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In this issue:
Four articles on earnings





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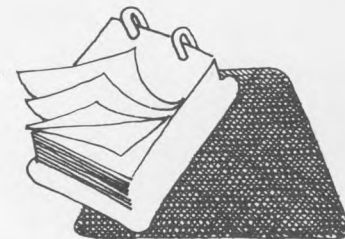
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Labor Month In Review



KLEIN AWARD. A government economist and a private research analyst share the 13th annual Lawrence R. Klein award for the best original articles published in the *Monthly Labor Review* in 1981. The winners, selected by the Klein Fund trustees, are:

George Stamas, formerly with the Bureau of Labor Statistics' Division of Labor Force Studies (but now with the Bureau's Division of Occupational and Administrative Statistics) for "The puzzling lag in southern earnings," in the June issue, and

Peter Finn of Abt Associates, Inc., Cambridge, Mass., for "The effects of shift work on the lives of employees," in the October issue.

The awards were announced at the annual BLS Awards ceremony, April 6, by Charles Stewart, chairman, and Ben Burdetsky, secretary-treasurer of the Klein Fund. In addition to selecting the award winners, the Klein Fund trustees commended three other BLS authors: Norman Bowers, economist in the Division of Employment and Unemployment Analysis, for "Youth labor force activity: alternative surveys compared," in the March issue; Philip L. Rones, economist in the Division of Employment and Unemployment Analysis, for "Response to recession: reduce hours or jobs?" in the October issue; and Jack E. Triplett, assistant commissioner, Office of Research and Evaluation, for "Reconciling the CPI and PCE Deflator," in the September issue.

Bowers and Rones each received a Klein award last year: Bowers for "Probing the issues of unemployment duration" in the July 1980 issue and Rones for "Moving to the sun: regional job growth, 1968 to 1978," in the March 1980 issue.

The Stamas article investigates the 17-percent wage differential (in May 1978) between the South and the rest of the Nation. He finds that such variables

as industry group, occupation, age, race, sex, education, city size, and union status account for three-fifths of the differential. A major factor explaining the remaining two-fifths "may be regional differences in price levels and living costs that go beyond those associated with the simple city-size variable. . . . evidence indicate[s] that living costs, including price levels, are lower in the South."

But, Stamas says that, "even if regional differences in the cost of living play no role, and if all other compensating differentials have been considered, the remaining differential between standardized nominal wages in the South and those elsewhere could persist because neither individuals nor firms find the difference in wages sufficient to warrant a move."

Stamas explains further that "firms move to take advantage of things other than lower labor costs, such as State and local tax concessions" and that individuals who move may do so "to take a different job, for career advancement, or to change from nonunion to union status" and, hence, are not moving to a higher paying region, but rather to a higher paying job.

The Finn article summarizes both the beneficial and deleterious features of shift work (employment between 7 p.m. and 7 a.m.), with special emphasis on the harmful consequences. The author uses original research studies of shift work as well as anecdotal evidence based on personal experiences.

According to Finn, shift work's most alluring feature appears to be its wage differential—shift premiums average 10 to 13 cents an hour. Also, shift work enables workers to increase their incomes by moonlighting on a day time job. There are nonpecuniary advantages as well: many shift workers have less tension and a more relaxed pace on the night shift because of less supervision or fewer interruptions from clerical or management personnel. And then there

is the camaraderie and sense of loyalty that is a feature of certain evening or nighttime occupations.

A major complaint of shift workers is that such work puts them "out of rhythm with their minds and bodies, families and social lives, and routines of the community." Finn says that although there is no concrete evidence, "there are sound physiological grounds for presuming an increased rate of accidents at night based on laboratory studies of efficiency and errors related to circadian rhythms. Laboratory studies . . . show demonstrable deficiency after the evening hours begin."

The author cautions that the article paints only a partial picture of the effects of shift work on employees, and that "more effort needs to be devoted now by government, industry, organized labor, the local community, and shift workers themselves toward ameliorating these widespread, harmful consequences of evening and nighttime employment."

Purpose of the award. The Klein Award Fund was established by Lawrence R. Klein, editor-in-chief of the *Review* for 22 years until his retirement in 1968. Instead of accepting a retirement gift, Klein donated it and matched the amount collected to initiate the fund. Since then, he has contributed regularly as have others. The purpose of the fund is to encourage *Review* articles that (1) exhibit originality of ideas or method of analysis, (2) adhere to the principles of scientific inquiry, and (3) are well written. Since 1969, fund trustees have presented awards to authors of 24 *Review* articles. Awards carry cash prizes of \$200 for each winning article.

Tax-deductible contributions to the Klein Fund may be sent to Ben Burdetsky, Secretary-Treasurer, Lawrence R. Klein Fund, c/o School of Government and Business Administration, The George Washington University, Washington, D.C. 20052. □

Price changes in 1981: widespread slowing of inflation

Consumer and producer price increases slowed to their lowest rate since 1977; major reasons for the moderation include favorable developments affecting food and energy as well as the impact of the recession

CRAIG HOWELL AND JESSE THOMAS

During 1981, inflation in both retail and primary markets slowed to the lowest pace since 1977. The Consumer Price Index for All Urban Consumers (CPI-U) moved up 8.9 percent, following increases of 13.3 and 12.4 percent in 1979 and 1980. All major categories of consumer spending, except medical care, registered smaller increases in 1981 than in the previous year. The moderation in the housing and transportation components, along with a sharp deceleration in the food and beverage index, were largely responsible for the slowdown in the overall CPI in 1981. (See table 1.)

The deceleration was especially apparent in prices for consumer goods, which rose only 6.0 percent, following an 11.1-percent advance in 1980. The slowdown was less dramatic for consumer services, from 14.2 percent in 1980 to 13.0 percent in 1981. Mortgage interest costs slowed to 20.0 percent, after a 27.8-percent surge in 1980, but the index for services less mortgage interest costs rose almost 11 percent, virtually the same as in 1980. Because services are generally more labor-intensive than commodities, service charges tend to be slower to react to shifts in the general economy. The experimental CPI-U-X1, which incorporates the rental equivalence approach to homeownership costs instead of mortgage interest rates and home purchase prices,

moved up 8.5 percent, compared with a 10.8-percent increase in 1980. Thus, the 1981 deceleration was greater for the official CPI than for the CPI-U-X1.¹

At the primary market level, the Producer Price Index (PPI) for Finished Goods moved up 7.0 percent during 1981, considerably less than the 11.8-percent jump in 1980. Like the CPI, the PPI deceleration was broad. Although the 14.3-percent climb in the finished energy goods index was much larger than the increases for other major categories of finished goods in 1981, it was only about half as large as the surge this index recorded in 1980. Consumer food prices rose only 1.5 percent in 1981, following a 7.5-percent advance during the previous year. The upward movement in the index for finished consumer goods other than foods and energy slowed from 10.4 percent in 1980, to 6.9 percent in 1981. The deceleration in the capital equipment index was less pronounced than those of other major categories of finished goods—9.2 percent, following an 11.4-percent climb in 1980. Prices for intermediate materials rose about half as much in 1981 (6.1 percent) as in the preceding year. Following a 12.8-percent climb in 1980, crude material prices dropped by 3.7 percent, the first decrease in more than a decade. The steep advance in crude energy prices was more than offset by falling prices for foodstuffs and for a range of raw industrial materials.

The widespread slowdown in inflation in 1981 reflected generally favorable developments in factors influencing food and energy prices, expectations of reduced

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inflation rates in the next few years, and the impact of a recession that spread from the automotive and construction sectors to the rest of the economy around midyear. While the gross national product increased about 2 percent for the year, most of that gain occurred in the first quarter. The particular weakness of the residential construction and automotive markets throughout 1981 was

indicated by the lowest rate of private housing unit starts in 35 years and the worst level of domestic new car sales since 1961. The rate of capacity utilization in the manufacturing sector and the unemployment rate both reached levels associated with severe recessions by the end of the year. Inventory accumulations by many firms unable to cut back orders to match the drop in

Table 1. Changes in selected components of the Consumer and Producer Price Indexes, 1980-81

Grouping	Relative importance, Dec. 1980	Percent change		Contribution ¹		Compound annual rate, seasonally adjusted except as noted, for 3 months ended —			
		Dec. 1979 to Dec. 1980	Dec. 1980 to Dec. 1981	Dec. 1979 to Dec. 1980	Dec. 1980 to Dec. 1981	1981			
						March	June	Sept.	Dec.
Consumer Price Index for All Urban Consumers (CPI-U)²									
All items	100.0	12.4	8.9	100.0	100.0	9.6	8.1	12.8	5.4
Food and beverages	18.3	10.1	4.3	15.3	8.9	5.6	2.3	7.6	1.8
Food at home	12.0	10.6	3.0	10.4	4.0	3.8	0.3	7.8	-0.3
Food away from home	5.3	9.6	7.2	4.2	4.3	9.0	6.6	7.1	6.1
Alcoholic beverages	1.0	7.6	5.8	.6	.6	9.2	5.6	7.0	1.4
Housing	45.5	13.7	10.2	49.7	51.9	7.7	13.0	16.9	3.6
Shelter	31.6	15.1	9.9	37.6	35.0	3.9	15.1	19.8	1.8
Rent, residential ³	5.1	9.1	8.5	3.9	4.8	7.0	7.7	10.2	9.0
Homeownership	25.8	16.5	10.1	33.2	29.1	2.9	16.9	21.5	0.3
Home purchase ³	10.3	11.4	1.2	9.5	1.4	-8.8	8.7	12.4	-5.7
Financing, taxes and insurance ³	12.0	23.3	17.9	20.5	24.0	11.4	25.9	33.1	3.6
Maintenance and repairs	3.5	10.6	9.2	3.1	3.7	11.8	10.7	8.9	5.6
Fuel and other utilities	6.5	13.6	14.5	7.1	10.6	26.1	8.6	14.8	9.3
Household furnishings and operation	7.3	8.1	7.6	5.0	6.3	9.2	7.8	6.9	6.8
Apparel and upkeep	4.9	6.8	3.6	2.8	2.0	4.9	2.6	6.4	0.8
Apparel commodities	4.2	6.0	2.7	2.1	1.3	3.7	1.8	5.5	-0.2
Apparel services	0.7	12.4	9.4	.7	.7	11.4	8.9	9.8	7.7
Transportation	19.0	14.7	11.0	22.0	23.3	19.2	2.3	11.6	11.6
Private transportation	17.8	14.0	10.4	19.8	20.8	19.1	1.6	10.0	12.0
Public transportation ³	1.2	25.6	19.2	2.2	2.6	21.2	14.3	37.5	5.8
Medical care	4.7	10.0	12.5	3.9	6.6	11.9	11.8	14.4	11.7
Medical care commodities	0.8	10.0	11.3	.6	1.0	12.1	12.3	11.9	9.1
Medical care services	3.9	10.0	12.7	3.3	5.6	12.1	11.6	14.9	12.3
Entertainment	3.6	9.6	7.2	2.9	2.9	9.5	5.1	6.9	7.3
Other goods and services	4.0	10.1	9.8	3.3	4.4	8.8	11.3	10.8	8.4
All items	100.0	12.4	8.9	100.0	100.0	9.6	8.1	12.8	5.4
Food	17.3	10.2	4.3	14.6	8.2	5.3	2.2	7.7	1.7
Commodities less food and energy	33.7	9.9	5.9	27.7	22.2	3.5	8.7	9.5	2.2
Energy ³	10.8	18.1	11.9	15.1	14.5	49.1	4.7	3.0	-2.4
Services less energy	38.1	14.1	12.9	42.6	55.1	10.6	14.8	19.1	7.6
All items	100.0	12.4	8.9	100.0	100.0	9.6	8.1	12.8	5.4
Services	41.6	14.2	13.0	47.0	60.8	10.9	14.8	19.2	7.8
Commodities	58.4	11.1	6.0	53.0	39.2	8.8	3.2	8.5	3.6
All items less food, energy, and mortgage interest costs	62.0	9.9	8.0	51.0	55.3	6.7	8.6	11.4	5.2
All items (X-1 approach)	—	10.8	8.5	—	—	10.7	5.9	10.1	7.5
Producer Price Index (PPI) by stage of processing²									
Finished goods	100.0	11.8	7.0	100.0	100.0	12.8	7.1	3.4	5.2
Finished energy goods	12.1	27.8	14.3	26.9	24.4	56.6	3.5	-3.6	9.7
Consumer foods	23.1	7.5	1.5	16.1	5.0	5.1	3.5	1.6	-3.7
Finished goods less food	76.9	13.3	8.7	83.9	95.0	15.3	8.1	4.0	7.7
Finished goods less food and energy	65.0	10.7	7.6	57.0	70.6	8.8	9.0	5.6	7.4
Finished consumer goods less food	56.6	14.2	8.4	62.2	68.0	16.5	7.6	3.2	7.2
Finished consumer goods less food and energy	44.6	10.4	6.9	35.5	43.6	7.4	8.8	5.4	6.4
Capital equipment	20.3	11.4	9.2	21.5	27.1	11.6	10.0	5.7	9.7
Intermediate materials, supplies, and components	100.0	12.6	6.1	100.0	100.0	11.5	7.4	3.8	2.0
Intermediate energy goods	16.2	25.4	11.1	28.5	29.2	47.0	1.9	-2.1	4.2
Intermediate food and feeds	6.5	16.1	-12.4	7.5	-9.0	-17.2	-3	-18.3	-12.9
Intermediate materials less foods, feeds	93.6	12.4	7.4	92.5	109.0	13.8	8.0	5.2	2.8
Intermediate materials less food, energy	77.3	10.1	6.7	64.0	79.8	8.3	8.8	7.1	2.4
Crude materials	100.0	12.8	-3.7	100.0	100.0	3.4	10.8	-9.7	-16.6
Crude energy materials ³	26.8	26.9	22.9	46.4	-166.8	110.0	4.3	1.1	2.9
Crude foodstuffs and feedstuffs	57.7	8.6	-14.0	43.1	219.8	-15.6	6.4	-18.2	-25.5
Crude nonfood materials	42.3	19.1	10.4	56.5	-119.8	34.3	16.1	1.1	-5.6
Crude nonfood materials less energy	15.5	7.5	-11.3	10.3	47.0	-44.5	47.7	1.2	-22.5

¹Percent of overall change attributable to each specific item.

²See "Definitions" and "Notes" preceding tables 22-30 of Current Labor Statistics in this Review.

³Not seasonally adjusted.

