6	133.9	134.4	135.3	135.8
Men's haircuts	132.9	127.5	128.6	129.1	130.2	131.4	133.1	133.8	133.9	135.3	136.8	136.9	138.0	138.7
Beauty shop services	128.1	124.3	125.5	126.6	127.3	128.3	128.9	129.3	130.0	130.8	131.9	133.4	133.4	133.8
Reading and recreation	125.9	124.1	124.3	124.5	125.2	125.6	125.9	126.2	126.1	126.8	127.2	127.5	127.6	128.3
Recreational goods	109.2	107.8	108.0	108.2	108.6	109.0	109.1	109.4	109.5	109.7	110.1	110.2	110.3	110.9
TV sets, portable and console	98.0	98.8	98.5	98.5	98.2	98.1	97.8	97.6	97.4	97.8	97.9	97.9	97.8	97.8
TV replacement tubes	134.7	133.4	134.2	134.2	134.3	134.5	134.6	134.8	134.8	135.6	135.4	135.4	135.3	135.5
Radios, portable and table model	99.4	99.1	98.8	99.0	99.2	99.3	99.3	99.5	99.4	99.6	100.2	99.8	99.8	99.6
Tape recorders, portable	93.4	92.9	92.6	92.1	92.5	92.9	93.2	93.4	93.8	93.9	94.7	94.4	94.2	94.2
Phonograph records, stereophonic	108.5	108.1	108.2	108.4	108.2	108.8	108.5	108.0	108.3	108.5	108.7	108.8	109.0	109.8
Movie cameras, Super 8, zoom lens	89.5	88.3	88.2	88.5	88.7	88.5	88.7	89.9	90.2	90.5	90.6	90.7	90.7	91.0
Film, 35mm, color	107.8	108.1	108.2	108.2	108.1	107.8	107.3	107.6	107.5	107.8	107.6	107.6	107.6	108.4
Bicycle, boys'	122.2	117.5	118.2	119.0	121.1	121.8	122.4	122.8	124.2	124.1	124.7	125.1	125.2	125.2
Tricycles	115.6	114.0	114.1	114.4	114.3	115.1	115.4	116.2	116.1	116.5	116.9	116.9	117.3	118.0
Recreational services	132.3	129.7	130.1	130.4	131.5	132.1	132.7	133.2	132.9	133.2	133.4	134.2	134.1	134.6
Indoor movie admissions	147.3	142.7	143.4	144.7	146.7	147.7	148.5	148.5	148.8	149.3	149.2	149.5	149.0	149.8
Drive-in movie admissions, adult	150.0	148.2	148.1	147.9	148.5	149.2	150.9	152.9	151.3	150.5	150.3	151.1	151.4	151.8
Bowling fees, evening	123.9	122.2	122.7	122.9	123.1	122.9	123.0	123.2	122.4	123.3	125.4	127.7	127.9	128.4
Golf greens fees [1]	136.6			132.1	134.9	136.0	137.7	137.9	138.0	138.4	137.6			
TV repairs, picture tube replacement	99.9	98.7	99.1	99.2	99.5	99.4	100.0	100.2	100.4	100.8	100.6	100.3	100.4	100.5
Film developing, color	116.0	116.2	115.8	115.9	116.3	116.3	115.6	116.2	116.1	116.2	115.6	115.9	115.5	115.8
Reading and education:														
Newspapers, street sale and delivery	135.8	133.6	133.6	133.6	134.8	136.2	136.4	136.4	136.4	136.4	136.6	137.2	137.9	140.8
Piano lessons, beginner	126.9	125.2	125.5	125.6	125.6	125.8	125.6	126.2	126.4	128.4	129.0	129.7	129.9	130.9
OTHER GOODS AND SERVICES	129.0	126.7	127.1	127.6	128.2	128.5	129.0	129.5	129.4	129.9	130.3	130.8	131.3	131.8
Tobacco products	137.0	134.2	134.5	135.5	136.5	137.0	137.3	137.8	137.8	138.0	138.2	138.3	138.5	138.7
Cigarettes, nonfilter tip, regular size	138.7	136.0	136.3	137.3	138.2	138.8	138.9	139.3	139.5	139.7	139.9	140.0	140.1	140.3
Cigarettes, filter, king	139.1	136.2	136.5	137.6	138.7	139.2	139.6	140.0	140.1	140.2	140.4	140.5	140.5	140.8
Cigars, domestic, regular	112.9	111.2	111.3	111.6	112.3	112.7	113.0	113.5	113.2	113.2	113.6	114.4	115.3	116.1
Alcoholic beverages	122.5	120.7	121.2	121.3	121.6	121.7	122.3	122.8	122.4	123.2	123.7	124.3	125.3	125.9
Beer	115.6	114.6	114.8	114.9	114.9	114.3	115.2	116.0	115.1	116.2	116.5	117.1	117.7	118.2
Whiskey, spirit blended and straight bourbon	109.2	109.1	109.1	109.2	109.1	108.9	108.9	109.0	109.0	109.5	109.5	109.4	109.5	109.6
Wine, dessert and table	135.2	128.5	129.3	130.0	131.5	135.0	136.5	136.8	136.9	137.3	138.7	140.6	141.8	143.4
Beer, away from home	135.2	132.8	133.8	133.8	134.3	134.6	134.8	135.2	135.1	135.6	136.5	137.2	139.0	139.8
Financial and miscellaneous personal expenses:														
Funeral services, adult	126.4	123.0	123.4	124.1	124.6	125.4	126.1	126.4	127.6	128.5	128.9	129.5	129.8	130.3
Bank service charges, checking accounts	106.3	106.5	106.5	106.5	106.5	107.4	107.4	107.0	107.0	107.0	104.7	104.7	104.8	105.2
Legal services, will	161.8	155.5	155.7	157.1	158.3	158.5	159.4	163.3	163.4	164.6	168.1	168.8	168.9	168.4

[1] Priced only in season.
[2] March 1970=100.
[3] June 1970=100.
[4] December 1971=100.
[5] Discontinued.
[6] January 1972=100.

NOTE: For a description of the general method of computing the monthly Consumer Price Index, see **BLS Handbook of Methods for Surveys and Studies** (BLS Bulletin 1711, 1971), chapter 10.

27. Consumer Price Index [1]—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area [2]	Annual average 1973	1973												1974
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All items														
U.S. city average [3]	133.1	127.7	128.6	129.8	130.7	131.5	132.4	132.7	135.1	135.5	136.6	137.6	138.5	139.7
Atlanta, Ga	133.7	(4)	(4)	130.1	(4)	(4)	132.6	(4)	(4)	137.0	(4)	(4)	138.9	(4)
Baltimore, Md.	134.9	(4)	(4)	131.9	(4)	(4)	133.6	(4)	(4)	137.5	(4)	(4)	140.7	(4)
Boston, Mass	134.7	129.7	(4)	(4)	132.4	(4)	(4)	134.1	(4)	(4)	138.7	(4)	(4)	142.0
Buffalo, N.Y.	.....	(4)	130.3	(4)	(4)	133.2	(4)	(4)	136.6	(4)	(4)	138.6	(4)	(4)
Chicago, Ill.-Northwestern Ind.	132.0	126.4	127.5	129.0	129.9	130.8	131.7	131.4	134.5	134.6	135.7	136.1	136.8	138.7
Cincinnati, Ohio-Kentucky	132.1	(4)	(4)	129.8	(4)	(4)	130.9	(4)	(4)	134.4	(4)	(4)	136.6	(4)
Cleveland, Ohio	.....	(4)	129.9	(4)	(4)	132.7	(4)	(4)	135.9	(4)	(4)	137.5	(4)	(4)
Dallas, Tex.	.....	(4)	127.7	(4)	(4)	130.6	(4)	(4)	133.7	(4)	(4)	135.6	(4)	(4)
Detroit, Mich.	134.5	128.5	129.7	131.1	132.4	133.4	133.7	133.8	136.8	137.3	137.9	139.0	140.0	141.5
Honolulu, Hawaii	128.3	(4)	(4)	126.0	(4)	(4)	127.5	(4)	(4)	129.6	(4)	(4)	132.8	(4)
Houston, Tex.	132.3	127.2	(4)	(4)	130.5	(4)	(4)	131.5	(4)	(4)	136.2	(4)	(4)	139.1
Kansas City, Mo.-Kansas	130.3	(4)	(4)	127.4	(4)	(4)	129.8	(4)	(4)	132.5	(4)	(4)	134.4	(4)
Los Angeles-Long Beach, Calif.	129.2	124.8	125.5	126.4	126.9	127.4	128.5	129.1	130.9	131.2	132.3	133.6	134.1	135.2
Milwaukee, Wis.	.....	(4)	127.0	(4)	(4)	130.0	(4)	(4)	133.2	(4)	(4)	135.7	(4)	(4)
Minneapolis-St. Paul, Minn.	133.0	127.8	(4)	(4)	130.8	(4)	(4)	133.1	(4)	(4)	136.3	(4)	(4)	140.3
New York, N.Y.-Northeastern N.J.	139.7	133.8	135.0	136.5	137.5	138.1	139.1	139.2	141.7	142.3	143.1	144.4	145.9	146.8
Philadelphia, Pa.-N.J.	135.5	129.0	130.6	132.5	133.4	134.1	134.7	134.8	137.1	138.1	139.4	140.5	141.3	142.8
Pittsburgh, Pa.	132.9	127.2	(4)	(4)	131.2	(4)	(4)	132.6	(4)	(4)	136.6	(4)	(4)	139.3
Portland, Oreg.-Wash. [5]	127.3	121.8	(4)	(4)	125.3	(4)	(4)	127.1	(4)	(4)	130.8	(4)	(4)	133.9
St. Louis, Mo.-Ill.	129.3	(4)	(4)	126.2	(4)	(4)	128.1	(4)	(4)	132.3	(4)	(4)	133.8	(4)
San Diego, Calif.	.....	(4)	128.2	(4)	(4)	130.7	(4)	(4)	134.4	(4)	(4)	136.5	(4)	(4)
San Francisco-Oakland, Calif.	131.5	(4)	(4)	128.7	(4)	(4)	130.7	(4)	(4)	134.5	(4)	(4)	135.2	(4)
Scranton, Pa. [5]	.....	(4)	130.0	(4)	(4)	132.7	(4)	(4)	136.3	(4)	(4)	139.7	(4)	(4)
Seattle, Wash.	.....	(4)	123.1	(4)	(4)	126.3	(4)	(4)	128.8	(4)	(4)	131.4	(4)	(4)
Washington, D.C.-Md.-Va.	.....	(4)	130.7	(4)	(4)	133.3	(4)	(4)	136.4	(4)	(4)	139.4	(4)	(4)
Food														
U.S. city average [3]	141.4	128.6	131.1	134.5	136.5	137.9	139.8	140.9	149.4	148.3	148.4	150.0	151.3	153.7
Atlanta, Ga.	144.0	129.9	132.8	136.4	138.6	140.6	142.4	143.9	152.9	151.2	152.5	152.7	154.1	156.1
Baltimore, Md.	143.8	129.7	132.7	137.0	138.8	139.8	141.7	143.1	151.3	151.6	151.4	153.8	155.2	156.6
Boston, Mass.	.....	128.0	130.5	133.6	135.6	136.4	138.5	139.4	146.4	145.4	147.9	149.5	150.4	153.2
Buffalo, N.Y.	.....	128.1	130.6	135.0	137.1	138.2	140.2	140.3	149.1	147.1	147.3	149.1	149.4	151.8
Chicago, Ill.-Northwestern Ind.	142.7	129.0	132.4	125.2	137.3	138.8	141.4	142.0	152.8	149.9	151.1	150.8	152.0	155.3
Cincinnati, Ohio-Kentucky	142.9	128.6	131.6	136.0	138.2	140.0	142.5	143.2	152.1	150.2	149.9	150.6	151.9	152.8
Cleveland, Ohio	.....	128.2	130.8	135.4	138.2	139.5	140.4	142.0	152.0	150.1	147.8	149.2	151.7	153.6
Dallas, Tex.	.....	128.2	131.1	133.6	135.1	136.9	139.1	140.0	149.2	148.2	144.9	146.8	184.2	150.7
Detroit, Mich.	143.6	128.5	131.1	135.1	138.2	138.6	141.3	142.7	154.6	152.9	152.1	153.3	154.3	158.2
Honolulu, Hawaii	135.2	126.6	128.0	129.6	131.4	132.7	133.4	134.0	136.1	138.9	141.6	144.4	146.1	147.7
Houston, Tex.	.....	130.7	133.6	136.6	137.3	139.1	140.3	141.7	151.8	151.3	151.8	152.1	153.3	155.6
Kansas City, Mo.-Kansas	141.4	127.9	130.4	133.3	136.3	138.1	139.8	141.2	149.5	148.9	149.1	149.9	151.8	153.3
Los Angeles-Long Beach, Calif.	136.5	125.7	127.7	129.8	132.4	133.6	135.5	136.1	141.9	142.5	141.9	144.7	146.4	149.7
Milwaukee, Wis.	.....	125.7	128.7	132.3	133.4	134.5	136.1	137.5	145.8	144.8	145.6	147.7	148.8	151.0
Minneapolis-St. Paul, Minn.	.....	130.6	132.6	135.1	136.6	138.6	139.9	141.7	149.1	148.7	149.1	150.1	151.9	154.1
New York, N.Y.-Northeastern N.J.	145.4	133.4	135.6	139.0	140.4	141.9	143.7	145.0	152.7	152.1	152.1	154.1	155.3	157.9
Philadelphia, Pa.-N.J.	142.7	129.0	132.1	136.5	138.1	139.5	140.7	141.8	150.5	149.3	149.5	152.1	153.1	156.7
Pittsburgh, Pa.	.....	127.3	130.2	134.9	136.6	137.4	139.7	141.4	150.9	149.6	149.4	151.4	152.0	155.1
Portland, Oreg.-Wash. [5]	.....	123.8	-----	-----	131.1	-----	-----	133.8	-----	-----	139.5	-----	-----	143.8
St. Louis, Mo.-Ill.	140.2	127.1	129.2	132.9	134.5	136.0	138.7	140.4	149.8	148.1	147.4	148.5	150.1	152.6
San Diego, Calif.	.....	129.8	131.5	134.0	134.7	137.2	138.2	138.9	146.2	146.4	144.1	146.5	147.7	151.1
San Francisco-Oakland, Calif.	138.0	127.8	129.5	131.6	134.2	135.2	137.5	138.3	144.4	144.9	143.0	143.6	145.6	146.8
Scranton, Pa. [5]	.....	-----	131.0	-----	-----	136.5	-----	-----	149.7	-----	-----	150.5	-----	-----
Seattle, Wash.	.....	127.1	128.5	130.1	132.5	133.9	135.3	136.2	142.5	140.0	141.1	143.4	145.4	146.8
Washington, D.C.-Md.-Va.	.....	132.0	134.3	138.4	140.3	141.5	143.7	145.6	152.6	151.6	153.8	155.3	156.8	160.5