NOTE: Data shown above and elsewhere in this article may differ from those previously reported because seasonal adjustment factors have been recalculated to reflect developments during 1981. In addition, PPI data through September 1981 have been revised to reflect the availability of late reports and corrections by respondents.

sales kept industrial production from falling more. Export markets, an increasingly important sector in recent years, were badly depressed for many products in 1981, partly because of economic weakness abroad.

The unusually high interest rates which prevailed during much of the year played a complex role, both directly and indirectly, in many price movements. With interest rates so high in spite of lower inflation, real (that is, inflation-adjusted) interest costs reached virtually unprecedented levels. On the one hand, interest rates aggravated inflation in that mortgage interest rates at or near record-high levels served to raise the reported inflation rate for the CPI; in addition, soaring financing costs were sometimes passed through to buyers in increased prices charged by businesses trying to protect their profits or to minimize their losses. On the other hand, high interest rates helped to restrain inflation by reducing demand for inventories, discouraging commodity speculation, depressing residential construction activity, forcing the postponement of some long-term investment projects, making personal savings more rewarding and consumer credit more expensive, and raising imports and cutting exports through their effect on improving the value of the American dollar in foreign exchange markets.

Consumer goods, except food and energy

Retail prices for consumer goods other than food and energy increased about 6 percent in 1981, after rising about 10 percent in 1980. Price increases for houses slowed as the housing industry experienced its worst year since 1946, mainly because of continued high interest rates for mortgages and construction loans. Sales of both new and existing houses fell almost 20 percent from 1980 levels, and the number of new private housing unit starts dropped to the lowest figure in 35 years. (See table 2.)

The Producer Price Index for finished consumer goods other than foods and energy rose 6.9 percent in 1981, down from a 10.4-percent increase in the preceding year. Unlike 1980, when the indexes for both durables and nondurables other than foods and energy climbed at virtually the same rate, the nondurables index moved up considerably more in 1981 (8.0 percent) than did the durables index (5.4 percent). Demand for consumer durables was hard hit by the recession, while demand for nondurables held relatively steady. The greater deceleration in the durables index partly reflected a dramatic downturn in prices for items made from precious metals: gold jewelry prices dropped 20 percent after soaring nearly 32 percent in 1980, and sterling silver flatware prices were cut 45 percent following a 19-percent advance. The 1981 increase in the nondurables index was also propped by the indexes for newspapers, periodicals, and books, all of which rose at or

close to double-digit rates; because these categories were first introduced into the PPI in December 1980, they had no impact on 1980 index movements. Aside from these special cases, primary market prices for a range of consumer goods rose 3 or more percentage points less in 1981 than they did in 1980.

Retail prices for passenger cars moved up 6.8 percent, somewhat less than the 1980 advance of 7.5 percent. Prices received by producers of automobiles also increased somewhat less than in the preceding year (8.7 versus 9.4 percent). Domestic new car sales totaled only about 6.2 million units for the entire year, the lowest since 1961. A variety of rebate programs offered for 1981 model cars did stimulate sales from time to time, but generally, demand remained sluggish. When an anticipated rebound in sales concurrent with the introduction of 1982 models failed to materialize, many of the announced price increases for the new model-year cars had to be discounted almost immediately. Demand for larger cars recovered, at least relatively, in part because of recent improvements in mileage performance, combined with a gradual decline in gasoline prices after a sharp jump early in the year. Sales of imported cars fell, but much less than did sales of domestic autos. Thus, imports accounted for a record 27 percent of total new car sales in this country. Both retail and producer tire prices rose about 5 percent, far less than in other recent years, as reduced automobile production depressed demand for tires, forced many promotional sales, and lowered prices for crude natural rubber.

As an alternative to higher priced new cars, consumer demand remained strong for used cars, and that index registered an even larger increase in 1981 (20.3 percent) than in the preceding year (18.9 percent). Consumers were less reluctant to buy larger used cars as gasoline prices stabilized. In addition, dealer sales of used cars, although improved from 1980, remained at low levels because of a shortage of trade-ins for new cars.

Retail prices for apparel commodities other than footwear rose 2.4 percent, compared with a 5.8-percent increase in 1980. Synthetic fiber prices had climbed sharply in 1980 and early in 1981; consequently, the apparel industry used more natural fiber in its blends. Synthetic fiber prices slowed in the remaining months of 1981 as petroleum prices stabilized; and, after rising sharply in 1980, cotton prices declined in 1981. Price increases for footwear slowed to 4.6 percent, as producer prices for leather dropped considerably.

On the other hand, prices accelerated for prescription and nonprescription drugs. This acceleration can be attributed to a number of factors, including: (1) a significant increase in the incidence of flu-type ailments early in the year that caused a surge in demand for drugs for treatment; (2) higher costs for plastic packaging; (3) higher costs for research and certification of new drugs;

Table 2. Changes in retail prices for selected commodities less food and energy, 1980-81

CPI grouping	Relative importance, Dec. 1980	Percent change		Compound annual rate, seasonally adjusted except as noted, for 3 months ended —			
		Dec. 1979 to Dec. 1980	Dec. 1980 to Dec. 1981	1981			
				Mar.	June	Sept.	Dec.
Commodities less food and energy	100.0	9.9	5.9	3.5	8.7	9.5	2.2
Alcoholic beverages	2.9	7.6	5.8	9.2	5.6	7.0	1.4
Home purchase ¹	30.5	11.4	1.2	-8.8	8.7	12.4	-5.7
Maintenance and repair commodities ¹	2.4	10.4	4.7	8.3	6.2	1.8	2.6
Textile housefurnishings	1.5	8.2	9.3	7.2	8.4	10.3	11.7
Furniture and bedding	3.5	7.8	6.4	8.8	3.2	9.0	5.1
Appliances, including radio and TV ¹	4.1	3.6	3.9	5.2	6.0	3.9	.5
Other household equipment ¹	2.6	10.4	7.4	14.5	6.0	6.6	2.7
Housekeeping supplies ¹	4.3	12.4	7.6	10.5	8.8	5.3	6.1
Apparel commodities less footwear	10.5	5.8	2.4	3.6	1.2	6.1	-1.4
Footwear	1.9	6.7	4.6	4.4	5.2	3.9	5.0
New cars	10.6	7.5	6.8	-0.9	20.9	3.6	5.0
Used cars	8.8	18.3	20.3	8.0	8.5	44.2	22.7
Auto parts and equipment ¹	1.8	8.6	5.1	4.7	-4.0	8.0	3.6
Medical care commodities	2.3	10.0	11.3	12.1	12.3	11.9	9.1
Entertainment commodities	6.4	10.3	7.1	9.0	6.3	6.2	7.0
Tobacco products ¹	3.1	9.7	7.6	3.3	13.0	4.8	9.5
Toilet goods and personal care appliances ¹	2.1	9.9	9.1	14.1	11.6	4.6	6.2
School books and supplies	0.5	9.7	14.6	14.0	9.2	35.8	2.1

¹ Not seasonally adjusted.

and (4) a high level of advertising expenses required by intensified competition within the industry. Prices for school books and supplies rose sharply, reflecting higher costs of production of textbooks. Price increases for textile housefurnishings accelerated somewhat, augmented by sharply increased costs of synthetic fibers in early 1981.

Energy reacts to weakened demand

Prices for nearly all types of energy rose considerably less in 1981 than in either of the previous 2 years. This reflected reduced world demand associated with recessionary conditions and the continued excess supplies of crude petroleum. Energy prices surged during the first quarter of the year following the decontrol of domestic oil prices and another round of price hikes announced by the Organization of Petroleum Exporting Countries (OPEC) at the end of 1980. After this initial surge, most energy prices either remained stable or edged downward as demand weakened. (See table 3.)

Consumer energy items. Retail motor fuel prices² followed the same pattern as other refined petroleum products. The decontrol of prices for domestic crude oil and gasoline announced on January 28, together with the OPEC price hikes established in December 1980, caused the average retail price per gallon of gasoline to increase 15.7 cents during the first quarter. But gasoline stocks reached a record level in March and remained relatively high throughout the year as demand weak-

ened. In response to higher prices and the threat of recession, American motorists generally curtailed summer driving; as a result, the traditional peak period of gasoline demand did not occur.³ Consequently, retail gasoline prices declined (before seasonal adjustment) for the 9 successive months of April through December. The resulting price competition pressures squeezed retailer's profit margins. Gasoline prices increased 9.4 percent over the year, after jumping 52.2 percent in 1979 and 18.9 percent in 1980.

Fuel oil prices in the CPI increased 17.0 percent in 1981, a somewhat slower rise than the 20.2-percent advance in 1980. The deregulation of the crude petroleum industry coupled with seasonally strong demand led to huge increases in the first quarter, which were followed by 7 months of declines attributed to abundant supplies. The increased number of passenger cars using diesel fuel helped raise fuel oil prices; as gasoline demand slumped, petroleum refiners attempted to maintain profit levels by raising prices of distillate fuels.

Consumer prices for natural gas rose 14.9 percent in 1981, compared with 20.1 percent in 1979 and 14.7 percent in 1980. Purchased gas adjustments and rates showed moderate but steady increases throughout the year. Electricity prices increased 14.5 percent in 1981, a slight moderation from the previous year. Utilities dependent upon petroleum-fueled power generating plants raised fuel adjustment charges during the early part of the year, and sizable increases in coal prices were passed on to electricity consumers during the summer.

Industrial fuels. Prices of energy goods used by businesses and industries also soared during the first quarter of 1981. The fastest rate of advance was for diesel fuel; however, diesel prices turned downward during the second quarter and continued to recede for the remainder of the year, as the weak economy caused reduced shipments by motor trucks. Similarly, commercial jet fuel prices surged and then began to fall; however, the downturn was somewhat later than that for diesel fuel. This is typical, because jet fuel is sold largely on a contractual basis and its price is less flexible than that of diesel fuel. Demand for jet fuel was held down by the cutback in flights attributed to the strike and subsequent firing of some air controllers. Over the year, both diesel fuel and commercial jet fuel prices rose less than in either 1979 or 1980.

After rising rapidly from November 1980 through March 1981, prices for residual fuel fell sharply for the rest of the year. These prices are especially sensitive to short-term market changes because most sales are transacted at spot prices. In late 1980, fears of shortages arising from the Iran-Iraq war led to sharp increases; when it became apparent that supplies would exceed demand, prices began to plummet during the spring of 1981.

The PPI for electric power (which includes sales to commercial and industrial users, but not sales to residential customers) rose somewhat less than during the

preceding year. The slowdown was the result of decelerated increases for residual fuel and natural gas, which are used in power-generating plants. However, there were large increases during the second half, coinciding with steep hikes in coal prices. Utilities continued to switch from petroleum to coal as a generating fuel during 1981 as an economy measure and in compliance with Federal energy policy. The proportion of total electricity output produced in coal-fired facilities rose to 52 percent, compared with 44 percent in 1978; during the same period, the proportion generated using petroleum (residual fuels) dropped to 9 percent, from 16 percent.

Crude energy. On January 28, 1981, the Administration announced the immediate decontrol of prices for crude petroleum; previously, a phased decontrol program had been set for completion at the end of September 1981. Domestic oil prices quickly rose to about the world level, jumping nearly 20 percent between January and February. Thereafter, domestic crude oil prices became responsive to world market conditions, which were characterized by excess supplies. After the early surge, prices fell about 7 percent through the end of the year.

After Iran and Iraq partially resumed crude oil shipments around the end of 1980, world supplies again exceeded demand. Saudi Arabia, which had raised its production to more than 10 million barrels per day to

Table 3. Changes in consumer and producer prices for energy items, 1980-81

Grouping	Index	Relative importance, Dec. 1980	Percent change		Compound annual rate, seasonally adjusted except as noted, for 3 months ended —			
			Dec. 1979 to Dec. 1980	Dec. 1980 to Dec. 1981	1981			
					March	June	Sept.	Dec.
Finished items (sold to consumers)								
Energy items ¹	CPI	100.0	18.1	11.9	49.1	4.7	3.0	-2.4
Finished energy goods	PPI	100.0	27.8	14.3	56.6	3.5	-3.6	9.7
Motor fuels, motor oil, coolants, etc. ²	CPI	55.7	18.9	9.4	49.6	-15.7	1.9	12.1
Gasoline	CPI	54.9	18.9	9.4	50.4	-16.1	1.8	12.3
	PPI	56.8	29.5	10.8	59.5	-8.9	-8.4	14.7
Household fuels	CPI	44.3	17.0	15.2	33.1	9.1	11.3	9.1
Fuel oil ^{1,3}	CPI	12.0	19.9	16.6	97.0	-6.4	-4.9	5.5
	PPI	14.1	23.9	19.5	107.7	3.8	-5.8	1.2
Gas (piped)	CPI	13.0	14.7	14.9	16.6	17.5	15.6	9.9
	PPI	18.2	29.9	26.8	28.6	47.0	18.0	16.0
Electricity	CPI	19.3	16.7	14.5	12.2	15.5	20.6	9.9
Intermediate materials (sold to businesses)								
Intermediate energy goods	PPI	100.0	25.4	11.1	47.0	1.9	-2.1	4.2
Diesel fuel ^{1,4}	PPI	9.0	23.7	17.4	106.8	4.9	-10.5	-2.1
Commercial jet fuel ^{1,4}	PPI	8.3	29.9	12.9	60.3	19.0	-10.9	-4.6
Residual fuel ⁴	PPI	15.6	39.8	.8	56.1	-9.1	-12.5	-17.2
Liquefied petroleum gas ¹	PPI	4.8	22.1	1.7	11.8	1.3	-6.5	.9
Electric power ⁴	PPI	29.9	17.6	13.7	11.5	11.5	19.6	12.2
Crude materials								
Crude energy materials	PPI	100.0	26.9	22.9	110.0	4.3	1.1	2.9
Natural gas ^{1,4}	PPI	30.6	29.9	26.8	28.6	47.0	18.0	16.0
Crude petroleum ¹	PPI	54.7	34.4	24.4	214.6	-12.2	-9.0	-4.6
Coal ¹	PPI	14.6	3.6	8.5	5.0	9.1	15.9	4.3

¹ Not seasonally adjusted.

² "Motor fuels" replaces "gasoline" to reflect the inclusion of direct pricing of gasohol and diesel fuel.

³ Includes coal and bottled gas in the CPI.

⁴ Prices are lagged 1 month in the PPI.

compensate for the shortfall caused by the outbreak of the war between Iraq and Iran, maintained this rate for most of 1981, thereby creating the worldwide glut of petroleum. Some individual oil-exporting countries began discounting their prices by April in order to boost sales in a sagging market. The fact that price reductions by oil exporting countries outside of OPEC (such as Mexico) induced OPEC members to alter their price and output levels indicated that OPEC was losing its ability to manipulate the world market. Those countries with the highest prices (Libya, Algeria, and Nigeria) were forced to cut their output drastically because of a lack of buyers. In October, members of OPEC finally resolved their policy differences and agreed on a uniform benchmark price of \$34 per barrel; price reductions by most OPEC members were coupled with a price increase and output cutback by Saudi Arabia.

The PPI for natural gas rose more than 25 percent for the third consecutive year, although the 1981 increase was somewhat less than in 1979 or 1980. Part of the increase was the result of the scheduled phasing out of some price controls under the provisions of the Natural Gas Policy Act of 1978. However, a large part of the

price hikes was due to the producers' practice of changing to more advantageous price categories by drilling old gas wells deeper or by drilling new wells in old gas fields.

Coal prices were raised substantially during the third quarter, following 3 years of relatively little movement. The increase reflected higher labor costs in the wake of a new wage settlement negotiated with the United Mine Workers. Export demand for coal, while strong, did not grow as much in 1981 as had been expected, and some coal producers were constrained by their inability to maintain profit margins as costs rose.

Food price increases—5-year low

Retail food prices, showing their smallest increase since 1976, rose 4.3 percent in 1981, following a 10.2-percent advance in 1980. At the producer level, finished consumer food prices increased 1.5 percent, after advancing 7.5 percent in 1980. (See table 4.) The PPI for crude foodstuffs and feedstuffs fell 14.0 percent in 1981, compared with an 8.6-percent increase in 1980. This moderation in price increases was largely the result of improved supplies, as the United States increased

Table 4. Changes in retail and producer prices for selected foods, 1980-81

Commodity	Index	Relative importance, Dec. 1980	Percent change		Compound annual rate, seasonally adjusted except as noted, for 3 months ended —			
			Dec. 1979 to Dec. 1980	Dec. 1980 to Dec. 1981	1981			
					Mar.	June	Sept.	Dec.
Consumer food¹	CPI	100.0	10.2	4.3	5.3	2.2	7.7	1.7
	PPI	100.0	7.5	1.5	5.1	3.5	1.6	-3.7
Beef and veal	CPI	9.8	5.0	-1.7	-14.1	-1.6	19.2	-7.8
	PPI	12.1	-1.8	-8.0	-24.1	13.4	5.1	-21.0
Pork	CPI	4.7	11.8	2.3	-12.9	13.2	20.6	-9.5
	PPI	6.5	8.8	-3.5	-12.6	36.0	7.6	-31.7
Poultry	CPI	2.3	15.0	-5.4	-9.6	-4.9	2.9	-10.6
	PPI	3.3	6.8	-17.5	-11.9	-5.4	-26.8	-24.9
Cereal and bakery products ²	CPI	8.7	11.6	7.4	13.3	7.4	4.2	5.1
	PPI	13.1	11.2	2.9	5.6	10.7	2.2	-6.3
Dairy products ²	CPI	9.3	9.7	3.2	8.0	2.0	0.8	2.0
	PPI	13.6	10.2	2.0	8.9	1.0	-1.6	0.0
Fresh fruits and vegetables	CPI	5.2	13.9	4.9	35.9	-24.5	16.8	1.3
	PPI	5.2	16.3	14.2	67.4	-27.2	-0.8	38.7
Processed fruits and vegetables ²	CPI	4.5	8.0	11.8	21.3	15.2	8.3	3.3
	PPI	6.4	6.3	14.7	36.0	11.9	10.9	3.0
Eggs	CPI	1.3	11.1	-4.2	-24.1	29.0	-7.6	-7.1
	PPI	2.0	9.6	-10.1	-32.3	61.3	-9.8	-33.8
Sugar and sweets ³	CPI	2.9	35.7	-7.0	-3.2	-21.0	0.1	-2.3
	PPI	4.8	45.0	-26.2	-37.6	-31.4	-34.9	6.8
Roasted coffee ²	CPI	0.8	-11.6	-11.6	-27.7	-6.8	-8.8	-0.8
	PPI	3.6	-14.7	-3.5	-1.8	-21.1	-0.6	12.5
Fats and oil products ^{2,4}	CPI	1.9	8.1	3.7	29.9	1.0	-1.6	-10.6
	PPI	1.6	2.6	0.4	2.7	-7.4	-4.5	12.0
Food away from home ⁵	CPI	30.7	9.6	7.2	9.0	6.6	7.1	6.1

¹ Includes items not listed.

² Not seasonally adjusted in the CPI.

³ "Sugar and confectionery" in the PPI. Not seasonally adjusted in the CPI or PPI.

⁴ "Shortening and cooking oils" in the PPI effective January 1982, formerly "vegetable oil and products."

⁵ The PPI does not reflect restaurant prices.

its crop production 14 percent and its livestock production 2 percent. Processing, transportation, and marketing charges constitute a large share of total costs, as foodstuffs move from the crude stage to the finished goods stage, and account for an even larger share at the retail level. Continued increases in costs for energy, labor, and other inputs, therefore, prevented the drop in farm prices from being fully reflected in grocery stores and restaurants.

The CPI for food rose only slightly in the first half of the year before accelerating in the third quarter to a 7.7-percent annual rate of increase. In contrast, the PPI for foods showed progressively smaller increases over the same period. During the fourth quarter, retail prices rose at a more moderate pace, and the PPI for finished consumer foods declined. The CPI for food away from home rose 7.2 percent over the year, somewhat less than the 9.6-percent increase in 1980.⁴

Meats. The CPI for beef and veal fell 1.7 percent in 1981, after a rise of 5.0 percent in 1980 and increases of more than 20 percent in each of the previous 2 years. This index declined in the first 6 months of 1981, turned up significantly by the end of the third quarter as processor prices surged, and then fell again in the fourth quarter when processor prices weakened. At the processor level, generally declining prices resulted from large-scale slaughtering of breeding stock.

Pork prices in the CPI rose 2.3 percent in 1981, after rising 11.8 percent in 1980. At the processor level, pork prices declined 3.5 percent, after rising 8.8 percent in the previous year. The moderation was attributed to sharp price declines early in 1981 when pork supplies were abundant, even though consumers substituted pork for more costly beef.

Both retail and processor prices for poultry fell in 1981, following a rapid increase in the summer of 1980 when intense heat killed millions of chickens. The decline in 1981 retail prices occurred in the first half of the year when poultry supplies were abundant; retail prices turned up slightly in the third quarter when supplies tightened again, only to fall again in the fourth quarter. Despite generally tight supplies, egg prices declined, after rising in 1980. Although production costs, particularly energy, rose rapidly, egg price increases were limited both by plentiful supplies of other high protein foods and by tight consumer budgets as a result of the recession.

Dairy products. Prices for dairy products were relatively stable in 1981, compared with earlier years, because of both large supplies and the lack of any permanent increase in the support price of milk since October 1980.⁵ U.S. Department of Agriculture purchases under the price support program during 1981 totaled 12.6 billion

pounds (milk equivalent fat basis), compared with 8.6 billion during 1980. The Agriculture Department now purchases over a tenth of total farm marketings. Because of such large government purchases, the price of milk is effectively determined by the support price program.

Milk production was estimated at about 3 percent more in 1981 than in 1980. The large number of young replacement heifers available to enter the milking herd allowed the number of milk cows to continue to increase. In addition, lower cow prices throughout 1981 led to a reduced slaughter rate for older, less productive cows. Relatively favorable income for dairy farming, compared with other farm enterprises and other employment opportunities, contributed to the cow population. Cows numbered 10.94 million in October, the largest count since May 1977. Milk production in 1981 also rose because of continued increases in productivity: output per cow advanced (even with relatively little change in feeding rates) because of genetic improvements through selective breeding. In addition, the labor productivity of dairy farming has increased significantly in recent years because of technological advances. Increases in retail prices for butter (3.2 percent), ice cream (6.3 percent), and milk (2.3 percent) were much less than in 1980.

Crops. Prices for grains and feeds turned downward in 1981, following 3 years of generally rising prices. This easing reflected large domestic harvests and weak export demand for corn. Soybean prices, which had displayed no clear trend in recent years, began to fall sharply in late 1980 and continued downward in most subsequent months. The 1981 peanut harvest was substantially larger than the drought-ravaged 1980 crop; after soaring in 1980, retail peanut butter prices fell each month from June 1981 to December.

Cereal and bakery products. Price increases for cereal and bakery products slowed considerably during the second half of 1981, leading to smaller increases than in 1980. The moderation was greater at the producer level, where materials form a larger fraction of costs. Although many production costs continued to rise, prices of several key ingredients fell, in particular, flour, reflecting lower wheat prices; sugar, reflecting improved world supplies; and rice, reflecting improved harvests in many foreign producing countries and large domestic supplies after a record U.S. harvest.

Fruits and vegetables. Volatility was the hallmark of fresh fruit and vegetable prices in 1981, as often happens. Adverse weather conditions are frequently the cause of small harvests and higher prices. A freeze in Florida in January struck hard at tomatoes, as well as

some other winter vegetables. This was followed by rain damage in Florida and in Mexico, the largest supplier of U.S. tomato imports. With supplies short, prices soared in the first quarter, only to fall in the second, as tomatoes planted after the frost were marketed. Potato prices rose in the first quarter, as the small stocks left after the poor harvest of 1980 were depleted. However, later in the year, the new crop came to market and prices for potatoes fell sharply. Lettuce prices showed their usual volatility in response to supply changes as growing areas shifted. The CPI for lettuce rose or fell more than 5 percent in 8 of the 12 months; the net increase for the year was 34.4 percent. The freeze in Florida also damaged orange trees, but an unusually large supply of fresh oranges from California kept consumer price increases small. In the third quarter, both orange and apple prices rose as stockpiles were diminished. Apple prices continued upward in the fourth quarter because of a smaller harvest than in the previous year.

Higher processing costs and smaller supplies for most processed fruits and vegetables led to their relatively large price increases. Among the largest increases in 1981 were the PPI for frozen orange juice concentrate (32.7 percent) and the CPI for frozen fruits and fruit juices (18.0 percent). These indexes rose sharply after the January freeze. Unlike fresh oranges which come largely from California, orange juice is more dependent on the Florida crop. Increased imports of frozen orange juice concentrate from Brazil did not make up the shortfall.

Sugar and coffee. World sugar prices dropped throughout 1981, after undergoing sharp increases in 1980. Domestic producer prices for sugar fell until September, when import fees were restored. Because of time lags, consumer sugar prices continued declining until year-

end. Roasted coffee prices declined 11.6 percent for the second consecutive year, as world supplies remained abundant.

Services, excluding energy

The index for services less energy advanced 12.9 percent, compared with a 14.1-percent climb in the preceding year. Many major components within this area continued to climb at double-digit rates, although usually somewhat less than in 1980. However, the medical care services index accelerated, and in 1981 it registered one of the largest advances ever. (See table 5.)

Contracted mortgage interest costs rose 20.0 percent in 1981, following advances of 34.7 percent in 1979 and 27.6 percent in 1980. In 1979 and 1980, this index reflected sharp increases in house prices and in mortgage interest rates; in 1981, with home prices rising only 1.2 percent, the increase was primarily attributable to mortgage interest rates. The index for mortgage interest rates (up 15.0 percent in 1980 and 16.1 percent in 1979) rose 18.9 percent in 1981, reflecting the behavior of long-term interest rates. The persistent slowdown in money growth from 1977 to 1981 (8.2 percent in 1977 and 1978, 7.6 percent in 1979, 7.3 percent in 1980, and about 4.0 percent in 1981) rendered loanable funds scarce and expensive.

The residential rent index moved up 8.5 percent, a slightly slower rate than the 9.1 percent of the previous year. This slowdown mainly reflected moderating fuel costs.

The transportation services index rose 11.1 percent, a slower rate than the 14.1 percent advance in 1980. The public transportation index (which includes intracity mass transit and intercity bus, train, and airline fares) advanced 19.2 percent, considerably less than the 25.6-percent jump in 1980, but much more than the in-

Table 5. Changes in consumer services less energy prices, 1980-81

CPI grouping	Relative importance, Dec. 1980	Percent change		Compound annual rate, seasonally adjusted except as noted, for 3 months ended -			
		Dec. 1979 to Dec. 1980	Dec. 1980 to Dec. 1981	1981			
				Mar.	June	Sept.	Dec.
Services less energy	100.0	14.1	12.9	10.6	14.8	19.1	7.6
Rent, residential ¹	13.4	9.1	8.5	7.0	7.7	10.2	9.0
Household, less rent and energy ^{1,2}	50.1	17.2	15.5	12.1	20.4	26.0	4.7
Home financing, taxes and insurance ¹	31.4	23.3	17.9	11.4	25.9	33.1	3.6
Mortgage interest costs ¹	25.8	27.6	20.0	11.6	30.7	38.3	2.8
Home maintenance and repairs	7.2	10.7	10.5	12.7	12.2	10.9	6.5
Housekeeping services ¹	5.1	7.4	10.8	11.6	11.9	7.6	12.0
Transportation services	15.1	14.1	11.1	10.2	11.6	12.6	10.0
Auto maintenance and repairs	3.8	10.9	8.6	8.8	7.0	10.1	8.3
Other private transportation services ¹	8.2	11.8	9.1	6.8	12.7	4.8	12.5
Public transportation ¹	3.1	25.6	19.2	21.2	14.3	37.5	5.8
Medical care services	10.3	10.0	12.7	12.1	11.6	14.9	12.3
Entertainment services ¹	3.9	8.7	7.3	10.4	3.2	8.1	7.7
Personal care services ¹	2.3	8.0	7.5	8.9	7.6	9.7	4.0
Apparel services	1.7	12.4	9.4	11.4	8.9	9.8	7.7
Personal and educational services	3.1	12.3	13.2	9.9	12.8	17.7	12.5

¹ Not seasonally adjusted.

² Includes items not listed.

creases for auto maintenance and for other private transportation services. These increases partly reflected higher wage rates because of cost-of-living adjustment clauses in contracts. Airline fares accounted for much of the deceleration in the public transportation sector, as some airlines were able to restrain fare boosts because of moderating fuel costs and intensified competition.

The medical care services index climbed 12.7 percent, following a 10-percent rise in 1980. The index for physician services advanced 11.7 percent, slightly more than in 1980, reflecting increases for a range of services. The dental services index moved up 10.2 percent, roughly the same as in the previous year. Charges for the more difficult dental services did not increase to the same extent as the more routine services, such as fillings and teeth cleaning. Traditionally, use of dental services has fluctuated with the business cycle. However, this is no longer the case, partly because of the increased extent of third-party dental coverage; the share of total expenditures for dental services assumed by private health insurance expanded from 2 to 21 percent between 1965 and 1980. The index for other professional services rose 9.2 percent, with optometrists and ophthalmologists leading the increases.