[1] See table 25. Indexes measure time-to-time changes in prices. They do not indicate whether it costs more to live in one area than in another.

[2] 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.

[3] Average of 56 "cities" (metropolitan areas and nonmetropolitan urban places beginning January 1966).

[4] All items indexes are computed monthly for 5 areas and once every 3 months on a rotating cycle for other areas.

[5] Old series (old market basket components).

28. Wholesale Price Index,[1] by group and subgroup of commodities

[1967 = 100 unless otherwise specified]

Code	Commodity group	Annual average 1973	1973												1974
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
	All commodities	135.5	124.5	126.9	129.7	130.7	133.5	136.7	134.9	142.7	140.2	139.5	141.8	145.3	150.4
	All commodities (1957–59=100)	143.8	132.1	134.6	137.6	138.7	141.6	145.0	143.1	151.4	148.8	148.0	150.4	154.2	159.6
	Farm products and processed foods and feeds	159.1	137.0	142.4	149.0	147.9	154.9	163.6	156.9	184.5	173.5	166.8	164.4	168.0	177.8
	Industrial commodities	127.0	120.0	121.3	122.7	124.4	125.8	126.9	126.9	127.4	128.1	129.6	133.5	137.1	140.5
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	**Farm products**	176.3	144.2	150.9	160.9	160.6	170.4	182.3	173.3	213.3	200.4	188.4	184.0	187.2	202.6
01-1	Fresh and dried fruits and vegetables	168.1	151.2	146.9	158.5	176.0	186.0	197.5	187.8	162.2	149.0	162.1	168.2	171.6	184.5
01-2	Grains	183.6	135.6	128.2	126.1	130.9	149.9	178.6	157.2	266.4	231.5	229.0	220.8	248.7	270.8
01-3	Livestock	190.4	159.4	177.8	194.4	184.1	188.7	193.8	199.3	243.3	207.4	185.5	180.0	171.0	197.3
01-4	Live poultry	179.5	127.9	137.0	164.8	185.8	180.3	184.5	189.5	269.7	226.5	189.2	154.4	144.5	143.2
01-5	Plant and animal fibers	197.8	134.1	140.0	152.7	154.7	171.4	177.7	186.4	228.5	267.9	266.5	234.0	259.3	274.7
01-6	Fluid milk	145.0	126.7	128.5	130.3	130.4	132.9	133.3	133.3	143.4	158.7	168.2	117.2	177.2	184.6
01-7	Eggs	165.7	158.2	130.1	152.6	144.9	137.1	159.4	155.2	209.6	191.5	177.7	181.2	190.6	197.8
01-8	Hay, hayseeds, and oilseeds	220.1	143.9	178.1	188.1	186.9	243.0	299.9	187.4	293.6	304.5	211.1	194.3	210.5	216.9
01-9	Other farm products	147.4	136.5	140.5	143.3	142.1	146.0	148.1	151.9	150.4	153.2	154.7	152.6	149.1	153.4
02	**Processed foods and feeds**	148.1	132.4	137.0	141.4	139.8	145.0	151.8	146.5	166.2	156.3	153.1	151.9	155.7	162.1
02-1	Cereal and bakery products	134.4	121.0	120.8	121.3	123.7	124.3	125.9	125.5	136.2	147.7	150.5	156.2	160.1	166.3
02-2	Meats, poultry, and fish	167.5	145.2	153.1	165.1	163.2	162.5	164.9	169.7	198.3	187.3	170.2	165.0	164.9	177.8
02-3	Dairy products	131.1	123.8	124.0	126.8	127.2	126.5	127.5	127.1	131.3	137.2	139.6	139.9	142.3	145.1
02-4	Processed fruits and vegetables	129.6	125.3	125.9	126.2	126.6	127.2	127.9	127.7	129.3	130.0	135.0	136.3	137.8	139.3
02-5	Sugar and confectionery	132.3	121.5	124.4	125.7	126.9	129.0	131.0	131.1	135.7	136.9	139.8	143.8	142.0	151.8
02-6	Beverages and beverage materials	121.7	119.8	120.0	120.8	121.4	121.9	121.4	121.1	121.2	121.6	123.0	123.8	124.4	125.6
02-71	Animal fats and oils	230.4	120.6	134.7	174.1	176.7	195.0	221.3	227.4	428.9	264.7	308.8	247.8	264.8	277.5
02-72	Crude vegetable oils	174.6	96.3	123.1	139.3	145.0	153.1	168.8	169.7	284.6	195.2	223.0	164.7	232.5	227.5
02-73	Refined vegetable oils	154.4	110.0	120.3	132.5	136.1	147.0	164.8	164.8	164.8	164.8	180.5	159.1	208.6	225.8
02-74	Vegetable oil end products	143.6	119.7	122.2	127.0	125.6	131.6	137.4	137.2	161.6	160.1	167.6	164.8	168.7	177.2
02-8	Miscellaneous processed foods	123.3	116.6	117.3	118.7	118.7	118.9	119.9	123.4	128.5	128.1	129.3	129.4	130.7	134.3
02-9	Manufactured animal feeds	198.7	166.3	182.5	182.3	166.7	211.3	257.8	197.0	261.8	190.1	184.5	183.3	201.0	203.3
	INDUSTRIAL COMMODITIES														
03	**Textile products and apparel**	123.8	116.6	117.4	119.0	120.8	122.3	123.7	124.2	125.2	126.8	128.5	130.0	131.4	133.8
03-1	Cotton products	143.6	126.0	128.2	130.0	133.3	137.4	141.3	144.6	147.3	153.1	155.5	161.2	165.3	171.5
03-2	Wool products	128.2	114.5	119.2	127.7	129.8	127.5	131.3	132.1	134.9	133.7	130.2	128.9	128.7	128.6
03-3	Manmade fiber textile products	121.8	111.4	111.8	115.2	118.7	121.5	122.9	123.1	123.7	126.7	127.7	128.6	129.7	130.7
03-5	Apparel	119.0	116.5	116.8	117.0	117.7	118.4	118.8	118.8	119.3	119.5	[c]121.5	121.9	122.2	123.7
03-6	Textile housefurnishings	113.3	109.9	110.3	110.5	110.5	110.5	111.5	111.5	112.2	112.3	[c]115.2	119.1	126.4	133.0
03-7	Miscellaneous textile products	124.7	120.0	120.4	120.4	121.9	127.4	126.0	124.2	124.3	121.4	[c]127.0	132.0	131.9	139.0
04	**Hides, skins, leather, and related products**	143.1	143.9	144.9	143.5	145.0	142.2	140.9	141.4	143.0	143.8	143.8	143.0	141.9	142.6
04-1	Hides and skins	253.9	274.0	272.7	246.4	270.2	253.5	241.6	246.3	261.6	257.3	256.3	239.8	227.3	220.9
04-2	Leather	160.1	162.8	162.9	164.5	161.1	159.7	156.4	156.8	157.5	162.8	160.7	160.4	156.1	155.7
04-3	Footwear	130.5	129.0	130.9	131.1	131.5	129.3	129.3	129.5	129.7	130.3	131.0	131.9	132.5	134.0
04-4	Other leather and related products	129.8	129.3	129.4	129.4	129.9	129.1	129.0	129.2	130.6	130.4	130.5	130.1	130.3	131.9
05	**Fuels and related products and power**	145.5	122.2	126.0	126.7	131.8	135.5	142.8	142.8	142.9	144.8	150.5	179.2	201.3	214.6
05-1	Coal	218.1	205.5	206.9	207.4	213.8	214.2	215.1	214.0	214.4	222.6	224.1	239.0	240.7	249.3
05-2	Coke	166.6	162.5	164.6	164.6	166.9	167.2	167.2	167.2	167.2	167.3	167.3	167.3	170.0	174.1
05-3	Gas fuels	126.7	118.4	118.6	118.9	120.1	121.4	128.0	128.7	130.4	132.2	133.4	133.1	137.6	137.1
05-4	Electric power	129.3	123.8	125.9	126.8	127.6	128.2	128.4	129.0	129.1	130.9	132.1	133.5	135.9	137.5
05-61	Crude petroleum	126.0	114.7	114.7	114.9	117.1	122.0	125.3	125.8	125.8	133.3	133.3	139.3	146.2	178.4
05-7	Petroleum products, refined	151.4	112.3	118.7	119.4	127.9	133.9	146.6	146.1	145.9	146.1	156.6	210.9	252.0	271.4
06	**Chemicals and allied products**	110.0	105.1	105.6	106.7	107.7	109.3	110.4	110.8	111.0	111.5	112.7	113.5	115.6	118.2
06-1	Industrial chemicals	103.4	101.4	101.8	101.9	102.6	102.7	103.0	103.4	103.5	104.3	105.3	105.4	105.9	108.1
06-21	Prepared paint	122.2	119.4	119.4	119.9	120.3	120.8	121.0	121.0	121.0	121.2	126.0	128.1	128.6	130.1
06-22	Paint materials	113.2	106.5	107.7	107.7	108.9	110.4	113.0	114.9	115.7	116.2	116.8	117.1	123.6	128.7
06-3	Drugs and pharmaceuticals	104.3	103.5	103.6	103.8	103.8	104.0	104.4	104.4	104.3	104.7	104.7	104.9	105.1	105.3
06-4	Fats and oils, inedible	228.3	130.3	139.1	173.9	184.0	232.0	263.6	263.2	273.2	279.5	273.0	241.8	286.0	298.0
06-5	Agricultural chemicals and chemical products	96.6	93.0	93.1	93.6	94.5	94.7	95.0	96.7	95.9	95.9	95.9	104.9	106.1	112.3
06-6	Plastic resins and materials	92.1	89.7	90.0	90.5	91.3	92.4	92.7	93.1	93.3	93.1	92.4	93.1	93.0	93.7
06-7	Other chemicals and allied products	118.1	113.9	114.2	115.1	116.3	117.7	118.0	118.1	118.2	118.3	121.2	122.1	124.6	127.1
07	**Rubber and plastic products**	112.4	110.0	110.1	110.3	110.6	111.5	112.6	112.9	113.1	112.8	114.0	114.8	116.5	117.7
07-1	Rubber and rubber products	118.1	115.0	115.1	115.5	115.7	117.1	118.0	118.5	118.9	118.4	120.2	121.2	123.5	124.7
07-11	Crude rubber	111.9	102.7	104.8	107.2	108.5	108.9	112.8	115.8	118.1	113.4	111.4	113.9	125.8	126.9
07-12	Tires and tubes	111.4	109.7	109.3	109.3	109.4	110.0	110.4	110.4	110.4	110.4	115.1	116.3	116.3	118.0
07-13	Miscellaneous rubber products	124.8	122.3	122.3	122.5	122.5	124.7	125.2	125.4	125.4	125.8	126.4	126.8	128.2	129.0
07-21	Plastic construction products [2]	94.1	94.0	94.3	93.9	93.8	94.0	93.9	93.8	94.0	94.0	94.7	94.4	94.8	95.4
07-22	Unsupported plastic film and sheeting [3]	100.3	98.7	98.8	99.1	99.2	99.2	101.1	100.8	100.8	100.9	101.1	101.4	102.2	104.1
07-23	Laminated plastic sheets, high pressure [3]	97.8	97.5	96.2	95.2	96.6	97.9	97.7	98.7	98.1	98.5	97.7	99.5	99.9	99.3
08	**Lumber and wood products**	177.2	151.0	161.0	173.2	182.0	186.9	183.1	177.8	178.8	181.9	180.3	184.7	186.1	183.7
08-1	Lumber	205.2	169.0	182.3	195.8	207.2	215.4	214.8	209.6	210.8	216.9	214.5	211.1	214.8	213.3
08-2	Millwork	144.2	131.4	133.4	134.8	141.2	146.5	147.7	148.3	149.0	149.4	149.5	150.4	151.4	151.4
08-3	Plywood	155.2	134.1	149.4	176.8	182.5	177.7	154.9	138.0	140.1	138.2	134.6	169.9	166.0	154.8
08-4	Other wood products	149.7	133.1	135.1	140.9	147.4	149.6	151.9	152.9	153.2	155.9	158.2	159.0	159.1	159.2