The cost of hospital rooms, particularly semi-private rooms, continued to rise at a double-digit rate. Some of the factors affecting hospital charges included higher interest costs, increased labor costs attributable, in part, to a shortage of professional nurses, and rising demand associated with the larger proportion of elderly in the general population.

Price increases for most other types of services, including entertainment, personal care, and apparel, rose less than in the previous year. However, the personal and educational services index increased more, reflecting higher college tuition costs.

Capital equipment

The Producer Price Index for capital equipment moved up 9.2 percent, a moderate slowdown from the 11.4-percent advance registered in 1980. The slowdown was broad based; double-digit rates of inflation, extremely common among various kinds of capital goods in the previous year, were far less so in 1981. At the same time, however, few kinds of capital equipment rose less than 8 percent in either 1980 or 1981; increases of this size were common for consumer goods in 1981.

The relatively high rate of inflation in capital goods prices in both 1980 and 1981 could only be partly attributed to a passthrough of increased material costs. In fact, the index for durable manufacturing materials had already slowed from a 17.2-percent surge in 1979 to a 5.9-percent rise in 1980, before decelerating even further to a 3.3-percent increase in 1981. However, prices for

steel—a major material in many kinds of capital goods—did rise faster in 1981 than in other recent years. One crucial factor might be the fact that the real (inflation-adjusted) level of capital expenditures was maintained in both 1980 and 1981, despite a sluggish economy. The Commerce Department estimates that real spending by businesses on new plants and equipment increased 0.8 percent in 1980 and 0.3 percent in 1981. However, the 1981 strength in capital spending, as with the economy as a whole, was concentrated in the first quarter; by the end of the year, real business investment was dropping at a double-digit rate.

One of the largest price increases recorded for capital goods was the 17.7-percent climb for oilfield and gasfield machinery for the second consecutive year. The longstanding boom in energy exploration, development, and production activities, which was further stimulated by the total deregulation of domestic crude oil prices in early 1981, once again proved to be largely independent of the economy. However, prices for mining machinery, which had risen 14.0 percent in 1980, slowed to an 8.1-percent increase in 1981—even though coal prices rose more in 1981 (8.5 percent) than in the preceding 2 years combined (7.1 percent). Mining activity and, hence, demand for mining machinery, were held down by excess inventories of many minerals because of the recession.

Heavy motor trucks, transformers and power regulators, and packaging machinery were among the relatively few capital goods categories to register an even larger price increase in 1981, after climbing at a double-digit rate in 1980. Strong demand often was a major contributing factor. On the other hand, some of the categories with the most marked decelerations included machine tools, fixed-wing utility aircraft, railroad equipment, plastic and rubber industry machinery, printing trades machinery, and woodworking machinery.

Intermediate materials, except foods and energy

The Producer Price Index for intermediate materials other than foods and energy rose 6.7 percent during 1981, following 2 years of double-digit increases. Most of the advances took place early in the year, as manufacturers felt the impact of the decontrol of domestic crude oil prices. The upward movement of prices generally eased during the latter part of the year in response to deteriorating economic conditions. (See table 6.)

American industry displayed greater caution in inventory management in recent years, compared to the 1974–75 recession. During 1973 and early 1974, fears of shortages induced manufacturers to purchase materials in great quantities, creating an artificial boom. But when the recession became apparent, excess stocks were quickly liquidated, thereby intensifying the drop in aggregate demand. Because adjustments in stocks of man-

ufacturers' materials and supplies during the 1980 recession were less severe than in 1974-75, there was a correspondingly smaller buildup of stocks during the subsequent upturn. Continued high interest rates discouraged firms from holding more than minimal inventories. Thus, demand for materials and supplies was rather flat in 1981, even before business turned downward again during the summer.

Nondurable manufacturing materials. The rapid climb in crude oil prices early in the year quickly resulted in steep hikes for many items in the nondurable manufacturing materials category. Prices rose rapidly during the first few months of 1981 for such industrial chemicals as benzene and butadiene, partly because feedstock prices jumped and partly because the reduction in operating levels of petroleum refineries created temporary shortages of certain chemicals. Prices for industrial chemicals tended to stabilize after May, and some prices declined in response to weakened demand. In 1981, the index for industrial chemicals climbed 9.0 percent, following 2 years of much sharper increases.

Higher prices for chemicals, in turn, led to large increases in synthetic fiber prices during the first half of the year. Fiber price increases were further aided by the producers' curtailment of output to restrain inventory buildups and by the shutdown of a number of less effi-

cient fiber-producing factories, as demand for textile products remained relatively weak during most of the year. However, prices for gray fabrics and finished fabrics rose much less than in most recent years, largely because of weak apparel markets and declining raw cotton prices.

The surge in petrochemical prices also had a strong impact on synthetic rubber prices, which rose sharply in the early months of 1981 and were up about 15 percent for the full year, an even sharper increase than in 1980. Plastic resin prices remained relatively flat during most of 1981 in spite of increased petrochemical costs. A long-term excess capacity problem emerged over the past 2 years. New plants were built in anticipation of continued strong growth in plastic sales which did not materialize.

Woodpulp prices moved up much less in 1981 than in either 1979 or 1980, reflecting the weak state of world pulp and paper markets. The indexes for paper and paperboard registered smaller increases compared with the previous year, as wastepaper prices continued to fall. Strikes in Canadian paper mills led to fears of shortages and, thus, higher prices during the summer; prices eased later in the year because of the economic slowdown.

For the third consecutive year, prices for inedible fats and oils moved down. This reflected slow demand and

Table 6. Changes in producer prices for selected materials other than foods and energy, 1980-81

PPI grouping	Relative importance, Dec. 1980	Percent change		Compound annual rate, seasonally adjusted except as noted, for 3 months ended —			
		Dec. 1979 to Dec. 1980	Dec. 1980 to Dec. 1981	1981			
				Mar.	June	Sept.	Dec.
Intermediate materials, except foods and energy	100.0	10.1	6.7	8.3	8.8	7.1	2.4
Materials for nondurable manufacturing	21.3	12.3	7.8	13.1	9.3	7.9	1.7
Materials for durable manufacturing	20.1	5.9	3.3	-9	10.6	8.0	-4.2
Components for manufacturing ¹	20.9	13.5	8.7	13.5	5.0	10.5	6.0
Materials and components for construction	19.9	9.0	5.1	5.3	10.6	1.0	3.9
Synthetic fibers	.9	12.9	15.3	24.2	21.6	7.6	9.8
Finished fabrics	2.2	9.3	4.7	11.1	6.3	5.2	-9
Leather	.4	2.3	-6.2	-29.6	4.9	-3.3	8.1
Industrial chemicals ^{1,2}	5.6	14.5	9.0	26.0	18.3	2.3	-7.5
Plastic resins and materials	1.7	4.4	8.4	6.6	7.1	14.7	5.6
Synthetic rubber	.4	13.8	15.0	36.6	15.0	8.2	7.6
Softwood lumber	2.2	-1.3	-9.6	-14.6	22.3	-33.9	-11.1
Paperboard	.9	11.2	8.2	22.8	2.0	6.2	2.9
Finished steel mill products	7.9	8.0	11.6	17.7	6.9	16.8	4.9
Foundry and forge shop products	2.5	8.3	6.1	3.7	8.7	10.0	1.9
Nonferrous mill shapes	2.2	3.0	3.2	-2.1	9.9	6.2	-4.3
Fabricated structural metal products	4.2	8.4	8.4	12.0	8.0	7.8	6.1
Electronic components and accessories	2.0	14.0	5.9	10.0	2.4	8.1	3.8
Concrete products	2.3	9.6	5.7	3.6	9.9	2.9	6.7
Motor vehicle parts	5.0	27.2	11.6	14.9	8.7	20.1	2.9
Crude nonfood materials, except energy	100.0	7.5	-11.3	-44.5	47.7	1.2	-22.5
Raw cotton ¹	11.2	35.5	-38.4	-30.5	-15.5	-63.3	-33.2
Cattle hides	3.1	-14.2	-7.2	-42.2	-14.3	19.1	-14.6
Crude natural rubber	2.5	5.6	-33.3	-41.5	-34.6	-36.1	-28.8
Wastepaper	2.5	-13.4	-25.1	-18.2	7.5	-4.1	-62.7
Iron and steel scrap	20.9	7.6	-24.1	-44.1	16.2	4.9	-60.2
Copper base scrap	8.3	-4.7	-14.7	-40.8	68.5	-8.5	-42.3
Aluminum base scrap	5.9	-10.7	-26.6	-32.0	-48.6	6.7	-22.1

¹ Not seasonally adjusted.

² Some prices are lagged 1 month.

large levels of livestock slaughter. Leather prices were also down for basically the same reasons and also because of an influx of imported leather.

Durable manufacturing materials. The durable manufacturing materials index recorded a comparatively small rate of increase for the second consecutive year. Part of this moderation was due to the downward trend in precious metals prices. In addition, weak demand for many durable consumer goods led to reduced demand for materials, thereby inhibiting price rises.

The index for nonferrous mill shapes (which includes such items as sheets, tubes, rods, and extrusions) was up only about 3 percent for the second consecutive year, following a big jump in 1979. The moderation was due to weak industrial demand and the prevalence of flat or declining prices for primary nonferrous metals. Copper and lead prices moved down 12.2 and 24.4 percent during 1981, reflecting poor demand in the housing construction and automotive industries. The price of tin tumbled about 16 percent during the first half of the year, as demand in industrialized countries fell short of the steady rise in world output over recent years. However, massive purchases of tin during the second half by an unidentified group raised tin prices by the end of 1981 to a level even higher than that of a year earlier. Zinc prices rose as producers curtailed output levels and supplies dwindled. The aluminum industry suffered a sharp decline in demand from the construction and durable goods sectors as well as the export sector. This was reflected in the 18-percent drop in the index for secondary aluminum, and in sharp cutbacks in production by primary aluminum producers.

Prices for precious metals declined steadily throughout 1981, after experiencing extreme turbulence in the previous year. Speculative and precautionary demand for such metals eroded when investors regained confidence in the American dollar as inflation eased somewhat and high interest rates boosted the dollar's exchange value. Commodity speculators were also discouraged by soaring interest costs which boosted the cost of borrowing, making financial investments more attractive. Over the year, gold prices fell almost 30 percent and silver prices were nearly halved.

The finished steel mill products index advanced 11.6 percent during 1981, more than in any other year since 1974. Most of the increases took place during the first 7 months of the year, and represented an attempt by producing firms to regain historical profit margins in the wake of widespread losses in 1980. Demand for steel, as indicated by domestic shipments, improved in early 1981. The area of greatest demand continued to be steel tubes and pipes used by the petroleum industry; prices for these products were sharply higher over the year. Because of the increased exchange value of the U.S. dol-

lar, the relative price of foreign-made steel fell during the first half of 1981. As a result, import levels surged, even though the "trigger price" was adjusted upward considerably by the U.S. Commerce Department at the beginning of the fourth quarter of 1980 and the second quarter of 1981.⁶ Prices remained fairly stable after July, as demand for steel began to wane when the economy turned downward after midyear.

Among other durable manufacturing materials, flat glass prices rose 7.6 percent in 1981, as higher energy costs offset the impact of weak demand from the automotive and construction sectors. Jewelers' materials and findings fell about 25 percent in response to lower precious metals prices.

Components for manufacturing. The PPI for manufacturing components was up 8.7 percent, following 2 years of double-digit increases. Weak demand was a major influence in moderating rates of price increase for a number of components, such as foundry and forge shop products, plastic parts and components, refrigerant compressors, and electronic components other than tubes and relays. A large part of the increase which did occur for the manufacturing components index was due to higher prices for motor vehicle parts, attributed to increases in steel prices. Sharp increases also occurred for ball and roller bearings; demand for these items typically strengthens during recessions, as businesses postpone new equipment purchases and install replacement parts in old equipment instead. Likewise, advances at or near double-digit rates were registered for electric motors, internal combustion engines, tractor parts, and metal cutting machine tool parts.

Construction materials. The index for construction materials and components moved up 5.1 percent in 1981, the smallest increase since 1972. Although the pace of residential construction had staged a brief recovery after mid-1980, it turned down sharply in early 1981 after mortgage interest rates surged to record levels. As a result, demand for nearly all types of construction materials was exceptionally poor during 1981, and financial losses induced many material manufacturers to cut output. Reduced output and tight inventory controls made possible sporadic price increases during the year, such as occurred for plywood and softwood lumber during the spring. However, both these indexes showed large declines for the year. Prices for millwork moved down steadily during the first two quarters, but these losses were recouped after midyear, and that index showed virtually no change for the year. The relative strength in the millwork market was attributable to its wider usage in home renovation, often undertaken as an alternative to new home purchase during economic stringency.

Most other types of materials used in construction ei-

ther declined or rose slightly over the year. There were large increases during the first half for several products either composed of petroleum derivatives or which require large amounts of energy in the production process. These included concrete products, structural clay products, refractories, asphalt roofing, and asphalt paving mixtures. The index for fabricated structural metal products rose just as much as in the previous year, partly because of higher steel prices. In addition, demand was not as weak as for other construction materials because these products are mainly used for large-scale commercial construction, which was not as badly affected as was the single-family residential construction market. Prices for copper wire and cable moved down over the year, a result of weak demand and lower primary copper prices.

Crude nonfood materials, except energy

Producer prices for crude nonfood materials excluding energy, which tend to be highly responsive to shifts in general economic conditions, fell during most of 1981. The weakness in sensitive raw industrial prices was pervasive. Prices for ferrous scrap, raw cotton, and crude natural rubber tumbled after rising in 1980. Prices for nonferrous scrap and wastepaper declined more than in the previous year, and cattle hide prices fell for the second consecutive year. Although prices for potash and for sand and gravel continued to move up in 1981, neither rise was as large as in the preceding year.

After climbing at an unusually fast pace in the last half of 1980, iron and steel scrap prices began to drop dramatically in early 1981 and continued to decline during most of the year. The downturn was attributable, in part, to much weaker export markets in both Europe and the Far East, coupled with sluggish domestic demand associated with a hard-hit steel industry. In

addition, high interest rates induced scrap buyers to purchase only what was required for immediate needs.

After surging in 1980 when a severe drought cut production drastically, raw cotton prices retreated throughout 1981. Output recovered to a new record which was 40 percent larger than the crop of the previous year. Textile mills tended to minimize their cotton purchases in the hope of buying at lower prices later. Export demand dropped more than domestic consumption.

Crude natural rubber prices, which had turned down in late 1980, continued to fall through most of 1981. The principal influence was the weakness in the automotive and tire industries, which typically account for almost three-quarters of domestic consumption of crude natural rubber.

Nonferrous scrap prices fell during most of the year, partly because of weak demand from the construction and transportation equipment industries. High interest rates and lower prices for primary copper and aluminum also served to depress nonferrous scrap prices.

Wastepaper prices, which had decreased through most of 1980, dropped even more rapidly during 1981. Expanded exports of wastepaper were unable to compensate for the decrease in domestic consumption by paper and board mills. A drop in consumer demand for recycled products, such as gypsum wallboard facing and panelboard (both are made from recycled wastepaper) further contributed to falling prices for wastepaper.

Cattle hide prices also continued their downward trend through the year. Abundant supplies associated with a high cattle slaughter rate, together with low demand from domestic and foreign tanners, generally kept cattle hide prices down.

Potash prices continued to rise, although not as much as in the preceding year, reacting to weakened domestic demand for potash as a fertilizer material. Increased energy costs helped to raise sand and gravel prices. □

FOOTNOTES

¹The rental equivalence approach to measuring homeownership costs will be incorporated into the official CPI beginning in January 1983. See Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the Consumer Price Index," *Statistical Reporter*, December 1981, pp. 62-69, and "CPI Changes," *Monthly Labor Review*, November 1981, p. 2.

²The CPI for "motor fuel" reflects the newly-added direct pricing of gasohol and diesel fuel, in addition to gasoline.

³Because of the atypical seasonal pattern of gasoline demand during 1981, seasonally adjusted data (which are based on historical patterns) may be misleading; that is, the absence of price increases in the summer resulted in declines in seasonally adjusted indexes, whereas the corresponding absence of the usual decreases during the later months caused seasonally adjusted data to indicate an "artificial" upturn.

⁴For more detailed discussion of selected food prices during 1980 and 1981, particularly for meats, grains, and sugar, see William Thomas and others, "Large meat, grain supplies cut recent food price increases," *Monthly Labor Review*, January 1982, pp. 10-15.

⁵A law enacted in December 1981 extends the \$13.10 milk support price, in effect since October 1980, through October 1982. For the next 3 years, the minimum prices are set at \$13.25, \$14.00, and \$14.60 per hundredweight of raw milk.

⁶The trigger price mechanism is a system designed to monitor prices of imported steel so as to minimize "dumping," that is, selling at below-cost prices. The setting of the trigger price and the implementation of the system was begun in 1978 under the auspices of the U.S. Treasury Department, but has since been shifted to the U.S. Commerce Department.

Usual weekly earnings: another look at intergroup differences and basic trends

Recent years of inflation and recession held real earnings of wage and salary workers below 1973 levels; the pay gap between black and white full-time employees narrowed after 1967, but the wide earnings disparity by sex remains

EARL F. MELLOR AND GEORGE D. STAMAS

Interest in earnings differences among various population groups—men and women, blacks and whites, young and old—has grown over the years since data on usual weekly earnings were first published in the *Review* a decade ago. Because of this, the Bureau of Labor Statistics has expanded the collection and publication of the demographically oriented data on weekly and hourly earnings from the Current Population Survey (CPS). Previously collected only in May of each year, these data are now obtained monthly from one-fourth of the CPS sample and are published on a quarterly basis.¹

Aggregation of the new data into annual averages yields the most reliable measures of the earnings differences among the various population groups. At the same time, the quarterly data, although subject to lower statistical reliability,² give at least a broad indication of how the earnings of the various demographic groups are affected by cyclical (or short-term) changes in economic conditions. This article focuses first on the annual average data for 1981 to re-examine the intergroup differences in earnings among both full- and part-time workers and then looks at some of the quarterly data to see how the earnings of the various groups have been

changing over time. Other articles in this issue, by Nancy F. Rytina and Sylvia Lazos Terry, deal more specifically with the relationship of pay to race, sex, occupational tenure, and work experience.

Major differences among full-time workers

Of all persons employed as wage and salary workers in 1981, about 72 million usually worked full time—that is, 35 or more hours a week—and 16 million usually worked part time. On an annual average basis, the median weekly earnings for full-time workers were \$289, but this average masked very wide differences among the various population groups.

Disparities in earnings among groups are largely a reflection of differences in the amount, type, and location of work performed. If the number of hours worked by each group were the same, and if each group were equally distributed among the various occupations, industries, and geographic areas, the inter-group differences in earnings would probably not be very large. But, in reality, there are differences among the various population groups in terms of hours worked—even within the full-time universe—and in terms of the specific occupations and industries in which the work is performed. And, in the case of the principal racial and ethnic groups, there are also wide differences in terms of geographic concentration, which are known to have a

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further effect on earnings. Other factors, such as differences in age, education, job tenure, and the subtle and not so subtle effects of discrimination may also have some impact on a group's earnings, but it is not the purpose of this article to identify all such factors, and even less to attempt to quantify their effects. Nevertheless, the most obvious are cited when comparing widely different levels of earnings.

Men and women. For men working full time, median weekly earnings in 1981 were \$347. For women, the median was \$224, or 65 percent of that for men. Without searching for all the factors which produce this ratio—a most difficult task even when carried out through a complex econometric model—it can be pointed out that men worked more hours than women even within the full-time universe³ and, more importantly, were generally more concentrated within high-pay occupations in such fields as management and administration, professional and technical work, and the various crafts. Women, on the other hand, tend to be more concentrated in such lower-paying fields as clerical and service jobs.

Male-female gaps in earnings prevail even within each

occupation, but they are generally smaller than at aggregate levels. To take an extreme example, the median weekly earnings for women in sales were only 52 percent of those for men in the same field (table 1). However, a further look at this broad occupational group shows women to be largely concentrated in retail sales, where median weekly earnings for all full-time workers were only \$197. By contrast, men were more heavily grouped in "other sales," where the overall weekly median was \$382. Within each of these two fields, sex earnings ratios were significantly higher than the 52 percent average for all salesworkers. Specifically, the ratio was 61 percent in retail sales and 66 percent for "other" sales work. Needless to say, this was still far below parity, and one would have to dig much deeper for the causes of the remaining gap. Unfortunately, it has not been possible to explain all of the male-female disparity in earnings even when more detailed data on the work roles of men and women are available.⁴

Among some of the personal characteristics which are difficult to quantify but which may have a significant effect on the male-female earnings ratio is the discontinuous work experience of many women. Although this practice has changed considerably in recent years, it

Table 1. Median weekly earnings of full-time wage and salary workers, by selected demographic characteristics, annual averages, 1981

Age, major occupational group, and years of school completed	All races			White			Black			Hispanic		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
Age												
Total, 16 years and over	\$289	\$347	\$224	\$296	\$356	\$226	\$238	\$271	\$210	\$229	\$252	\$192
16 to 24 years	204	225	184	206	227	185	185	196	174	187	197	172
16 to 19 years	163	173	150	164	174	151	148	150	145	-	-	-
20 to 24 years	219	241	193	222	244	195	192	207	179	-	-	-
25 years and over	316	378	237	325	389	239	251	290	220	246	282	201
25 to 34 years	302	346	242	310	354	245	248	280	223	-	-	-
35 to 44 years	335	406	241	345	416	243	267	311	227	-	-	-
45 to 54 years	329	408	231	340	417	234	248	295	213	-	-	-
55 to 64 years	317	386	227	326	396	231	243	281	198	-	-	-
65 years and over	227	270	190	228	275	189	216	233	(¹)	-	-	-
Occupation												
Total, 16 years and over	289	347	224	296	356	226	238	271	210	229	252	192
Professional and technical workers	377	439	316	381	443	315	324	352	308	336	386	285
Managers and administrators, except farm	407	466	283	410	471	282	347	391	303	347	381	271
Salesworkers	306	366	190	311	372	191	221	249	182	240	286	(¹)
Clerical workers	233	328	220	233	335	219	230	286	220	226	280	214
Craft and kindred workers	352	360	239	356	364	239	309	314	239	296	304	(¹)
Operatives, except transport	242	298	187	246	304	189	222	267	179	199	231	169
Transport equipment operatives	303	307	237	314	319	237	257	258	(¹)	261	261	(¹)
Nonfarm laborers	238	244	193	241	247	193	217	220	(¹)	222	225	(¹)
Service workers	192	238	165	195	245	165	182	214	166	173	190	147
Farmworkers	179	183	148	181	185	148	147	154	(¹)	185	191	(¹)
Years of school completed												
Total, 25 years and over	316	378	237	325	389	239	251	290	220	246	282	201
Less than 4 years of high school	242	290	180	249	301	182	211	241	172	210	232	167
8 years of school or less	227	259	169	232	268	171	203	225	160	199	221	158
1 to 3 years of high school	256	314	187	268	326	190	217	257	177	235	266	185
4 years of high school or more	333	402	249	341	409	251	273	317	237	293	349	234
4 years of high school	291	363	222	298	372	224	243	294	209	264	319	211
1 to 3 years of college	334	398	259	342	405	261	283	325	246	316	370	258
4 years of college or more	417	482	325	422	490	326	350	396	326	371	414	308
4 years of college	393	459	299	402	471	301	321	354	296	340	384	285
5 years of college or more	443	507	362	445	510	359	416	449	384	421	446	(¹)

¹ Median not shown where base is less than 50,000.

NOTE: Dashes indicate data not available.

used to be customary for women to leave the job market for many years in order to bear and rear their children. This affected not only their accumulation of seniority, but also the advancement of their skills.⁵

An age-earnings profile of CPS data clearly shows that, for one or a number of reasons, the average weekly earnings of women reach a peak at a younger age than do the earnings of men. As shown in chart 1, median weekly earnings of women show no further rise after reaching a peak of about \$240 at ages 25 to 34. For men, however, the peak value of about \$410 reported for the 35-to-44 and the 45-to-54 age groups was considerably higher than the median for the 25-to-34 age group.

One question raised by the chart is whether the relatively narrow earnings gap which now exists between younger men and women will widen as these workers age, or whether the disparity exhibited by older workers merely reflects wage and employment patterns by sex that are gradually being eroded. Only time can answer this question, but it should be noted that, over the past 14 years, the overall sex-earnings ratio has not changed much. It was 62 percent in May 1967 and had risen only to 64 percent by the second quarter of 1981.

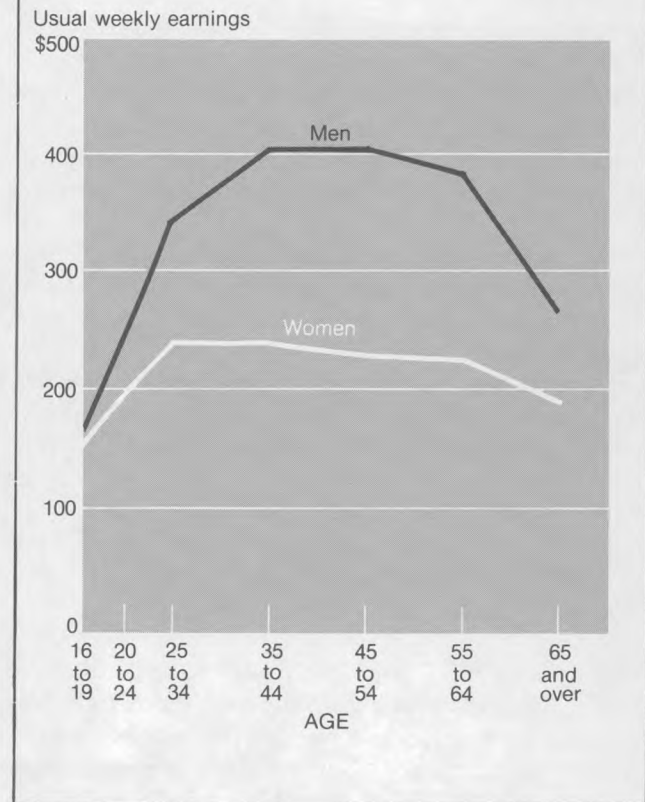
Blacks and Hispanics. The earnings differences among whites, blacks, and Hispanics are shown in table 1 in terms of age, sex, occupation, and education. The tabulation below summarizes the usual weekly earnings of full-time workers by racial and ethnic origin and major age-sex groups based on annual averages for 1981.

	White		Black		Hispanic	
	Level	Percent of white earnings	Level	Percent of white earnings	Level	Percent of white earnings
Total	\$296	80	\$238	77	\$229	77
Men:						
16 to 24 years old	227	86	196	87	197	87
25 years and over	389	75	290	72	282	72
Women:						
16 to 24 years old	185	94	174	93	172	93
25 years and over	239	92	220	84	201	84

As shown above, the overall median weekly earnings of blacks were 80 percent of the overall median for whites, and the median for Hispanics was 77 percent of that for whites. The greatest racial and ethnic differences in earnings, both in absolute and relative terms, were among men 25 years and over. Within this group, the medians for blacks and Hispanics were about 75 percent of that for whites. Among women, the racial-ethnic differences were much smaller.

But even among men, the racial-ethnic differences in earnings were significantly smaller when examined by occupation. Whereas the overall black-to-white ratio for

Chart 1. Earnings profile of full-time wage and salary workers, by sex and age, 1981



men was 76 percent, the ratios for most of the occupational groups exceeded 80 percent for men and were much higher for women. (See table 1.) The reason the overall ratios are so much lower, particularly for men, is because of the relatively high concentration of blacks in low-skill, low-pay occupations, which could, in turn, reflect differences in education or training, or the lingering effects of discrimination. That the racial-ethnic earnings gaps are very small among young workers, both male and female, probably reflects the fact that there is, as yet, little difference among these groups in terms of educational attainment, skills, and general experience on the job.

Regional differences in earnings, coupled with the unequal geographical distribution of the various racial-ethnic groups, also contribute to the earnings variation among these groups. In the South, which employs more than half of all black men with jobs, but less than a third of all white men, workers of each race earned less than their counterparts in the other regions.⁶ And, at \$237 per week, the earnings of black men in the South were 71 percent of those for white men (\$332), a ratio lower than in any other region.

Hispanic men as a group earned \$252 per week, about 93 percent as much as black men and 71 percent

as much as white men. A comparison of the earnings of Hispanic men with the earnings of all white men shows a pattern similar to that for blacks—that is, more favorable earnings ratios within individual occupational groups than overall.

The lower earnings figure for Hispanic men also reflects the fact that a relatively large proportion of them are under 25 years of age. Within age categories, black and Hispanic men earned about the same per week. Men in the major Hispanic ethnic groups—Mexicans, Puerto Ricans, and Cubans—had roughly similar earnings.