See footnotes at end of table.

28. Continued—Wholesale Price Index,[1] by group and subgroup of commodities

Code	Commodity group	Annual average 1973	1973											1974
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
	INDUSTRIAL COMMODITIES—Continued														
09	**Pulp, paper, and allied products**	122.1	115.8	116.5	118.3	119.8	120.7	122.0	122.3	123.3	124.4	125.9	127.6	128.7	131.8
09-1	Pulp, paper, and products, excluding building paper and board	122.5	116.1	116.9	118.6	120.2	121.1	122.4	122.7	123.7	124.8	126.1	127.9	129.1	132.2
09-11	Woodpulp	128.3	111.5	111.5	111.5	122.2	122.4	122.4	130.8	133.3	133.3	145.7	146.2	149.3	150.0
09-12	Wastepaper	197.4	133.8	135.8	136.9	149.3	168.1	187.6	187.6	187.6	230.5	252.9	293.2	304.9	314.2
09-13	Paper	121.4	117.8	118.5	119.2	120.2	120.8	122.5	121.8	121.5	121.7	122.3	124.7	125.2	126.8
09-14	Paperboard	115.1	108.2	109.7	110.7	113.0	114.6	116.7	116.7	116.7	116.7	118.0	119.7	120.7	127.0
09-15	Converted paper and paperboard products	121.6	116.6	117.3	120.0	120.4	121.0	121.5	121.5	123.2	123.8	123.8	124.4	125.3	128.6
09-2	Building paper and board	112.8	107.1	108.1	108.5	109.3	110.8	111.7	112.2	112.8	115.9	117.7	118.8	120.1	121.7
10	**Metals and metal products**	132.8	125.6	126.9	129.2	130.5	131.7	132.5	132.8	133.7	134.4	135.9	138.5	141.8	145.0
10-1	Iron and steel	136.2	131.9	133.0	133.3	134.0	135.3	135.9	135.9	136.0	136.5	138.6	141.6	142.4	144.7
10-13	Steel mill products	134.1	132.6	132.7	133.2	133.7	134.1	134.3	134.3	134.3	134.3	135.3	135.3	135.3	138.1
10-2	Nonferrous metals	135.0	117.9	121.0	128.3	131.4	133.2	135.0	135.9	137.9	138.5	140.7	144.9	155.6	161.1
10-3	Metal containers	134.7	131.1	130.8	135.7	135.7	135.7	135.7	135.6	135.5	135.6	134.8	134.8	134.8	138.7
10-4	Hardware	124.7	121.7	121.9	122.1	122.8	123.3	124.0	124.5	124.5	126.8	127.7	128.2	129.1	130.2
10-5	Plumbing fixtures and brass fittings	125.8	120.8	121.6	123.3	124.8	125.8	126.2	126.3	126.4	127.2	127.8	129.1	130.2	133.5
10-6	Heating equipment	120.4	118.8	119.2	119.5	120.5	120.2	120.7	120.9	120.7	120.7	120.8	121.1	121.6	122.9
10-7	Fabricated structural metal products	127.4	124.4	124.7	125.0	125.7	126.7	126.9	127.1	127.8	128.7	129.6	130.9	131.8	135.4
10-8	Miscellaneous metal products	129.5	125.2	125.8	126.7	127.3	128.3	128.7	129.1	130.9	131.4	132.2	133.8	134.7	136.9
11	**Machinery and equipment**	121.7	118.9	119.4	120.0	120.8	121.5	121.9	122.0	122.3	122.6	123.1	123.8	124.6	126.0
11-1	Agricultural machinery and equipment	125.9	123.6	124.4	124.7	124.7	125.0	125.4	125.5	125.5	125.6	127.5	128.9	129.4	130.9
11-2	Construction machinery and equipment	130.7	126.6	127.4	128.6	130.4	130.9	131.3	131.3	131.4	131.4	132.5	132.7	134.1	135.9
11-3	Metalworking machinery and equipment	125.5	121.8	122.5	123.4	124.5	125.2	125.6	125.8	125.8	126.6	127.5	128.0	128.9	131.2
11-4	General purpose machinery and equipment	127.0	123.9	124.3	124.9	125.6	126.4	127.2	127.4	127.4	127.6	128.4	130.3	130.7	132.5
11-6	Special industry machinery and equipment	130.1	124.9	126.5	127.0	128.5	129.0	130.0	130.2	131.7	132.6	132.9	133.3	134.9	136.0
11-7	Electrical machinery and equipment	112.4	110.9	111.0	111.3	111.7	112.3	112.7	112.7	112.7	112.8	113.0	113.3	114.0	115.1
11-9	Miscellaneous machinery	124.0	121.1	121.5	122.4	123.1	124.4	124.4	124.4	124.7	125.0	125.2	125.6	126.3	127.8
12	**Furniture and household durables**	115.2	112.6	113.1	113.5	114.1	115.1	115.2	115.2	115.9	116.0	116.6	117.2	117.5	119.0
12-1	Household furniture	123.0	119.1	119.4	120.0	121.8	122.3	123.3	123.2	123.6	124.4	125.2	126.6	127.1	128.9
12-2	Commercial furniture	129.4	123.6	123.8	123.8	123.8	130.6	130.6	130.6	132.2	132.8	133.6	133.9	134.0	136.3
12-3	Floor coverings	102.2	99.7	100.9	101.1	101.7	102.5	102.7	102.7	102.7	102.6	103.3	103.4	103.6	106.1
12-4	Household appliances	108.5	107.8	108.2	108.4	108.3	108.0	107.4	107.7	109.0	109.0	109.1	109.5	109.8	111.3
12-5	Home electronic equipment	91.9	92.4	92.4	92.2	92.2	92.2	91.6	91.6	92.0	91.5	91.5	91.5	91.1	91.3
12-6	Other household durable goods	130.4	127.0	128.1	129.1	130.3	130.8	131.0	130.8	130.8	130.5	131.3	132.0	132.9	133.9
13	**Nonmetallic mineral products**	130.2	128.2	128.4	129.0	130.0	130.5	131.1	130.0	130.0	129.9	130.9	131.5	132.6	138.7
13-11	Flat glass	121.4	122.5	122.5	124.1	124.1	124.4	122.2	117.9	117.9	118.2	118.2	120.6	123.6	124.6
13-2	Concrete ingredients	131.2	129.0	129.2	129.9	131.6	131.4	131.6	131.7	131.7	131.7	131.9	132.0	132.1	138.9
13-3	Concrete products	131.7	128.5	128.9	129.6	130.8	131.5	132.3	132.3	132.3	132.5	133.6	134.1	134.5	139.8
13-4	Structural clay products excluding refractories	123.3	120.3	121.5	122.2	123.0	123.6	123.8	123.8	123.9	123.9	124.6	124.6	124.8	127.2
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	136.3	136.3
13-6	Asphalt roofing	135.5	131.2	131.2	131.2	134.1	136.6	136.6	136.3	136.3	136.3	136.8	139.7	139.7	150.3
13-7	Gypsum products	120.9	117.4	115.8	118.1	119.6	120.4	124.1	122.9	122.5	122.0	122.4	122.0	123.3	127.9
13-8	Glass containers	138.9	136.4	136.4	136.4	136.8	136.8	141.6	137.1	137.4	137.1	143.5	143.5	143.5	143.5
13-9	Other nonmetallic minerals	128.4	127.8	128.0	128.3	128.5	129.1	129.5	128.1	128.0	127.3	127.3	127.7	131.7	150.7
14	**Transportation equipment**[4]	115.1	114.1	114.2	114.5	114.9	115.1	115.0	115.0	115.1	114.5	115.9	116.1	117.3	118.6
14-1	Motor vehicles and equipment	119.2	118.2	118.2	118.6	119.0	119.1	118.9	119.0	119.0	118.3	120.0	120.1	121.4	122.9
14-4	Railroad equipment	134.7	131.8	132.2	132.7	133.4	134.3	134.8	134.8	135.2	136.1	136.2	136.7	138.6	140.2
15	**Miscellaneous products**	119.7	115.8	117.1	117.9	118.6	119.5	120.2	120.9	121.0	121.1	121.0	121.3	121.6	123.5
15-1	Toys, sporting goods, small arms, ammunition	117.9	116.2	116.5	117.1	117.2	117.3	117.5	117.6	117.8	118.3	119.2	119.9	120.0	124.4
15-2	Tobacco products	121.9	117.5	121.0	121.8	122.0	122.3	122.5	122.5	122.5	122.5	122.7	122.8	123.0	123.0
15-3	Notions	114.3	112.9	113.1	113.1	113.1	114.5	114.5	113.1	113.6	113.6	115.5	117.1	118.0	118.9
15-4	Photographic equipment and supplies	108.4	107.3	107.5	108.5	108.4	108.2	108.4	108.5	108.5	108.6	108.6	108.7	109.2	109.2
15-9	Other miscellaneous products	125.4	118.6	118.9	119.9	122.2	124.7	127.0	129.5	129.5	129.5	127.8	128.2	128.5	132.1