For women, there were generally smaller differences among the median weekly earnings of whites, blacks, and Hispanics. Black teenage women had earnings equal to those of their white counterparts. In the older age groups the black-white earnings ratios were about 90 percent. Differences within specific occupational groups were generally small between white and Hispanic women. Hispanic women earned about the same as white women in clerical jobs and as managers and administrators working full time. But they earned less than their white counterparts—and still less than black women—in factory operative and service jobs.⁷

Education. Earnings are closely related to education, as better educated workers generally have access to higher-paying jobs. For full-time workers over age 24 (most of whom had completed their education), median usual earnings in 1981 ranged from \$242 for those with less than 4 years of high school to \$443 for those with 5 years of college or more. (See table 1.)

Among the highly educated workers, earnings of women and minority men compared more favorably

with those of white men than among the less educated. On the average, women with 4 years of college earned 65 percent as much as men with the same attainment, and those with 5 or more years of college earned 71 percent as much as men at the same level of education. On the other hand, among workers with only a high school education, the median weekly earnings of women were only 61 percent of those of men. Working women with any college education are, on the average, younger than men with the same educational attainment, and so have less work experience in their chosen vocation. This may explain, in part, apparent earnings disparities by educational attainment.

Earnings of black men generally hovered around 80 percent those of white men with the same level of education, but blacks with 5 or more years of college earned about 90 percent as much. Relatively fewer black men fit this category, however; 5 percent had 5 or more years of college compared to 12 percent of white men. Several researchers have found that, after standardizing for work experience, returns to education for black men equal or exceed those of white men.⁸ At higher levels of educational attainment, black men are, on the average, younger than white men with similar education.

As can be seen in table 1, younger black men had a more favorable earnings ratio relative to white men their age than did older black men. This is at least partly because, relative to the white counterparts of each group, younger blacks have received more and better quality schooling than did older blacks. It remains to be seen whether young blacks can carry with them this improvement in relative earning power throughout their lives.⁹

Table 2. Percent distribution of full-time wage and salary workers, by usual weekly earnings for major industry groups, annual averages, 1981

Industry group	Number of workers (in thousands)	Percent distribution by weekly earnings									Median
		Total	Under \$150	\$150 to \$199	\$200 to \$249	\$250 to \$299	\$300 to \$349	\$350 to \$399	\$400 to \$499	\$500 or more	
Total	72,491	100.0	9.8	14.5	15.9	12.3	11.2	8.3	13.3	14.7	\$289
Private sector	59,112	100.0	10.6	15.4	16.2	11.8	10.7	7.9	12.8	14.6	282
Goods-producing industries	25,813	100.0	7.1	12.9	15.6	11.9	11.4	9.1	15.6	16.4	310
Agriculture	1,050	100.0	29.1	26.3	19.9	9.5	5.2	3.8	3.2	3.0	189
Mining	1,055	100.0	1.3	3.7	7.5	8.8	10.9	10.6	24.5	32.7	423
Construction	3,658	100.0	4.0	9.4	15.9	10.8	11.6	8.7	17.4	22.3	342
Manufacturing	20,050	100.0	6.8	13.4	15.7	12.4	11.8	9.3	15.4	15.2	306
Durable goods	12,300	100.0	4.3	10.6	15.2	12.8	12.2	10.2	17.7	17.1	329
Nondurable goods	7,750	100.0	10.9	17.8	16.6	11.8	11.0	7.9	11.7	12.3	269
Service-producing industries	33,299	100.0	13.3	17.4	16.6	11.8	10.2	7.0	10.7	13.1	261
Transportation and public utilities	5,033	100.0	2.5	6.8	11.3	10.2	12.3	10.8	22.9	23.1	381
Trade	11,593	100.0	17.7	20.0	16.7	11.2	9.6	6.2	8.6	10.0	236
Finance, insurance, and real estate	4,645	100.0	7.8	19.8	19.4	13.3	9.6	6.2	8.0	16.0	261
Private households	369	100.0	70.7	14.6	10.0	2.4	1.1	0.2	0.8	0.5	114
Miscellaneous services	11,660	100.0	13.9	18.4	17.8	12.8	10.5	6.5	8.9	11.2	249
Public sector	13,379	100.0	6.1	10.6	15.0	14.6	12.9	10.1	15.2	15.3	313
Federal	2,929	100.0	2.7	6.2	10.9	12.1	11.4	12.2	22.2	22.4	377
State	3,162	100.0	6.5	12.1	16.3	15.4	12.9	9.0	12.6	15.3	298
Local	7,162	100.0	7.3	11.8	16.2	15.3	13.6	9.7	13.6	12.5	297

NOTE: Small values in the percent distributions are subject to relatively large sampling errors and should be interpreted with caution. Specifically, values of less than 1 percent are subject to relative errors of 25 percent or more.

Occupation and industry. Workers in managerial or administrative jobs had the highest median weekly earnings (\$407) among the major occupational groups. Professional and technical workers were the second highest-paid group. These two groups included all but one of the eight specific occupations with median weekly earnings of \$500 or more in 1981: lawyers, sales managers other than retail trade, engineers, economists, stock and bond sales agents, airplane pilots, computer systems analysts, and physicians.¹⁰ The same two groups included most of the specific occupations with medians between \$450 and \$499: school administrators, operations and systems researchers and analysts, chemists, and pharmacists. (There also was one blue-collar occupation—structural metal workers.)

Lowest median earnings among the major occupational groups were reported for farmworkers, \$179, and service workers, \$192. The services field included all of the specific occupations with median weekly earnings below \$150.

It is generally recognized that the most precise data on earnings patterns by industry are those collected not through a household survey such as the CPS, but through a survey of establishments such as the "790" survey conducted monthly by the BLS.¹¹ Nevertheless, data from the CPS are still a valuable complement to the establishment-based earnings data, as the latter cannot generally be cross-tabulated with any of the characteristics of the earners, such as sex and full- or part-time status. The CPS data can be disaggregated by these characteristics and, at least until 1980, could also be cross-tabulated with union membership.¹²

In 1981, full-time workers in the private sector had median weekly earnings of \$282, with respective medians of \$310 in goods-producing industries and \$261 in the service sector. (See table 2.) In the public sector, full-time workers had median weekly earnings of \$313, with Federal employees reporting higher average earnings than employees of State or local governments.

From an all-inclusive list of 46 industry groups in the private sector, the six with the highest reported earnings for full-time workers—medians of \$400 or more—included four in manufacturing (petroleum and coal products, motor vehicle and equipment manufacture, aircraft and parts manufacture, and ordnance), mining, and one in the service-producing sector (railroad transportation). These industries typically have higher than average proportions of professional and technical workers, managers and administrators, and craftworkers. They also have above-average proportions of workers who are covered by union agreements and below-average proportions of women employees. This is clearly illustrated in the following tabulation which, in addition to the median weekly earnings for full-time workers in the six highest- and lowest-paying industries, also shows the

percentage of wage and salary workers who were represented by a union as of May 1980 and the percentage who are women.

	Median weekly earnings	Percent represented by a union	Percent who are women
All full-time workers.	\$289	29	39
Highest-paying industries:			
Petroleum and coal products	433	36	20
Mining	423	36	15
Railroad transportation	422	82	7
Aircraft and parts manufacture	414	50	23
Ordnance	410	37	22
Motor vehicle and equipment manufacture	407	63	15
Lowest-paying industries:			
Private households	114	1	90
Apparel manufacture	170	27	79
Eating and drinking places	174	8	55
Leather and leather products	185	24	61
Personal services	188	18	59
Agriculture	189	4	16

Low earners and high earners. Medians are probably the most useful measure of earnings one can use for intergroup comparison. However, information on the distribution of earnings within groups—that is, the proportion of workers at given levels of earnings—show more fully the extent of differences in earnings. For example, while the median earnings of two groups of workers might be about the same, one group could have a larger proportion of very low earners than the other.

From the distribution of earnings in table 3, we see that about 7 million full-time wage and salary workers, or 10 percent of the total, were reported as earning under \$150 a week in 1981. About 600,000 of them were earning under \$100 a week, or considerably less than they could earn if they received the minimum wage (\$3.35 per hour at the time) and worked a 40-hour week.

Earnings below \$150 a week were most common among youth, women, and minority employees. The extent to which these groups were overrepresented among low earners in 1981 can be seen by comparing their share of the full-time work force with their share of the low-earning universe:

	Percent of full-time workers	Percent earning under \$150
Workers 16 to 24 years	19	41
Women	39	66
Blacks	10	17
Hispanics	5	10

Some occupations and industries have a substantially higher share of low earners than others. About 40 percent of service workers and 34 percent of farmworkers, compared to about 3 percent of professional and technical workers, managers and administrators, and craftworkers were reported as earning under \$150 for full-time work in 1981.

Among the major industry groups, private households, agriculture, and trade had the highest proportion of workers reporting less than \$150 for full-time work. Mining, transportation and public utilities, and the Federal Government had the lowest proportions in this low-earning bracket.

At the upper end of the earnings spectrum, 11 million full-time employees reported weekly earnings of \$500 or more per week. They constituted about 15 percent of all full-time workers. An overwhelming majority of the high earners (86 percent) were white males age 25 and over, most of them married. Men with 4 or more years of college—13 percent of all full-time employees—made up 41 percent of the workers with \$500

or more in weekly earnings, while women with the same level of education were underrepresented among these high earners. Three occupational groups—professional and technical, managerial and administrative, and craft—accounted for 76 percent of the high earners, but only 43 percent of all full-time workers.

Part-time workers

For the 16 million persons who were reported as usually working part time, median weekly earnings were \$82 in 1981. This was equivalent to 28 percent of the median for full-time workers, for workweeks that were almost half as long.¹³

In addition to the shorter workweek, the occupational distribution and demographic composition of part-time workers figured in their lower earnings. For example, part-time workers include a higher proportion of women and of persons outside the prime earning ages (25 to 54 years). The following tabulation shows the percentages of the part-time and full-time work forces accounted for by various demographic groups in 1981.

Table 3. Percent distribution of full-time wage and salary workers, by usual weekly earnings and selected demographic characteristics, annual averages, 1981

Characteristic	Number of workers (in thousands)	Percent distribution by weekly earnings									Median
		Total	Under \$150	\$150 to \$199	\$200 to \$249	\$250 to \$299	\$300 to \$349	\$350 to \$399	\$400 to \$499	\$500 or more	
Sex and age											
Total, 16 years and over	72,491	100.0	9.8	14.5	15.9	12.3	11.2	8.3	13.3	14.7	\$289
16 to 24 years	13,702	100.0	21.2	26.6	21.2	11.9	7.6	4.4	4.7	2.4	204
25 years and over	58,789	100.0	7.1	11.7	14.7	12.5	12.0	9.2	15.2	17.6	316
Men, 16 years and over	43,888	100.0	5.4	9.0	12.7	11.3	12.1	10.0	17.8	21.7	347
16 to 24 years	7,672	100.0	10.4	22.3	21.7	13.1	9.6	6.0	7.1	3.7	225
25 years and over	36,216	100.0	3.1	6.2	10.7	10.9	12.6	10.9	20.0	25.5	378
Women, 16 years and over	28,603	100.0	16.4	23.0	21.0	14.0	9.7	5.6	6.3	4.1	224
16 to 24 years	6,030	100.0	27.4	32.0	20.5	10.2	5.1	2.3	1.7	0.8	184
25 years and over	22,573	100.0	13.4	20.5	21.1	15.0	10.9	6.5	7.6	4.9	237
Race, Hispanic origin, and sex											
White	63,241	100.0	9.0	14.0	15.6	12.2	11.3	8.5	13.7	15.8	296
Men	38,874	100.0	4.8	8.4	12.1	11.0	12.1	10.2	18.2	23.1	356
Women	24,367	100.0	15.6	22.8	21.1	14.2	10.0	5.8	6.4	4.1	226
Black	7,499	100.0	16.0	19.3	18.9	13.0	10.2	6.8	9.7	6.1	238
Men	4,023	100.0	11.2	15.1	17.9	13.4	12.1	8.5	13.5	8.4	271
Women	3,477	100.0	21.6	24.1	20.2	12.6	8.0	4.8	5.3	3.4	210
Hispanic	4,284	100.0	16.9	21.2	19.7	12.0	8.7	6.3	8.8	6.4	229
Men	2,759	100.0	11.8	17.7	19.7	12.5	10.1	7.6	11.5	9.0	252
Women	1,525	100.0	26.1	27.5	19.7	11.3	6.0	3.9	4.0	1.5	192
Occupation											
Professional and technical workers	12,870	100.0	2.5	4.7	9.6	13.0	14.1	10.9	18.4	26.8	377
Managers and administrators, except farm	7,864	100.0	2.8	5.9	9.2	10.5	11.0	9.1	15.2	36.4	407
Salesworkers	3,601	100.0	13.1	13.4	12.1	9.9	11.3	6.8	11.3	22.2	306
Clerical workers	14,066	100.0	10.2	23.6	24.2	14.8	9.8	6.2	7.4	3.7	233
Craft and kindred workers	10,558	100.0	2.9	7.3	13.4	12.1	13.5	11.4	22.0	17.3	352
Operatives, except transport	9,440	100.0	13.6	20.5	18.6	12.5	10.3	7.8	11.8	4.8	242
Transport equipment operatives	2,792	100.0	5.5	12.3	17.6	13.7	12.6	9.5	15.8	13.0	303
Nonfarm laborers	3,227	100.0	15.2	19.7	19.3	12.1	10.3	8.2	10.7	4.6	238
Service workers	7,305	100.0	29.3	24.1	18.2	9.8	6.8	3.9	4.8	3.2	192
Farmworkers	766	100.0	33.6	27.7	19.6	8.1	4.2	3.2	1.6	2.1	179

NOTE: Small values in the percent distributions are subject to relatively large sampling errors and should be interpreted with caution. Specifically, values of less than 1 percent are subject to relative errors of 25 percent or more.

	Part time	Full time
Women	69	39
Persons under 25 years	43	19
Persons 55 years and older	15	12
White	89	87
Black	9	10
Hispanic	4	5

The unique industry composition of the part-time work force also contributed to its lower earnings. Almost nine-tenths of all part-time employment, compared with about two-thirds of full-time employment, is in the service-producing sector, where pay scales are relatively low.

Women as a group earned slightly more per week than men for part-time work in 1981 (\$84 versus \$78). However, this is largely because one-half the women but only one-sixth the men in part-time work are age 25 to 54. Within each age group, women earned less than men for part-time work. (See table 4.) The gap was least for workers under 25 years and widest for those age 35 to 44.

Median weekly earnings of part-time workers by occupation ranged from \$32 for private household work and \$59 for farmwork to \$123 for professional and technical jobs. In each occupation, the ratio of median weekly earnings, part time to full time, was lower than the ratio of mean hours between the two groups. (See table 5.)