[1] As of January 1967, the index incorporated a revised weighting structure reflecting 1963 values of shipments. Changes also were made in the classification structure, and titles and composition of some indexes were changed. Titles and indexes in this table conform with the revised classification structure, and may differ from data previously published. See Wholesale Prices and Price Indexes, January 1967 (final) and February 1967 (final) for a description of the changes.

[2] December 1969 = 100.

[3] December 1970 = 100.

[4] December 1968 = 100.

NOTE: For a description of the general method of computing the monthly Wholesale Price Index, see **BLS Handbook of Methods** (BLS Bulletin 1711, 1971), chapter 11.

29. Wholesale Price Index for special commodity groupings [1]

[1967 = 100 unless otherwise specified]

Commodity group	Annual average 1973	1972	1973											
		Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
All commodities—less farm products	130.8	121.2	122.2	124.1	126.1	127.2	129.2	131.4	130.5	134.5	133.2	133.8	136.8	140.4
All foods	146.9	127.3	132.0	133.9	140.4	141.6	142.6	146.0	146.7	160.2	156.4	154.1	153.4	156.0
Processed foods	144.4	126.1	129.4	132.9	138.4	138.4	138.9	141.0	142.8	158.4	155.9	152.5	151.1	153.5
Textile products, excluding hard and bast fiber products	128.7	114.8	116.3	117.8	120.9	123.8	126.1	128.6	129.8	131.4	134.5	135.6	138.2	140.8
Hosiery	96.4	96.2	96.2	96.1	96.1	96.1	96.1	96.4	96.3	96.2	96.4	96.5	96.7	97.6
Underwear and nightwear	113.6	110.4	111.5	111.6	111.8	112.1	113.1	113.6	113.6	113.6	114.3	115.1	116.2	116.2
Refined petroleum products	151.4	112.0	112.3	118.7	119.4	127.9	133.9	146.6	146.1	145.9	146.1	156.6	210.9	252.0
East Coast	137.1	119.9	119.9	128.9	129.4	129.4	130.0	137.7	137.7	130.0	130.1	142.0	162.2	167.3
Mid-Continent	125.8	103.1	103.1	108.1	111.0	111.2	115.9	125.5	125.5	125.5	125.6	134.9	150.7	172.9
Gulf Coast	181.1	110.3	110.6	118.7	118.7	139.8	149.5	172.0	172.0	172.0	172.1	185.3	290.6	371.8
Pacific Coast	134.1	115.2	115.9	122.2	122.2	122.2	123.0	123.0	124.8	126.2	126.2	136.3	178.1	189.4
Midwest	136.7	113.1	113.1	118.1	120.2	120.6	128.4	139.7	135.8	135.8	136.6	147.0	162.3	182.9
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns [3]	106.9	104.1	104.3	104.5	104.9	105.6	106.2	106.5	106.9	106.9	107.2	108.5	109.8	110.9
Pharmaceutical preparations	104.3	103.8	103.6	103.6	103.9	103.9	104.1	104.6	104.6	104.5	104.4	104.4	104.7	104.7
Lumber and wood products, excluding millwork and other wood products [4]	192.5	158.8	160.1	173.9	190.9	200.9	205.8	199.6	191.4	192.8	197.0	194.3	200.6	202.4
Special metals and metal products [5]	128.2	122.4	123.1	124.0	125.7	126.6	127.4	127.9	128.1	128.7	128.9	130.5	132.3	134.8
Fabricated metal products [6]	128.2	124.1	124.6	125.0	126.0	126.6	127.4	127.8	128.0	128.9	129.7	130.4	131.5	132.3
Copper and copper products [7]	140.2	117.2	118.3	121.7	133.6	137.5	138.6	140.7	141.6	145.3	145.3	147.7	153.5	158.4
Machinery and motive products	121.1	118.7	118.9	119.2	119.8	120.4	120.9	121.2	121.2	121.4	121.4	122.3	122.7	123.7
Machinery and equipment, except electrical	127.1	123.1	123.5	124.2	125.0	126.0	126.7	127.3	127.4	127.8	128.2	128.9	129.7	130.6
Agricultural machinery, including tractors	126.3	123.3	124.0	124.9	125.2	125.2	125.4	125.8	125.9	125.9	125.9	128.0	129.4	129.9
Metalworking machinery	128.3	122.8	123.5	124.3	125.7	127.2	128.0	128.4	128.6	128.6	129.9	131.1	131.7	133.0
Numerically controlled machine tools (Dec. 1971 = 100)	109.8	102.9	107.8	107.9	108.4	108.6	109.4	109.8	109.7	109.7	110.6	111.0	111.4	113.5
Total tractors	129.1	125.9	126.4	127.3	127.9	128.1	128.5	128.9	128.9	128.9	128.9	130.7	131.6	132.8
Industrial valves	126.9	122.4	122.9	122.9	123.5	124.4	125.5	126.4	127.8	127.2	127.7	129.4	132.3	132.6
Industrial fittings	127.4	119.2	123.0	125.0	125.3	125.3	126.1	127.3	127.3	127.3	127.3	129.5	132.5	132.5
Abrasive grinding wheels	127.8	126.8	126.8	126.8	127.5	127.2	127.8	127.9	127.9	127.9	127.9	127.9	128.8	128.9
Construction materials	138.5	128.5	129.4	132.3	136.2	139.1	140.8	140.1	138.6	138.9	140.1	140.4	142.4	143.5

[1] As of January 1967, the index incorporated a revised weighting structure reflecting 1963 values of shipments. Changes were also made in the classification structure, and titles and composition of some indexes were changed. Titles and indexes in this table conform with the revised classification structure, and may differ from data previously published. See **Wholesale Prices and Price Indexes, January 1967** (final) and February 1967 (final) for a description of the changes.

[2] Introduced in February 1971.

[3] Formerly titled "Lumber and wood products, excluding millwork."

[4] Metals and metal products, agricultural machinery and equipment, and motor vehicles and equipment.

[5] Introduced in July 1972. See **Wholesale Prices and Price Indexes, July 1972** for a description.

[6] Formerly titled "Copper and copper base metals."

30. Wholesale Price Index,[1] by durability of product

[1967 = 100]

Commodity group	Annual average 1973	1973												1974
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All commodities	135.5	124.5	126.9	129.7	130.7	133.5	136.7	134.9	142.7	140.2	139.5	141.8	145.3	150.4
Total durable goods	127.9	122.7	123.9	125.6	127.0	128.0	128.2	128.0	128.5	128.9	129.7	131.1	132.7	134.8
Total nondurable goods	141.3	125.9	129.2	132.9	133.5	137.7	143.1	140.1	153.3	148.7	145.9	149.8	154.8	162.1
Total manufactures	130.1	121.6	123.6	125.7	126.7	128.7	130.9	129.8	134.0	132.5	133.0	135.8	139.4	143.1
Durable	127.4	122.6	123.7	125.4	126.7	127.7	127.8	127.6	128.0	128.3	129.0	130.1	131.6	133.8
Nondurable	132.9	120.6	123.4	125.9	126.6	129.7	134.0	132.0	140.1	136.6	136.9	141.6	147.3	152.6
Total raw or slightly processed goods	162.5	138.7	143.5	150.0	150.7	157.4	165.6	160.3	185.9	178.9	172.2	171.5	174.8	186.5
Durable	149.4	124.4	132.6	134.5	138.1	141.9	146.7	146.8	151.1	153.2	162.5	178.2	183.3	181.8
Nondurable	163.2	139.5	144.1	150.8	151.3	158.3	166.6	161.0	187.8	180.3	172.7	171.1	174.3	186.7

[1] As of January 1967, the index incorporated a revised weighting structure reflecting 1963 values of shipments. Changes were also made in the classification structure, and titles and composition of some indexes were changed. Titles and indexes in this table conform with the revised classification structure and may differ from data previously published. See **Wholesale Prices and Price Indexes,** January 1967 (final) and February 1967 (final) for a description of the changes.

NOTE: For a description of the series by durability of product and data beginning with 1947, see **Wholesale Prices and Price Indexes, 1957** (BLS Bulletin 1235, 1958).