Trends in weekly earnings

An examination of the broad earnings trends for the period beginning with May 1967 and ending with the second quarter of 1981 reveals significant gains in constant dollars (current dollars deflated by the CPI-W) up to 1973 and some erosion thereafter.¹⁴ The erosion reflects both the effects of the recession of 1974-75 and of the slowdown that began in 1980, as well as the acceleration in prices over this period. For 1981 no group shown in table 6 had constant-dollar earnings exceeding their 1973 level.

Overall, the median earnings for all full-time workers

Age	Median weekly earnings			Women's earnings as a percent of men's
	Both sexes	Men	Women	
Total, 16 years and over	\$82	\$78	\$84	108
16 to 19 years	61	62	59	95
20 to 24 years	84	86	83	97
25 to 34 years	103	119	100	84
35 to 44 years	104	150	101	67
45 to 54 years	99	119	97	82
55 to 64 years	91	105	88	84
65 years and over	71	78	65	83

Table 5. Weekly earnings and hours of part-time workers and as a percent of those of full-time workers, by occupation, annual averages, 1981

Occupation group	Median weekly earnings		Mean hours ¹	
	Part-time workers	As a percent of full-time earnings	Part-time workers	As a percent of full-time hours
Total	\$ 82	28	19.0	46
Professional and technical workers	123	33	19.1	45
Managers and administrators, except farm	108	27	20.7	46
Salesworkers	73	24	19.1	44
Clerical workers	88	38	19.7	50
Craft and kindred workers	105	30	20.1	48
Operatives, except transport	91	38	20.4	50
Transport equipment operatives	93	31	19.1	43
Nonfarm laborers	70	29	17.8	44
Service workers	69	36	18.2	44
Private household workers	32	30	13.5	31
Other service workers	73	37	18.9	46
Farmworkers	59	33	16.5	33

¹Hours are for wage and salary workers who usually work part time for non-economic reasons and for wage and salary workers on full-time schedules.

were about 4 percent lower in real terms in 1981 than in 1967. This overall decline, however, was partly a function of changes in the demographic composition of the work force. Most of the gains in employment over the 1967-81 period were made by women and very young workers, whose earnings are generally much lower than those of adult men. Thus, the increase in the youth and female proportions of the work force had a depressing effect on the earnings average for all full-time workers.

As shown in table 6, the inflation-adjusted earnings of men 25 and over were still 5 percent higher in mid-1981 than in 1967, while those of women 25 and over were 9 percent higher. It was only the earnings of young workers 16 to 24 that were lower in real terms in mid-1981 than in 1967, a phenomenon that has been widely attributed to the very rapid increase in the number of youth entering the labor force over this period.¹⁵

A more encouraging development was the relatively sizable gain in the earnings of blacks. During 1967-73, black men and women experienced gains in earnings adjusted for inflation about twice as large, in percentage terms, as those of their white counterparts. Moreover, subsequent periods of recession and spiraling prices eroded the gains of black workers much less. After allowance for inflation, median weekly earnings were 12 percent greater for black men and 24 percent greater for black women in 1981 than in 1967. In contrast, white men had real earnings equal to their 1967 level, while white women had earnings only 4 percent higher than their 1967 level. Thus, there was significant narrowing in the racial earnings gap over this period.

The disparity between the earnings of men and women also narrowed slightly, but continued to be large. The tabulation below shows the earnings of women

working full time as a percentage of the earnings of men of comparable age for 1967 and 1981.

	1967 (May)	1981 (Second quarter)
16 years and over	61.9	64.2
16 to 24 years	76.8	80.4
25 years and over	60.5	62.6

More recently, over the 2-year period ended with the fourth quarter of 1981, median weekly earnings of full-time workers rose by 19.1 percent, while consumer prices rose by 23.1 percent. This resulted in a 3.3-percent decline in constant-dollar earnings, most of which occurred during 1980. For most of the major groups, the changes between the fourth quarters of 1980 and 1981 were not statistically significant. The fact that there was no further erosion of real earnings over this period reflects a slowdown in the increase in the CPI-W (from 12.6 to 9.4 percent annually) rather than an acceleration in current-dollar earnings.

Although the recession which began in the latter part of 1981 had a negative impact on the number of full-time workers, it did not have a noticeable effect on the average weekly earnings of this group. This reflects contractual and other factors working against reducing wage increases (for example, cost-of-living adjustments). Also, during a production cutback, workers with the least seniority on the job are generally laid off first, and this may result in a smaller but higher-tenured and higher-paid workforce.

A look at hourly earnings

Of all wage and salary workers, about three-fifths, or a little under 52 million, were paid by the hour in 1981. The data on the hourly earnings of these workers, when crossed with their demographic characteristics, provide some additional insight on the earnings distribution, particularly in terms of those who are at the lower end.

Workers paid by the hour are highly concentrated in lower skilled occupations. Those most likely to be paid hourly rates in 1981 were factory operatives and non-farm laborers; the least likely were professional and technical workers and managers and administrators. In terms of industries, hourly wage workers accounted for more than two-thirds of construction, manufacturing, and trade employees, but for only one-fourth of those in finance, insurance, and real estate.

Within the hourly earnings universe—which, to a certain extent, tends to group workers according to skills and education—the inter-group differences in earnings are not as large relatively as they are for all wage and salary workers. For example, as shown in table 7, the median hourly earnings for black men were \$5.93 in 1981. This was 87 percent of the median for white men paid by the hour, compared with a 76 per-

cent ratio of the weekly medians for the two groups. The median hourly earnings of black women (\$4.27) were only slightly lower than those of white women (\$4.36).

Men had much higher hourly earnings than women at every age. And, as in the case of weekly earnings, women reached a peak in hourly earnings at an earlier age than did men. According to the cross-sectional data for 1981, women reached a peak in median hourly earnings at ages 25 to 34, whereas the median for men continued to rise through the 35-to-44 age group and remained about the same for men age 45 to 54.

In terms of distribution, about 6.8 million workers paid by the hour, or 13 percent, made \$10 or more in 1981. An overwhelming majority of them, 80 percent,

Table 6. Median weekly earnings of wage and salary workers who usually work full time, by selected characteristics, 1967, 1973, and 1981

Characteristic	Median weekly earnings			Index of constant dollars (May 1967=100.0)	
	1967 (May)	1973 (May)	1981 (Second quarter)	1973 (May)	1981 (Second quarter)
Sex and age					
Both sexes, 16 years and over	\$109	\$159	\$285	110.1	96.3
16 to 24 years	84	119	202	107.1	89.3
25 years and over	115	170	312	111.3	100.0
Men, 16 years and over	125	188	344	113.6	101.6
16 to 24 years	97	136	225	106.2	85.6
25 years and over	131	203	374	116.8	105.3
Women, 16 years and over	78	116	221	112.8	105.1
16 to 24 years	74	103	181	105.4	90.5
25 years and over	79	121	234	115.2	108.9
Race					
White	113	162	293	108.0	95.6
Men	130	193	353	112.3	100.0
Women	79	117	223	111.4	103.8
Black and other races ¹	79	129	238	124.1	111.4
Men	90	149	274	125.6	112.2
Women	63	107	210	128.6	123.8
Marital status					
Men, 16 years and over:					
Never married	95	134	238	106.3	92.6
Married, spouse present	131	200	377	115.3	106.1
Other marital status	113	171	344	114.2	112.4
Women, 16 years and over:					
Never married	79	114	206	108.9	96.2
Married, spouse present	79	117	226	111.4	105.1
Other marital status	75	115	225	116.0	110.7
Occupation					
Professional and technical workers	145	212	368	110.3	93.8
Managers and administrators, except farm	164	238	409	109.8	92.1
Salesworkers	113	163	301	108.8	98.2
Clerical workers	91	130	230	107.7	93.4
Craft and kindred workers	131	195	347	112.2	97.7
Operatives, except transport ²	—	132	243	—	—
Transport equipment operatives ²	—	169	299	—	—
Nonfarm laborers	93	138	236	111.8	93.5
Service workers	70	107	189	115.7	100.0
Farmworkers	58	96	179	125.9	113.8

¹ Data for blacks (exclusive of other races) are not available prior to 1978.

² Data not available prior to 1972.

Table 7. Median hourly earnings of wage and salary workers paid hourly rates, by selected demographic characteristics, annual averages, 1981

Age and years of school completed	Total			White			Black			Hispanic		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
Age												
Total, 16 years and over	\$5.27	\$6.72	\$4.35	\$5.30	\$6.84	\$4.36	\$5.01	\$5.93	\$4.27	\$4.90	\$5.45	\$4.15
16 to 24 years	4.04	4.41	3.75	4.06	4.44	3.76	3.88	4.11	3.70	4.08	4.34	3.80
16 to 19 years	3.47	3.61	3.39	3.48	3.64	3.39	3.39	3.40	3.38	—	—	—
20 to 24 years	4.68	5.25	4.17	4.75	5.31	4.19	4.24	4.58	3.93	—	—	—
25 years and over	6.13	7.92	4.74	6.25	8.14	4.77	5.43	6.64	4.51	5.35	6.38	4.37
25 to 34 years	6.24	7.53	4.98	6.36	7.69	4.99	5.56	6.50	4.81	—	—	—
35 to 44 years	6.38	8.49	4.84	6.51	8.77	4.85	5.64	6.98	4.63	—	—	—
45 to 54 years	6.18	8.65	4.63	6.35	8.96	4.68	5.32	6.77	4.35	—	—	—
55 to 64 years	5.88	8.05	4.45	5.99	8.26	4.49	5.26	6.67	4.09	—	—	—
65 years and over	3.98	4.35	3.76	4.03	4.41	3.79	3.53	3.75	3.41	—	—	—
Years of school completed												
Total, 25 years and over	6.13	7.92	4.74	6.25	8.14	4.77	5.43	6.64	4.51	5.35	6.38	4.15
Less than 4 years of high school	5.30	6.77	4.05	5.43	7.00	4.10	4.71	5.65	3.86	4.82	5.45	3.80
8 years of school or less	5.06	6.09	3.88	5.17	6.29	3.92	4.44	5.19	3.63	4.53	5.19	3.73
1 to 3 years of high school	5.50	7.40	4.18	5.79	7.65	4.24	4.90	6.16	3.98	5.44	6.59	3.92
4 years of high school or more	6.47	8.45	5.03	6.53	8.62	5.02	6.03	7.27	5.03	6.32	7.77	4.60
4 years of high school	6.19	8.43	4.71	6.28	8.61	4.71	5.65	7.05	4.71	6.07	7.54	4.46
1 to 3 years of college	6.91	8.60	5.49	6.96	8.78	5.47	6.69	7.74	5.70	7.09	8.48	4.73
4 years of college or more	7.21	8.22	6.36	7.22	8.31	6.29	7.03	7.56	6.46	6.55	7.05	(¹)
4 years of college	6.93	8.09	5.97	6.95	8.21	5.92	6.86	7.58	6.22	6.36	(¹)	(¹)
5 years of college or more	7.92	8.53	7.40	7.88	8.51	7.28	7.95	(¹)	(¹)	(¹)	(¹)	(¹)

¹ Median not shown where base is less than 50,000.

NOTE: Dashes indicate data not available.

were white men. Only 12 percent of the high wage earners were women, 8 percent were black, and 5 percent were Hispanic.

At the low end of the earnings scale, about 1.4 million of the workers paid an hourly wage earned less than \$3 an hour in 1981, when the prevailing minimum wage under the Fair Labor Standards Act was \$3.35. Of course, the Act exempts certain types of workers from the minimum wage provisions and permits a lower minimum for others.¹⁶ About half of the workers who

earned less than the prevailing minimum were employed in retail trade—two-thirds of them in eating and drinking places, where exemptions from the minimum are very prevalent. One-tenth worked in private households.

Workers who reported that they earned less than the minimum wage were predominantly young (57 percent were under 25 years of age), and female. Among both whites and blacks, about 7 percent of the hourly employees reported earnings below the prevailing minimum. □

— FOOTNOTES —

¹ Quarterly data on weekly earnings from the CPS have been available since early 1979 and are published in a press release entitled "Weekly Earnings of Workers and Their Families." The release is available free of charge from the Bureau of Labor Statistics.

Before 1979, roughly comparable data on weekly earnings by demographic group were collected each May from 1967 to 1978, except for 1968. The data were published in press releases and occasional articles in the *Monthly Labor Review*. The first such article was Paul O. Flaim and Nicholas I. Peters, "Usual weekly earnings of American workers," *Monthly Labor Review*, March 1972, pp. 28–38. The most recent was Janice N. Hedges and Earl F. Mellor, "Weekly and hourly earnings of U.S. workers, 1967–78," *Monthly Labor Review*, August 1979, pp. 31–41.

The switch from annual to more frequent collection of earnings data in the CPS was made after two methodological tests indicated it was feasible to collect these data more often and that they would meet BLS standards of statistical reliability. The most important test was conducted in January 1977, when information on the earnings of about 4,000 workers was obtained directly from them or from members of their households and was then compared with information from their respective employers. Median hourly earnings for workers paid at hourly rates were \$3.53 on the basis of the household reports and \$3.64 on the basis of the employer reports—a difference of 11 cents or 3 percent. Median weekly earnings (excluding tips or commissions) were \$170.24 on the basis of the household reports and

\$179.50 on the basis of the employer reports, for a difference of \$9.26 or 5 percent. See Larry Carstensen and Henry Woltman, "Comparing Earnings Data From the CPS and Employer Records," *Proceedings of the Social Statistics Section, 1979* (Washington, American Statistical Association, 1979), pp. 168–74.

² For detailed information with regard to the reliability and other technical aspects of the quarterly earnings data from the CPS, see Earl F. Mellor, *Technical Description of the Quarterly Data on Weekly Earnings From the Current Population Survey*, Bulletin 2113 (Bureau of Labor Statistics, 1982).

³ During 1981, women on full-time schedules worked an average of 39.5 hours per week, compared to 43.1 hours for men.

⁴ The usual method for measuring intragroup wage differences is to estimate wage equations for each group through regression techniques which adjust for productivity-related personal characteristics. For example, see Burton G. Malkiel and Judith A. Malkiel, "Male-female pay differentials in professional employment," *American Economic Review*, September 1973, pp. 693–705.