31. Wholesale Price Index,[1] by stage of processing

[1967 = 100]

Commodity group	Annual average 1973	1973												1974
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All commodities	135.5	124.5	126.9	129.7	130.7	133.5	136.7	134.9	142.7	140.2	139.5	141.8	145.3	150.4
RAW MATERIALS														
Crude materials for further processing	174.0	143.3	151.3	159.0	158.8	167.7	177.5	170.9	207.5	197.1	185.7	182.7	186.4	201.3
Foodstuffs and feedstuffs	179.6	146.4	156.0	166.2	164.2	173.7	185.4	177.7	226.2	200.7	189.2	184.2	185.3	203.2
Nonfood materials except fuel	161.5	132.1	138.1	141.4	144.6	154.2	161.8	155.9	172.7	184.7	180.8	180.8	190.0	201.4
Manufacturing	165.4	133.2	139.7	143.4	146.8	157.4	165.8	159.3	177.7	190.9	186.7	186.7	197.3	209.1
Construction	124.9	123.4	123.8	124.3	124.6	125.0	125.3	125.3	125.3	125.4	125.4	125.4	125.8	128.0
Crude fuel	164.5	155.5	156.3	156.9	160.4	161.6	162.6	163.0	164.4	169.2	169.9	175.0	179.5	182.4
Manufacturing industries	153.2	145.2	145.8	146.3	149.1	150.5	151.6	152.1	153.8	157.8	158.3	161.5	166.6	168.3
Nonmanufacturing industries	179.4	169.2	170.2	170.8	175.2	176.2	177.2	177.2	178.4	184.3	185.2	192.7	196.5	201.0
INTERMEDIATE MATERIALS														
Intermediate materials, supplies and components	131.9	123.1	125.1	127.4	128.5	131.5	134.3	131.8	136.1	133.9	134.6	136.5	139.6	143.5
Materials and components for manufacturing	127.8	119.7	121.1	123.5	125.1	126.6	127.8	128.1	130.6	130.8	131.7	132.8	135.7	139.3
Materials for food manufacturing	146.0	126.9	130.8	136.0	136.4	138.1	142.6	143.3	163.5	157.6	158.7	156.0	162.6	173.5
Materials for nondurable manufacturing	121.4	112.6	113.6	115.7	117.9	120.0	121.9	122.4	123.6	125.1	126.3	127.7	130.2	133.6
Materials for durable manufacturing	133.7	125.9	127.7	130.9	132.7	134.0	134.3	134.1	134.5	135.0	135.9	137.8	141.7	144.7
Components for manufacturing	121.4	118.5	118.8	119.6	120.1	121.0	121.3	121.6	122.0	122.3	122.9	123.8	124.5	126.1
Materials and components for construction	136.7	128.6	130.9	134.2	136.8	138.5	137.9	136.7	137.3	138.3	138.7	140.7	142.0	145.0
Processed fuels and lubricants	135.5	121.8	124.6	125.4	128.8	130.0	134.3	134.8	135.2	136.5	139.7	153.2	161.9	175.8
Manufacturing industries	131.7	124.7	126.8	127.6	128.4	129.1	131.0	131.6	131.8	133.5	135.5	138.8	141.3	147.4
Nonmanufacturing industries	141.5	117.3	121.2	122.0	129.5	131.4	139.5	139.9	140.4	141.3	146.4	175.6	193.7	219.9
Containers	129.2	124.9	125.2	128.5	128.7	128.9	129.9	129.0	130.3	130.6	131.4	131.5	132.0	134.8
Supplies	140.6	129.8	133.6	134.6	131.9	142.9	154.7	139.8	156.3	140.3	139.2	139.8	144.2	146.3
Manufacturing industries	121.1	117.3	117.8	119.3	119.8	120.4	121.2	121.2	122.1	122.7	123.1	123.6	124.3	126.5
Nonmanufacturing industries	150.7	136.2	141.7	142.5	138.1	154.5	172.1	149.4	174.0	149.3	147.4	148.2	154.5	156.5
Manufactured animal feeds	201.5	169.3	184.0	184.0	169.2	214.3	263.2	199.8	266.9	193.0	187.3	185.6	201.7	203.5
Other supplies	123.7	118.4	119.1	120.3	121.2	123.1	124.6	122.7	125.6	126.0	126.1	128.0	129.3	131.5
FINISHED GOODS														
Finished goods (including raw foods and fuels)	129.5	121.0	122.5	124.6	125.6	126.8	128.7	128.8	132.9	132.2	132.8	136.8	140.7	144.5
Consumer goods	131.2	121.2	122.9	125.5	126.6	127.9	130.2	130.4	135.4	134.5	135.0	139.9	144.7	149.1
Foods	146.4	131.8	134.1	140.2	140.7	141.9	145.0	145.4	158.6	156.1	153.6	153.7	155.7	162.7
Crude	160.7	145.6	137.8	147.6	153.6	157.3	166.0	162.0	165.2	164.2	170.6	178.0	180.5	188.7
Processed	143.9	129.3	133.4	138.8	138.4	139.2	141.3	142.4	157.4	154.9	150.6	149.3	151.3	158.1
Other nondurable goods	125.9	115.4	117.4	117.8	119.8	121.6	124.7	124.5	124.5	124.8	128.2	140.9	151.1	154.6
Durable goods	115.8	113.8	114.0	114.5	115.3	115.7	115.9	116.1	116.3	115.8	116.7	117.0	117.9	119.6
Producer finished goods	123.5	120.6	121.2	121.7	122.3	123.1	123.4	123.5	123.9	124.2	125.1	125.7	126.7	128.3
Manufacturing industries	125.0	121.1	122.0	122.6	123.7	124.5	125.0	125.2	125.8	126.5	127.1	127.7	128.8	130.4
Nonmanufacturing industries	122.3	120.1	120.4	120.9	121.3	122.1	122.2	122.2	122.4	122.5	123.6	124.1	125.2	126.9
SPECIAL GROUPINGS														
Crude materials for further processing, excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco	155.2	139.1	142.3	142.5	146.8	149.6	152.8	153.5	156.0	161.0	164.7	174.2	179.8	188.2
Intermediate materials, supplies and components, excluding intermediate materials for food manufacturing and manufactured animal feeds	128.4	121.2	122.6	124.8	126.6	128.0	128.9	128.7	129.5	130.3	131.2	133.5	135.9	139.8
Consumer finished goods, excluding consumer foods	121.9	114.8	116.0	116.5	118.0	119.3	121.3	121.2	121.3	121.3	123.7	113.6	138.2	141.0

[1] As of January 1967, the index incorporated a revised weighting structure reflecting 1963 values of shipments. Changes were also made in the classification structure, and titles and composition of some indexes were changed. Titles and indexes in this table conform with the revised classification structure, and may differ from data previously published. See **Wholesale Prices and Price Indexes,** January 1967 (final) and February 1967 (final) for a description of the changes.

NOTE: For a description of the series by stage of processing see **Wholesale Prices and Price Indexes,** January 1967 (final) and February 1967 (final).

32. Price indexes for the output of selected SIC industries [1]

[1967 = 100 unless otherwise specified]

1963 SIC code	Industry	Annual average 1973	1972	1973											
			Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	MINING														
1111	Anthracite	166.8	159.1	159.1	159.1	159.1	163.4	163.4	163.4	164.5	170.4	172.6	172.6	175.1	178.8
1211	Bituminous coal	222.5	209.4	209.4	211.0	211.5	218.0	218.5	219.5	218.1	218.1	226.8	228.4	244.3	245.9
1311	Crude petroleum and natural gas	127.2	117.2	117.0	117.1	117.3	119.4	123.6	126.4	127.0	127.5	133.9	133.9	138.5	145.3
1421	Crushed and broken stone	122.7	120.8	121.8	121.9	122.2	122.4	122.7	123.0	123.0	123.0	123.0	123.0	123.1	123.1
1442	Construction sand and gravel	127.6	124.2	125.2	126.0	126.7	127.3	127.8	128.2	128.2	128.2	128.3	128.3	128.3	129.1
1475	Phosphate rock	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8
1476	Rock salt	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4
1477	Sulfur	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8
	MANUFACTURING														
2011	Meat slaughtering plants	168.0	138.2	145.9	156.0	165.9	161.0	163.6	168.2	171.7	201.4	185.1	169.4	162.7	165.2
2013	Meat processing plants	169.5	133.9	138.1	143.9	163.6	161.0	158.8	162.6	164.2	219.1	192.2	179.8	176.6	173.7
2015	Poultry dressing plants	175.6	114.8	134.3	140.9	166.4	180.6	174.5	179.2	182.7	246.1	213.9	184.1	155.2	149.2
2021	Creamery butter	131.7	125.7	122.9	123.0	127.5	127.6	120.6	121.1	121.3	132.3	151.4	152.7	139.1	141.4
2022	Natural and processed cheese (12/72=100)	112.3	100.0	100.1	100.2	102.3	103.7	104.1	106.7	104.8	112.3	121.8	128.3	131.3	132.5
2024	Ice cream and frozen desserts (12/72=100)	103.3	100.0	100.2	100.3	100.4	100.7	100.8	101.2	101.2	102.7	106.0	108.1	108.6	109.1
2033	Canned fruits and vegetables	123.6	118.9	119.9	120.7	120.4	120.7	121.3	121.5	121.5	123.5	124.1	128.8	130.1	131.0
2036	Fresh or frozen packaged fish	200.2	170.0	173.2	170.1	180.1	185.6	193.0	185.7	194.7	204.6	221.3	220.5	236.2	237.5
2041	Flour mills (12/71=100)	140.5	124.8	126.6	119.1	122.3	119.0	123.9	128.8	126.0	160.9	156.6	159.4	166.7	176.6
2042	Prepared animal feeds (12/71=100)	162.2	134.3	140.4	150.8	153.9	139.8	154.8	182.9	170.5	189.1	164.4	166.6	163.2	170.0
2044	Rice milling	207.0	141.9	147.9	147.9	147.9	174.0	174.0	174.0	174.0	193.6	216.5	261.3	333.2	339.8
2052	Biscuits, crackers and cookies	129.7	120.3	122.2	125.1	125.1	125.1	125.8	126.3	126.3	128.0	134.8	138.0	138.1	141.2
2061	Raw cane sugar	140.5	125.5	128.9	125.8	129.7	131.2	137.7	141.1	137.8	147.3	149.2	152.2	151.9	153.1
2062	Cane sugar refining	136.1	125.0	125.4	130.7	131.1	132.5	131.9	132.9	134.5	140.1	141.3	144.8	150.0	138.3
2063	Beet sugar	128.9	120.6	120.5	122.4	123.1	124.2	123.9	125.1	126.0	128.4	129.7	139.6	144.3	140.0
2073	Chewing gum	126.2	126.0	126.0	126.0	126.1	126.1	126.1	126.2	126.2	126.2	126.2	126.2	126.2	126.3
2082	Malt liquors	111.6	110.8	110.8	111.0	111.1	111.1	111.1	111.5	111.4	111.4	111.9	112.3	112.6	113.1
2083	Malt	[2] 121.3	94.2	101.8	101.8	108.3	108.3	108.3	108.3	108.3	[2]	123.7	150.9	150.9	163.2
2084	Wines and brandy	133.5	126.1	126.1	129.3	129.6	131.6	131.7	133.3	133.3	133.9	133.9	139.3	139.3	140.2
2091	Cottonseed oil mills	177.4	153.5	144.1	163.4	158.0	154.3	195.8	219.8	155.9	218.2	186.3	164.5	164.7	203.6
2092	Soybean oil mills	258.1	190.0	180.2	219.2	215.0	216.9	303.2	394.5	238.6	412.9	239.8	230.3	200.4	246.6
2094	Animal and marine fats and oils	271.8	165.7	177.7	226.8	238.3	205.9	298.5	356.2	302.3	362.2	284.4	258.4	240.8	310.3
2095	Roasted coffee (12/72=100)	104.7	100.0	99.9	100.0	102.3	103.5	105.4	105.5	105.8	106.0	105.8	106.2	107.3	108.2
2096	Shortening and cooking oils	147.1	118.6	119.0	123.4	129.1	127.9	135.1	142.4	141.5	169.3	163.6	171.8	167.0	174.6
2098	Macaroni and noodle products	126.6	112.1	112.2	112.2	112.2	112.3	114.8	114.8	114.8	123.9	144.5	153.2	152.1	152.2
2111	Cigarettes	122.9	118.2	118.2	122.4	123.3	123.4	123.4	123.4	123.4	123.5	123.5	123.5	123.5	123.5
2121	Cigars	111.6	109.1	109.1	109.1	109.1	109.2	111.3	112.3	112.3	112.3	112.3	112.9	114.2	115.6
2131	Chewing and smoking tobacco	129.4	125.8	125.8	125.9	126.3	128.0	129.5	129.7	129.7	131.0	131.0	132.8	131.8	131.8
2211	Weaving mills, cotton (12/72=100)	110.0	100.0	100.6	102.1	103.6	105.5	106.3	108.9	110.8	111.6	113.7	115.3	118.8	122.4
2254	Knit underwear mills	113.8	110.4	112.1	112.4	112.5	112.9	113.5	114.3	114.3	114.3	114.4	114.7	115.2	115.3
2272	Tufted carpets and rugs	100.5	96.3	97.0	98.8	99.0	99.8	101.0	101.2	101.2	101.2	101.1	101.6	101.7	101.9
2281	Yarn mills, except wool (12/71=100)	124.8	105.0	105.8	107.3	109.6	110.8	116.2	119.7	121.4	128.0	141.2	143.3	146.2	147.6
2311	Men's and boys' suits and coats	139.2	135.0	135.2	135.8	136.0	136.2	137.6	139.5	139.5	140.1	140.8	142.9	142.9	143.7
2321	Men's dress shirts and nightwear	119.3	115.1	116.4	116.5	116.7	117.2	117.7	118.5	118.2	118.7	119.1	123.9	124.1	124.3
2322	Men's and boys' underwear	119.7	112.9	115.2	115.3	115.4	116.9	119.4	119.9	120.0	120.0	120.0	124.5	124.6	124.7
2327	Men's and boys' separate trousers	110.1	107.9	107.9	108.0	108.1	108.3	110.8	109.1	109.1	111.6	111.6	112.2	112.4	112.5
2328	Work clothing	124.2	118.7	119.6	119.7	121.8	123.3	124.0	123.9	123.9	125.2	125.4	125.8	128.8	129.5
2337	Women's suits, coats and skirts (12/71=100)	101.3	101.0	101.0	101.0	101.0	101.0	101.3	101.3	101.3	101.4	101.4	101.5	101.6	101.6
2341	Women's and children's underwear (12/72=100)	102.7	100.0	100.1	100.1	100.4	100.6	102.2	102.7	102.6	102.7	103.3	105.3	106.2	106.2
2381	Fabric dress and work gloves	134.8	127.1	128.4	128.9	131.3	133.8	134.5	134.7	134.7	134.7	135.3	139.2	141.3	141.3
2421	Sawmills and planing mills (12/71=100)	142.8	116.7	117.4	126.7	136.8	145.0	151.0	150.2	146.0	145.9	150.4	148.7	146.7	149.0
2426	Hardwood dimension and flooring	168.3	130.1	132.3	143.3	151.6	162.0	164.7	166.7	166.8	182.2	185.4	186.4	188.3	189.5
2431	Millwork plants (12/71=100)	116.1	105.1	105.9	107.3	108.7	112.3	117.7	118.9	119.5	119.6	120.2	120.7	121.0	121.1
2432	Veneer and plywood plants (12/71=100)	136.8	113.7	115.9	131.7	159.3	164.1	160.1	136.7	120.0	121.9	120.4	116.9	149.2	145.9
2442	Wirebound boxes and crates (12/67=100)	143.7	129.5	130.7	132.6	137.3	139.0	139.8	143.3	142.8	142.8	148.8	155.1	156.3	156.3
2511	Wood furniture, not upholstered (12/71=100)	107.7	103.1	103.4	103.7	104.5	106.2	107.1	108.6	108.4	108.9	109.6	110.1	110.9	111.2
2512	Wood furniture upholstered (12/71=100)	105.8	102.0	102.5	102.5	102.5	104.9	105.4	106.2	106.2	106.6	106.8	107.2	109.2	109.2
2515	Mattresses and bedsprings	114.4	111.5	112.4	113.8	113.9	114.1	114.3	114.3	114.2	114.3	114.5	114.9	115.4	116.7
2521	Wood office furniture	126.1	123.1	123.6	123.6	123.7	123.6	124.9	124.9	124.9	126.0	127.8	129.5	130.1	130.5
2647	Sanitary paper products	124.7	121.2	121.5	121.9	122.4	123.4	124.8	125.4	125.4	124.8	125.2	125.2	127.7	128.4
2652	Set-up paperboard boxes (12/72=100)	107.6	100.0	103.3	104.3	104.5	105.7	106.1	106.1	106.1	107.3	109.8	110.5	113.6	114.2
2654	Sanitary food containers	110.2	107.2	107.7	108.1	109.0	109.1	109.8	111.1	110.5	110.6	110.9	111.5	111.8	112.6
2819	Inorganic chemicals, nec. (12/71=100)	105.3	102.2	102.9	103.2	103.6	104.2	104.8	105.1	106.5	106.1	106.1	106.3	106.9	108.4
2822	Synthetic rubber	100.8	100.1	100.0	100.0	100.1	100.5	100.7	100.8	100.9	100.9	100.9	101.3	101.4	101.7
2823	Cellulosic man-made fibers	109.0	107.6	107.9	107.8	107.9	108.0	108.7	108.7	108.8	109.4	109.4	110.1	110.1	110.7
2824	Organic fibers, noncellulosic	97.9	97.9	97.9	97.4	97.9	97.9	97.9	98.0	98.0	98.0	98.0	[e] 98.0	98.0	98.0
2834	Pharmaceutical preparations (12/71=100)	101.9	101.2	101.0	101.2	101.5	101.5	101.7	102.2	102.2	102.1	102.1	102.2	102.5	102.8
2841	Soap and other detergents (12/71=100)	103.0	100.3	100.4	100.7	100.9	101.1	102.2	102.7	102.8	103.3	103.4	105.1	106.3	106.7
2844	Perfumes, cosmetics, and other toilet preparations (12/71=100)	98.7	98.2	97.9	98.3	98.6	98.6	98.7	98.8	98.8	98.8	98.8	98.9	99.3	99.3
2871	Fertilizers	96.0	91.1	91.9	92.0	92.7	93.5	93.9	94.0	94.2	94.1	94.1	94.2	107.8	109.7
2872	Fertilizers, mixing only	114.0	104.5	106.0	106.3	107.8	109.0	109.7	109.8	109.8	109.8	109.8	109.9	138.2	141.9
2892	Explosives	119.5	117.6	117.6	117.6	117.6	117.7	117.7	117.7	117.8	117.7	117.7	123.3	125.3	126.7
2911	Petroleum refining	145.1	110.2	110.5	116.0	116.8	124.9	129.9	141.0	140.5	140.4	140.7	150.0	197.5	223.3
3021	Rubber footwear (12/71=100)	113.6	109.3	110.6	110.6	112.0	112.0	112.0	113.0	113.0	113.1	115.4	115.4	115.5	120.5
3111	Leather tanning and finishing	161.3	164.0	164.5	164.5	166.0	162.3	160.7	157.3	157.7	158.5	164.0	161.8	161.5	157.2
3121	Industrial leather belting and packing	145.3	137.4	142.1	142.2	143.2	143.6	146.0	146.0	146.1	145.7	146.0	146.7	148.2	147.9
3141	Shoes, except rubber (12/71=100)	111.4	110.0	110.3	111.9	112.1	112.5	110.3	110.3	110.4	110.5	111.2	111.7	112.4	112.9
3211	Flat glass (12/71=100)	99.8	99.1	99.1	99.2	100.8	100.8	100.8	100.0	98.3	98.3	98.5	98.5	101.0	102.6

See footnotes at end of table.

32. Continued—Price indexes for the output of selected SIC industries [1]

1963 SIC code	Industry	Annual average 1973	1972	1973											
			Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	MANUFACTURING—Continued														
3221	Glass containers	138.9	136.4	136.4	136.4	136.4	136.7	136.7	141.6	137.1	137.4	137.1	143.5	143.5	143.5
3241	Cement, hydraulic	137.2	134.3	134.4	134.4	135.3	138.4	137.6	137.6	137.9	137.9	137.9	138.2	138.3	138.3
3251	Brick and structural clay tile	131.9	125.9	128.5	130.1	131.0	131.6	131.7	132.1	132.1	132.2	132.2	133.5	133.5	133.8
3255	Clay refractories	138.6	133.5	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6
3259	Structural clay products nec	112.4	110.5	110.7	111.1	111.1	111.7	112.9	112.9	112.9	112.9	113.0	113.2	113.2	113.4
3261	Vitreous plumbing fixtures	121.0	117.1	116.8	118.8	120.1	121.6	121.7	121.7	121.9	121.8	121.8	122.0	122.0	122.2
3262	Vitreous china food utensils	146.9	140.2	140.2	142.6	144.8	144.8	148.3	148.3	148.3	148.3	148.3	148.3	148.3	152.6
3263	Fine earthenware food utensils	143.2	140.4	141.6	141.8	141.9	143.5	143.7	143.7	143.7	143.7	143.7	143.7	143.7	143.9
3271	Concrete block and brick	135.1	128.4	130.4	130.8	132.0	133.6	134.4	136.0	136.0	136.0	136.1	137.9	138.7	139.3
3273	Ready mixed concrete	133.0	128.8	129.7	130.2	130.8	132.2	132.8	133.7	133.7	133.6	133.8	135.0	135.4	135.6
3275	Gypsum products	120.9	115.0	117.4	115.9	118.1	119.6	120.4	124.1	122.9	122.5	122.0	122.4	122.0	123.3
3291	Abrasive products (12/71=100)	104.7	102.9	102.9	103.0	103.4	103.5	104.2	104.9	105.0	105.0	105.4	106.0	106.4	106.5
3312	Blast furnace and steel mills	134.3	130.7	132.5	132.7	132.8	133.9	134.3	134.5	134.5	134.5	134.6	135.5	135.7	135.9
3315	Steel wire drawing, etc	135.7	128.3	132.3	133.2	134.0	135.9	136.1	136.6	136.6	136.6	136.7	136.8	136.8	136.8
3316	Cold finishing of steel shapes	132.3	129.7	130.6	130.6	130.7	131.6	132.0	132.4	132.4	132.4	132.4	134.0	134.0	134.0
3317	Steel pipe and tube	134.5	129.4	133.1	133.2	133.4	133.9	134.9	135.1	135.1	135.1	135.1	135.1	135.2	135.2
3321	Gray iron foundries (12/68=100)	125.9	119.5	120.4	120.8	121.9	124.3	125.3	125.9	125.9	126.0	126.2	128.3	132.1	133.5
3333	Primary zinc	150.1	126.2	127.7	133.8	137.5	141.7	144.0	146.4	144.7	150.5	150.4	153.2	156.6	214.6
3334	Primary aluminum	101.3	95.9	95.9	96.1	96.1	98.2	99.7	99.6	98.5	98.5	102.9	105.8	109.8	114.4
3339	Primary nonferrous metals, nec	164.4	130.2	132.4	137.3	160.3	154.6	167.8	170.9	177.8	166.6	168.6	173.4	173.8	188.8
3341	Secondary nonferrous metals (12/71=100)	126.5	103.0	104.5	108.6	116.5	117.8	121.5	123.3	126.3	134.3	134.5	136.7	141.2	152.9
3351	Copper rolling and drawing	141.0	125.8	126.2	127.8	136.6	138.0	141.1	141.2	141.1	140.6	143.2	145.6	152.4	158.1
3352	Aluminum rolling and drawing (12/68=100)	109.2	108.8	107.5	107.8	107.6	108.1	108.3	108.7	108.8	109.0	109.7	110.2	111.1	113.6
3356	Rolling, drawing, and extruding of metals, excluding copper, aluminum (12/71=100)	110.0	104.3	104.4	105.0	107.4	107.7	110.2	111.0	110.8	111.1	111.6	112.0	112.6	116.4
3411	Metal cans	135.6	131.2	131.2	130.8	136.8	136.8	136.8	136.8	136.9	136.9	136.9	135.8	135.8	135.9
3423	Hand and edge tools (12/67=100)	131.6	128.1	128.8	129.0	129.4	130.2	131.2	131.8	131.8	131.6	132.9	133.5	134.1	134.8
3425	Hand saws and saw blades (12/72=100)	100.9	100.0	100.0	99.7	100.0	99.9	100.4	101.1	101.1	101.1	101.6	101.6	101.9	102.4
3431	Metal plumbing fixtures	125.2	120.7	121.1	122.2	123.9	124.2	124.6	125.9	126.0	126.1	126.2	126.3	126.8	128.9
3493	Steelsprings	121.5	119.0	119.0	119.5	120.0	120.2	120.8	120.8	120.8	120.9	122.9	124.2	124.2	125.0
3494	Valves and pipe fittings (12/71=100)	104.9	100.8	101.8	102.3	102.7	103.3	104.0	104.7	105.2	105.0	105.2	106.6	108.7	109.0
3496	Collapsible tubes	127.0	123.2	123.2	125.7	125.9	125.9	126.1	126.2	127.1	127.1	127.3	127.7	130.3	131.0
3498	Fabricated pipe and fittings	143.5	136.8	138.9	139.6	139.6	140.5	140.5	142.7	142.7	146.7	146.7	146.7	148.2	149.2
3519	Internal combustion engines	124.0	121.4	121.4	122.5	122.5	123.1	123.5	123.5	123.5	124.2	124.2	125.6	126.8	127.0
3532	Mining machinery and equipment (12/72=100)	102.7	100.0	100.2	100.5	100.7	101.8	102.0	102.1	102.5	103.9	104.2	104.7	104.7	105.0
3533	Oil field machinery and equipment	133.4	130.2	130.5	130.9	131.3	132.8	133.4	133.9	134.3	134.4	134.4	134.5	134.6	136.3
3534	Elevators and moving stairways	123.5	121.8	121.8	123.2	123.3	123.3	123.3	123.3	123.3	123.3	123.3	124.7	124.7	124.8
3535	Conveyors and conveying equipment (12/71=100)	104.3	102.4	102.6	102.7	104.0	104.1	104.2	104.2	104.3	104.3	104.5	104.7	105.6	106.1
3537	Industrial trucks and tractors	128.0	123.9	124.2	125.6	125.6	127.7	128.0	128.4	128.5	128.9	128.9	129.4	129.7	130.9
3541	Metal-cutting machine tools (12/71=100)	108.5	102.9	104.3	105.2	106.0	107.0	108.0	108.3	108.7	108.8	109.8	111.1	111.9	113.2
3542	Metal-forming machine tools (12/71=100)	108.5	102.9	102.9	103.9	106.3	107.7	108.6	108.7	108.7	108.7	110.3	111.6	111.8	112.6
3552	Textile machinery (12/69=100)	116.0	112.4	112.9	113.1	113.6	114.7	116.1	116.7	116.8	116.6	116.7	116.8	118.5	118.9
3553	Woodworking machinery (12/72=100)	101.9	100.0	99.9	99.7	100.5	101.1	101.2	102.2	102.3	102.3	102.4	103.1	103.8	104.2
3555	Printing trades machinery and equipment (12/72=100)	103.6	100.0	100.0	100.3	100.9	102.1	103.3	103.9	103.9	105.4	105.5	105.8	105.9	105.9
3562	Ball and roller bearings	120.8	117.6	117.6	117.6	118.6	119.9	121.6	121.9	121.9	121.9	121.9	121.9	122.1	122.7
3572	Typewriters	106.3	104.7	104.7	104.8	104.8	106.3	106.7	106.7	106.7	106.7	106.8	106.8	106.8	107.7
3576	Scales and balances	121.7	118.4	118.4	119.2	120.7	121.0	121.1	121.9	121.9	122.0	122.0	123.5	123.6	124.5
3611	Electric measuring instruments and test equipment (12/71=100)	100.7	100.5	100.6	100.6	100.8	101.1	100.4	100.4	100.3	100.6	100.6	100.6	101.0	101.0
3612	Transformers	98.5	95.7	95.9	96.6	97.0	98.0	98.3	98.8	98.8	99.1	99.9	99.2	99.7	100.8
3613	Switchgear and switchboards	114.1	111.7	111.8	112.5	113.2	113.7	114.3	114.4	114.0	114.0	114.8	115.0	115.6	116.4
3623	Electric welding apparatus (12/72=100)	103.6	100.0	100.0	100.1	100.8	102.4	103.2	104.4	104.2	104.2	104.3	105.7	106.2	107.7
3624	Carbon and graphite products (12/67=100)	119.4	114.3	114.3	119.6	119.8	119.8	119.9	119.9	119.9	119.9	120.0	120.0	120.0	120.1
3634	Electric housewares and fans (12/71=100)	100.1	99.7	99.8	99.8	99.9	100.4	100.6	100.2	100.2	100.2	100.1	100.0	100.1	100.4
3635	Household vacuum cleaners	100.6	102.1	102.9	102.9	103.0	103.0	103.5	98.6	98.7	98.7	98.7	98.7	99.0	99.1
3641	Electric lamps	120.2	118.2	118.2	118.0	118.3	118.3	119.8	121.9	120.5	120.5	120.5	120.5	122.1	123.8
3642	Lighting fixtures (12/71=100)	103.8	102.3	102.4	102.8	102.9	103.2	103.3	103.7	103.7	104.2	104.3	104.8	105.2	105.5
3644	Noncurrent carrying devices (12/72=100)	103.0	100.0	100.0	100.1	100.6	102.9	103.3	103.4	103.4	103.3	103.4	104.8	105.3	105.9
3652	Phonograph records	115.2	112.6	112.6	115.4	115.4	115.4	115.4	115.4	115.4	115.4	115.4	115.4	115.4	115.5
3671	Electron tubes, receiving type	144.2	144.1	144.1	144.1	144.1	144.1	144.2	144.2	144.2	144.2	144.2	144.3	144.3	144.3
3672	Cathode ray picture tubes	84.2	84.0	84.1	84.1	84.1	84.1	84.2	84.3	84.3	84.3	84.3	84.3	84.3	84.4
3673	Electron tubes, transmitting	115.6	114.4	114.6	114.4	114.4	114.5	115.6	116.2	116.2	116.2	116.0	116.3	116.3	116.6
3674	Semiconductors	92.4	90.7	91.1	91.1	91.1	91.5	92.4	92.4	92.9	92.5	92.6	92.6	92.7	95.8
3692	Primary batteries, dry and wet	123.9	123.5	123.6	123.6	123.6	123.6	123.9	124.0	124.0	124.0	124.0	124.0	124.0	124.0
3693	X-ray equipment, apparatus and tubes (12/67=100)	129.8	133.1	132.8	129.0	129.0	129.3	129.4	129.4	128.0	128.3	128.6	129.4	132.4	132.4
3717	Motor vehicles and parts	121.2	120.5	120.3	120.4	120.5	120.8	120.9	120.7	121.1	121.4	120.8	122.0	122.4	123.2
3861	Photographic equipment (12/71=100)	102.2	100.7	101.0	101.2	102.3	102.2	102.1	102.2	102.2	102.2	102.4	102.5	102.6	103.0
3941	Games and toys	118.4	115.7	116.5	116.8	117.9	118.3	118.3	118.3	118.4	118.4	118.4	119.6	119.6	119.9

[1] For a description of the series, see **BLS Handbook of Methods** (BLS Bulletin 1711, 1971), chapter 12. See also "Industry and Sector Price Indexes," in the **Monthly Labor Review,** August 1965, pp. 974–82.

[2] Not available because the price coverage did not meet publication standards.

[c] = correction.

NOTE: Beginning in January 1967, index weights and classifications are based on the 1963 Censuses of Manufactures and Minerals. They were formerly based on the 1958 Industrial Censuses.

33. 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
January	416	647	235	320	2,868	.20
February	359	632	128	206	1,934	.14
March	457	725	150	260	2,489	.15
April	550	859	180	269	2,389	.15
May	612	957	727	818	4,000	.28
June	617	1,031	280	420	4,094	.26
July	499	938	748	938	7,895	.52
August	437	890	194	502	5,037	.32
September	352	668	111	330	3,230	.20
October	304	551	246	326	5,511	.36
November	315	561	235	453	5,034	.33
December	219	485	46	238	3,109	.20
1972	5,010		1,714		27,066	.15
January	427	643	80	195	2,530	.17
February	419	675	86	183	1,849	.13
March	421	727	162	220	1,830	.11
April	498	759	187	257	2,258	.15
May	541	860	155	249	2,604	.16
June	491	818	311	413	3,606	.22
July	404	706	130	384	3,437	.23
August	485	790	168	270	2,840	.17
September	444	733	143	260	2,403	.16
October	395	665	173	277	1,342	.09
November	327	595	85	202	1,351	.08
December	158	411	35	162	1,018	.07
1973 p January	310	480	118	145	1,433	.09
February	380	590	141	200	1,281	.09
March	410	670	110	156	1,330	.08
April	470	710	146	167	1,890	.12
May	580	860	155	253	2,483	.15
June	520	840	238	299	2,173	.13
July	500	830	253	377	2,510	.16
August	530	890	167	341	2,698	.15
September	500	850	259	360	2,696	.18
October	420	740	164	261	2,421	.15

p=preliminary.

NOTE: The data include all known strikes or lockouts involving 6 workers or more and lasting a full day or shift or longer. Figures on workers involved and man-days idle cover all workers made idle for as long as 1 shift in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments or industries whose employees are made idle as a result of material or service shortages.

34. 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			
	1971	1972	II	III	IV	I	II	III	IV	I	II	III	IV
Total private:													
Output per man-hour	108.7	112.8	108.0	109.3	110.1	110.7	112.5	113.3	114.8	r 116.4	r 116.1	r 116.2	p 115.8
Output	110.9	118.1	110.1	111.1	113.1	114.5	117.4	119.1	121.5	124.2	125.0	126.1	p 126.5
Man-hours	r 102.0	104.7	101.9	101.7	102.7	103.5	104.4	105.1	105.9	r 106.7	r 107.7	108.6	p 109.2
Compensation per man-hour [1]	133.3	142.4	132.2	134.7	136.1	139.4	141.4	143.1	145.7	r 149.6	r 151.9	r 154.6	p 157.6
Real compensation per man-hour [2]	109.9	113.7	109.4	110.4	111.0	112.7	113.4	113.8	114.8	r 116.2	r 115.6	115.1	p 114.6
Unit labor costs	122.6	126.2	122.4	123.3	123.6	125.9	125.7	126.3	126.9	128.5	130.9	r 133.1	p 136.1
Unit nonlabor payments [3]	111.7	114.8	111.8	112.4	112.5	112.6	114.1	115.4	117.0	118.9	121.1	r 123.4	p 124.9
Implicit price deflator [4]	118.4	121.8	118.2	119.1	119.3	120.7	121.2	122.0	123.1	124.8	127.1	129.3	p 131.8
Private nonfarm:													
Output per man-hour	107.6	112.1	107.0	108.1	109.1	109.8	111.3	112.9	114.2	115.6	r 115.3	r 115.9	p 115.1
Output	111.0	118.7	110.2	111.2	113.3	114.9	117.9	119.9	122.3	125.1	126.3	127.6	p 127.5
Man-hours	103.2	106.0	103.0	102.9	103.8	104.6	105.9	106.2	107.1	108.2	109.5	110.2	p 110.7
Compensation per man-hour [1]	131.8	140.9	130.9	133.1	134.6	137.8	139.5	141.8	144.2	147.9	149.8	152.7	p 155.7
Real compensation per man-hour [2]	108.6	112.4	108.3	109.0	109.7	111.4	111.9	112.7	113.6	114.9	113.9	r 113.6	p 113.2
Unit labor costs	122.5	125.7	122.3	123.1	123.3	125.5	125.3	125.6	126.2	127.9	129.8	r 131.8	p 135.2
Unit nonlabor payments [3]	112.1	114.0	111.9	113.0	112.6	112.5	113.5	114.5	115.8	116.4	118.0	r 118.6	p 118.6
Implicit price deflator [4]	118.5	121.3	118.4	119.3	119.3	120.6	120.8	121.4	122.3	123.6	125.4	126.8	p 128.9
Manufacturing:													
Output per man-hour	115.6	121.8	115.9	116.4	116.4	118.6	120.7	123.2	124.9	126.1	127.3	129.0	p 127.8
Output [5]	108.9	118.6	109.3	109.0	109.8	113.0	117.0	120.3	124.4	127.5	129.9	131.7	p 132.0
Man-hours	94.2	97.4	94.3	93.6	94.4	95.3	97.0	97.6	99.6	101.1	102.0	102.1	p 103.3
Compensation per man-hour [1]	130.7	139.0	130.0	131.7	132.9	136.4	138.1	139.6	141.9	145.6	148.5	r 151.8	p 153.8
Real compensation per man-hour [2]	107.8	110.9	107.6	108.0	108.3	110.3	110.7	110.9	111.8	113.1	112.9	112.9	p 111.7
Unit labor costs	113.1	114.1	112.1	113.1	114.2	115.1	114.4	113.3	113.6	115.4	116.6	117.6	p 120.3
Nonfinancial corporations:													
Output per man-hour	113.4	117.9	112.5	114.3	115.3	116.6	117.3	118.3	119.3	121.4	121.7	r 123.1	([6])
Output	113.5	121.9	112.8	113.7	115.9	118.5	120.9	122.4	125.5	129.0	130.6	r 132.5	([6])
Man-hours	100.1	103.4	100.2	99.5	100.6	101.6	103.1	103.5	105.2	106.2	107.3	107.7	([6])
Compensation per man-hour [1]	132.3	141.3	131.2	133.9	135.1	138.8	140.2	142.3	144.0	148.2	150.5	r 153.8	([6])
Real compensation per man-hour [2]	109.1	112.8	108.7	109.7	110.1	112.2	112.5	113.1	113.5	115.1	114.5	114.4	([6])
Total unit costs	119.3	121.6	119.1	119.7	119.8	120.8	121.5	121.8	122.1	123.0	124.4	r 125.4	([6])
Unit labor costs	116.7	119.9	116.6	117.1	117.2	119.1	119.6	120.2	120.7	122.0	123.7	r 124.9	([6])
Unit nonlabor costs [7]	127.2	126.7	126.5	127.6	127.6	126.3	127.3	126.5	126.6	125.9	126.5	r 126.7	([6])
Unit profits [8]	80.2	84.8	81.1	81.0	80.0	83.0	82.6	84.9	89.0	91.4	92.7	r 94.8	([6])
Implicit price deflator [4]	113.4	116.0	113.3	113.9	113.8	115.1	115.6	116.2	117.1	118.2	119.6	120.7	([6])

[1] Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Except for nonfinancial corporations, where there are no self-employed, data also include an estimate of wages, salaries, and supplemental payments for the self-employed.

[2] Compensation per man-hour adjusted for changes in the Consumer Price Index.

[3] Nonlabor payments include profits, depreciation, interest, rental income, and indirect taxes.

[4] Current dollar gross product divided by constant dollar gross product.

[5] Quarterly measures adjusted to annual estimates of output (gross product originating) from the Bureau of Economic Analysis, U.S. Department of Commerce.

[6] Not available.

[7] Include depreciation, interest, and indirect taxes.

[8] Include corporate profits before taxes and inventory valuation adjustment.

p=preliminary.

r = revised.

NOTE: Manufacturing data have been revised beginning in the 1st quarter of 1972 to reflect revisions in the Federal Reserve Board Index of Industrial Production.

SOURCE: Output data from the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Compensation and man-hour data from the Bureau of Labor Statistics, U.S. Department of Labor, and the Bureau of Economic Analysis.

35. 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 [1]

[1967=100]

Item	Quarterly percent change						Annual percent change					
	II to III 1972	III to IV 1972	IV 1972 to I 1973	I to II 1973	II to III 1973	III to IV 1973	III 1971 to III 1972	IV 1971 to IV 1972	I 1972 to I 1973	II 1972 to II 1973	III 1972 to III 1973	IV 1972 to IV 1973
Total private:												
Output per man-hour	3.1	5.2	r5.8	r −1.2	r0.4	p −1.3	3.7	4.2	r5.2	r3.2	2.5	p0.9
Output	5.8	8.4	9.3	2.6	3.6	p1.2	7.2	7.5	8.5	6.5	5.9	p4.1
Man-hours	2.6	3.0	r3.3	r3.8	r3.2	p2.5	3.3	3.1	r3.1	r3.2	r3.3	p3.2
Compensation per man-hour [2]	4.9	7.4	r11.3	r6.3	r7.3	p8.0	6.3	7.0	r7.3	r7.4	r8.0	p8.2
Real compensation per man-hour [3]	1.2	3.6	r5.2	r −2.3	r1.7	p −1.7	3.1	3.5	r3.2	r1.9	r1.1	p −.2
Unit labor costs	1.7	2.0	5.2	7.6	r6.9	p9.3	2.4	2.6	2.1	4.1	r5.4	p7.3
Unit nonlabor payments	4.6	6.0	6.6	7.4	r7.9	p5.0	2.6	4.1	5.6	6.1	r7.0	p6.7
Implicit price deflator	2.8	3.5	5.7	7.5	7.3	r7.7	2.5	3.2	3.4	4.9	6.0	p7.1
Private nonfarm:												
Output per man-hour	5.6	4.7	5.0	−.8	r1.8	p −2.4	4.4	4.6	5.3	3.6	2.6	p .8
Output	7.0	8.3	9.2	3.9	4.4	p −.4	7.8	8.0	8.9	7.1	6.4	p4.2
Man-hours	1.3	3.4	4.0	4.8	r2.6	p2.1	3.2	3.2	3.4	3.4	3.7	p3.4
Compensation per man-hour [2]	6.7	6.8	10.7	5.3	r8.0	p8.3	6.6	7.1	7.3	r7.3	7.7	p8.0
Real compensation per man-hour [3]	2.9	3.1	4.6	r −3.2	r −1.1	p −1.4	3.4	3.6	3.2	1.8	.8	p −.3
Unit labor costs	1.0	2.0	5.4	6.2	r6.1	p10.9	2.0	2.4	1.9	3.6	r4.9	p7.1
Unit nonlabor payments	3.6	4.4	2.4	5.4	r2.2	p −.2	1.4	2.8	3.5	3.9	r3.6	p2.4
Implicit price deflator	1.9	2.9	4.3	5.9	4.7	p6.9	1.8	2.5	2.5	3.7	4.4	p5.4
Manufacturing:												
Output per man-hour	8.6	5.7	3.9	3.8	5.5	p −3.8	5.8	7.4	6.4	5.5	4.7	p2.3
Output [6]	11.4	14.3	10.3	7.7	5.7	p .9	10.4	13.3	12.8	10.9	9.5	p6.1
Man-hours	2.6	8.2	6.2	3.8	.1	p4.9	4.3	5.5	6.1	5.2	4.5	p3.7
Compensation per man-hour [2]	4.4	6.8	10.8	8.2	r9.2	p5.4	5.9	6.8	6.7	7.5	8.7	p8.4
Real compensation per man-hour [3]	.8	3.2	4.7	−.7	−.1	p −4.1	2.7	3.2	2.6	2.0	r1.8	p −.1
Unit labor costs	−3.8	1.1	6.6	4.2	r3.5	p9.5	.1	−.5	.3	1.9	3.8	p5.9
Nonfinancial corporations:												
Output per man-hour	3.6	3.4	7.3	1.0	r4.6	(7)	3.6	3.5	4.2	3.8	r4.0	(7)
Output	5.1	10.4	11.6	5.0	r6.1	(7)	7.7	8.3	8.9	8.0	r8.2	(7)
Man-hours	1.5	6.8	4.0	4.0	r1.5	(7)	4.0	4.6	4.5	4.0	r4.0	(7)
Compensation per man-hour [2]	5.9	4.9	12.1	6.6	r9.0	(7)	6.3	6.6	6.7	7.3	r8.1	(7)
Real compensation per man-hour [3]	2.2	1.3	5.9	−2.1	r −.2	(7)	3.1	3.1	2.6	1.8	r1.2	(7)
Total unit costs	1.1	1.1	2.8	4.6	r3.3	(7)	1.7	2.0	1.8	2.4	r2.9	(7)
Unit labor costs	2.3	1.4	4.4	5.5	r4.2	(7)	2.7	3.0	2.5	3.4	r3.9	(7)
Unit nonlabor costs [5]	−2.4	.3	−2.0	1.7	r .6	(7)	−.9	−.8	−.3	−.6	r .2	(7)
Unit profits [8]	12.0	20.4	11.6	5.5	r9.4	(7)	4.9	11.2	10.2	12.3	r11.6	(7)
Implicit price deflator [9]	2.2	3.2	3.8	4.7	4.0	(7)	2.1	2.9	2.7	3.4	3.9	(7)

[1] Computed from seasonally adjusted original data.

[2] Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Except for nonfinancial corporations where there are no self-employed, data also include an estimate of wages, salaries, and supplemental payments for the self-employed.

[3] Compensation per man-hour adjusted for changes in the Consumer Price Index.

[4] Nonlabor payments include profits, depreciation, interest, rental income, and indirect taxes.

[5] Current dollar gross product divided by constant dollar gross product.

[6] Quarterly measures adjusted to annual estimates of output (gross product originating) from the Bureau of Economic Analysis, U.S. Department of Commerce.

[7] Not available.

[8] Include depreciation, interest, and indirect taxes.

[9] Include corporate profits before taxes and inventory valuation adjustment.

p=preliminary.

r = revised.

NOTE: Manufacturing data have been revised beginning in the 1st quarter of 1972 to reflect revisions in the Federal Reserve Board Index of Industrial Production.

SOURCE: Output data from the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Compensation and man-hours data from the Bureau of Labor Statistics, U.S. Department of Labor, and the Bureau of Economic Analysis.

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