This analysis rests in part on the foundation of human capital theory, which views schooling and training as investments increasing worker productivity and so future earnings. This theory is presented by Gary Becker in *Human Capital* (New York, Columbia University Press, 1964) and by Jacob Mincer in *Schooling, Experience, and Earnings* (New York, Columbia University Press, 1974), probably the two names most associated with the theory. In addition to variables mea-

asuring human capital accumulation, wage equations typically include other variables thought to have a role in the wage determining process. Estimates of coefficients in wage equations, including any residual difference in earnings levels that remain after controlling for levels of the determining variables, are sensitive to the variables included in the equation as well as relevant variables that have been left out. The difference in earnings that remains may be due to discrimination but could also be due to variables not considered.

There are economists who view the science's understanding of wage determination as seriously incomplete, and who question the relevance of human capital theory and wage regressions. For examples, see Lester C. Thurow, *Generating Inequality* (New York, Basic Books, Inc., 1975); and Michael J. Piore, "The importance of human capital theory to labor economics: a dissenting view," *Industrial Relations Research Association's 26th Annual Winter Proceedings*.

⁵The discontinuous work experience of many women may depress their earnings, in at least two ways. First, for periods when a woman does not have a job she is not accumulating work experience. Second, her skills accumulated in previous periods may depreciate. Women's fewer years of employment overall and at their current job lead to less on-the-job training. In addition, as suggested by Steven H. Sandell and David Shapiro, receipt of on-the-job training may increase with preferences for future labor force attachment and women may underestimate their future attachment and so underinvest in training. See "Work expectations, human capital accumulation, and the wages of young women," *Journal of Human Resources*, Summer 1980, pp. 335-53.

Mary Corcoran and Greg J. Duncan observed more likely and frequent interruption of work experience among women with the Panel Study on Income Dynamics. They found years of training completed on the current job explained 11 percent of the difference in earnings of white men and women while other work history explained 28 percent. After controlling for the levels of a long list of personal characteristics their technique left more than half of the wage differential unexplained. Results of their analysis suggest continuity of work experience had limited impact on earnings, implying that the impact of human capital depreciation during labor force withdrawal on earnings is minimal if it exists at all. See "Work history, labor force attachment and earnings differences between the races and the sexes," *The Journal of Human Resources*, Winter 1979, pp. 3-20. This evidence conflicts with that of Jacob Mincer and Solomon Polachek. See "Family investments in human capital: Earnings of women," *Journal of Political Economy*, Vol. 82, no. 2, part 2, March/April 1974, pp. S76-S108.

Bureau of Labor Statistics data from the CPS show that in January 1978, the average length of time at the current job (job tenure) was 4.5 years for men and 2.6 years for women. See Edward S. Sekscenski, "Job tenure declines as work force changes," *Monthly Labor Review*, December 1979, pp. 48-50, reprinted with additional data as *Special Labor Force Report* No. 235.

⁶The South includes the South Atlantic (Delaware, the District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia), the East South Central (Alabama, Kentucky, Mississippi, and Tennessee), and the West South Central (Arkansas, Louisiana, Oklahoma, and Texas) divisions. Using CPS data from May 1978, George D. Stamas estimated hourly earnings in the South 10 percent lower for blacks, and 4 percent lower for whites, compared to workers with similar characteristics in the rest of the country. See "The puzzling lag in southern earnings," *Monthly Labor Review*, June 1981, pp. 27-36.

⁷Some comparisons of earnings by occupation could not be made because there were not enough minority women in some occupations to provide reliable estimates of their median earnings. This was the case for black women employed as transport equipment operatives and farmworkers, and for Hispanic women employed as salesworkers,

craftworkers, transport equipment operatives, nonfarm laborers, and farmworkers.

⁸For an analysis of recent differences in the earnings of black men and white men, see Daniel E. Taylor, "Education, on-the-job training, and the black-white pay gap," *Monthly Labor Review*, April 1981, pp. 28-34. Corcoran and Duncan used a more precise measure of on-the-job training and work experience and found returns for blacks and whites to be similar. See Corcoran and Duncan, "Work history."

⁹James P. Smith and Finis Welch espouse this view in their "vintage" cohort improvement hypothesis. See "Race differences in earnings: a survey and new evidence," in Peter Mieszkowski and Mahlon Straszheim, eds., *Current Issues in Urban Economics* (Baltimore, Johns Hopkins University Press, 1979), pp. 40-73. An alternative hypothesis is that this pattern of race-earnings ratios by age represents the life cycle and that as cohorts age, earnings of black men will fall relative to those of white men.

¹⁰There are additional occupations in this Bureau of the Census list of 428 for which the data indicate that earnings may be at least as high as those listed. However, the estimated number of full-time wage and salary workers in these jobs was less than the 50,000 required to provide reasonably reliable estimates of median earnings. Examples are physicists and astronomers, geologists, judges, and air traffic controllers.

¹¹The Current Employment Statistics Survey, also known as the "establishment" survey or the "790" survey (collected via BLS Form 790) is conducted monthly by the Bureau of Labor Statistics to gather information on employment and earnings for detailed industries. Data from this survey are published in *Employment and Earnings*.

¹²Employment and earnings data on workers by union status are published in *Earnings and Other Characteristics of Organized Workers, May 1980*, Bulletin 2105 (Bureau of Labor Statistics, 1981).

¹³Comparisons of weekly hours in 1981 represent mean hours reported by workers at work in the reference weeks: 41.7 hours for those at work full time and 19.0 hours for those at work part time who usually work part time.

¹⁴Data from the quarterly series are not strictly comparable to those collected in May of prior years. See Earl F. Mellor, *Technical Description*. The earnings data are not seasonally adjusted, and only second quarter data from the quarterly series may be used in any comparisons with earlier figures. The extent of seasonal fluctuations cannot be accurately determined, and adjustments cannot be made until the data have been collected for at least 5 years. Hence, the quarterly series should not be used at this time to track quarter-to-quarter changes.

¹⁵For several summaries of research on the subject of generational crowding see *Proceedings of the Social Statistics Section, 1979* (Washington, American Statistical Association, 1979), pp. 37-56.

In a separate paper, James P. Smith and Finis Welch reported that the difference in lifetime earnings between the smallest and the largest cohort entering the labor market since 1940 may be 4 percent for high school graduates and 10 percent for college graduates, with most of the impact on employment and earnings occurring during the early stages of work careers. See "No Time to be Young: The Economic Prospects for Large Cohorts in the United States," *Population and Development Review*, March 1981, pp. 71-83.

¹⁶Examples of such workers are those in small retail and service establishments, persons employed as outside salesworkers, many agricultural workers, part-time workers attending school full time, and employees who earn tips. Tips also can be credited up to 40 percent of the minimum wage. The Fair Labor Standards Act and its coverage is outlined in *Minimum Wage and Maximum Hours Under the Fair Labor Standards Act, An Economic Effects Study Submitted to Congress, 1981* (U.S. Department of Labor, Employment Standards Administration, 1981).

Earnings of men and women: a look at specific occupations

*Occupations in which women workers dominate
tend to rank lower in terms of earnings;
men dominate higher paid occupations*

NANCY F. RYTINA

As a result of growing concern over the persistence of earnings differences between men and women, policy-makers, researchers, and others have become increasingly interested in obtaining earnings data by sex at the finest level of occupational detail possible. Wide-ranging information of this nature can generally be collected only through a household survey such as the Current Population Survey (CPS). Until 1978, reliable estimates of earnings from the CPS could generally be presented only for aggregated groupings of occupations because of the limited number of sample observations in many occupations. However, changes in the collection of the CPS earnings data since 1979 have made it possible to construct annual average estimates to examine the earnings for a much larger number of detailed occupations.¹

This report presents 1981 annual average data on the number of men and women working full time in each occupation and on their usual weekly earnings. Earnings data are shown only where wage and salary employment is at least 50,000, because estimates of earnings derived from a smaller base are considered too unreliable to publish. For the most part, this allows earnings comparisons at the Census Bureau's "three-digit" level of classification of occupations.² However,

for occupational groupings which did not contain any three-digit occupation with a sufficiently large employment base, the data are shown for the two-digit occupations, the next higher level of aggregation. The use of two- as well as three-digit occupations increases the number of occupations among which earnings can be compared and also makes possible some comparisons between men and women that would otherwise have had to be ignored because there were either too few men or too few women employed in the occupation. For example, there are almost no male registered nurses (a three-digit occupational category), but the earnings of the sexes can be compared in the two-digit category—nurses, dieticians, and therapists—because the number of male workers exceeded 50,000 in the larger grouping.

The data in table 1 show the employment and median earnings for 250 two- and three-digit occupations. These accounted for about 95 percent of the total full-time wage and salary work force in 1981. There are more occupations where men's earnings are shown than is the case for women (192 for men versus 129 for women). This occurs because the number of women working full time is lower than that of men and they are more concentrated in fewer occupations.

The 91 occupations for which both men's and women's earnings are shown are predominantly white collar, the field which employed the majority of full-time working men and women in 1981. Forty of these occupations are professional or managerial, and 24 are sales or clerical. In contrast, just 2 of the 91 occupations are

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Table 1. Median weekly earnings of wage and salary workers employed full time in occupations with total employment of 50,000 or more, by sex,¹ 1981 annual averages

[Numbers in thousands]

Occupation	Total, both sexes		Men		Women		Ratio female / male earnings times 100	Percent female workers
	Total employed	Weekly earnings	Total employed	Weekly earnings	Total employed	Weekly earnings		
Total ²	72,491	\$289	43,888	\$347	28,603	\$224	64.7	39.5
Professional, technical, and kindred workers	12,870	377	7,358	439	5,512	316	71.8	42.8
Accountants	960	379	579	433	381	308	71.2	39.7
Architects	60	428	57	432	3	—	—	5.0
Computer specialists	583	454	429	488	154	355	72.8	26.4
Computer programmers	345	422	247	447	98	329	73.6	28.4
Computer systems analysts	199	519	149	546	50	420	76.9	25.1
Engineers	1,459	540	1,392	547	68	371	67.8	4.7
Aeronautical and astronautical engineers	83	614	81	619	1	—	—	1.2
Chemical engineers	64	575	59	583	5	—	—	7.8
Civil engineers	186	505	182	507	4	—	—	2.1
Electrical and electronic engineers	368	549	355	555	13	—	—	3.5
Industrial engineers	222	530	194	549	28	—	—	12.6
Mechanical engineers	239	540	233	547	6	—	—	2.5
Engineers, n.e.c.	226	527	219	530	7	—	—	3.1
Foresters and conservationists	60	331	53	341	7	—	—	11.7
Lawyers and judges	299	550	237	579	62	410	70.7	20.7
Lawyers	279	546	219	574	60	407	71.0	21.5
Librarians, archivists, and curators	146	323	25	—	121	319	—	82.9
Librarians	136	320	20	—	115	318	—	84.6
Life and physical scientists	277	474	219	512	58	363	70.9	20.9
Biological scientists	53	423	33	—	19	—	—	35.8
Chemists	132	467	104	492	28	—	—	21.2
Operations and systems researchers and analysts	212	485	160	515	52	422	82.0	24.5
Personnel and labor relations workers	419	402	215	514	204	330	64.3	48.7
Physicians, dentists, and related practitioners	314	468	242	495	73	401	80.9	23.2
Pharmacists	98	463	74	471	25	—	—	25.5
Physicians, medical and osteopathic	189	501	148	561	41	—	—	21.7
Nurses, dieticians, and therapists	1,168	327	106	344	1,062	326	94.7	90.9
Registered nurses	924	332	39	—	885	331	—	95.8
Therapists	199	305	65	335	134	293	87.5	67.3
Health technologists and technicians	511	287	161	324	350	273	84.2	68.5
Clinical laboratory technologists and technicians	232	295	55	324	177	286	88.1	76.3
Radiologic technologists and technicians	82	290	31	—	52	268	—	63.4
Health technologists, n.e.c.	155	268	72	317	83	240	75.7	53.5
Religious workers	268	284	244	286	25	—	—	9.3
Clergy	231	284	220	285	10	—	—	4.3
Social scientists	238	461	158	522	81	391	74.9	34.0
Economists	133	536	98	580	36	—	—	27.1
Psychologists	77	394	38	—	40	—	—	51.9
Social and recreation workers	454	295	185	339	269	273	80.4	59.3
Social workers	357	309	141	358	216	286	79.9	60.5
Recreation workers	97	226	44	—	52	186	—	53.6
Teachers, college and university	438	444	310	485	128	389	80.3	29.2
Teachers, except college and university	2,624	333	864	384	1,760	311	80.9	67.1
Adult education teachers	54	394	38	—	15	—	—	27.8
Elementary schoolteachers	1,244	322	221	379	1,022	311	82.2	82.2
Prekindergarten and kindergarten teachers	143	262	4	—	138	264	—	96.5
Secondary schoolteachers	1,115	351	571	387	545	321	82.9	48.9
Teachers, except college and university, n.e.c.	69	312	29	—	40	—	—	58.0
Engineering and science technicians	1,056	348	868	371	188	279	75.3	17.8
Chemical technicians	106	352	76	384	29	—	—	27.4
Drafters	319	343	259	364	60	277	76.2	18.8
Electrical and electronic engineering technicians	259	387	235	397	25	—	—	9.7
Surveyors	80	310	80	311	0	—	—	.0
Engineering and science technicians, n.e.c.	224	344	174	383	50	277	72.2	22.3
Technicians, except health, engineering, science	172	375	128	437	43	—	—	25.0
Airplane pilots	53	530	53	530	0	—	—	.0
Radio operators	56	233	23	—	33	—	—	58.9
Vocational and educational counselors	156	388	77	451	79	336	74.5	50.6
Writers, artists, and entertainers	791	350	525	387	266	302	78.2	33.6
Athletes and kindred workers	59	254	44	—	15	—	—	25.4
Designers	176	421	134	448	42	—	—	23.9
Editors and reporters	158	351	86	382	72	324	85.0	45.6
Painters and sculptors	100	297	55	329	45	—	—	45.0
Photographers	52	309	47	—	6	—	—	11.5
Public relations men and publicity writers	100	402	56	465	44	—	—	44.0
Writers, artists, and entertainers, n.e.c.	66	363	42	—	23	—	—	34.8
Research workers, not specified	157	362	96	437	61	307	70.3	38.9
Managers and administrators, except farm	7,864	407	5,630	466	2,235	283	60.8	28.4
Bank officers and financial managers	658	411	417	514	240	310	60.2	36.5
Buyers, wholesale and retail trade	139	316	73	400	66	250	62.3	47.5

See footnotes at end of table.

Table 1. Continued—Median weekly earnings of wage and salary workers employed full time in occupations with total employment of 50,000 or more, by sex,¹ 1981 annual averages

[Numbers in thousands]

Occupation	Total, both sexes		Men		Women		Ratio female / male earnings times 100	Percent female workers
	Total employed	Weekly earnings	Total employed	Weekly earnings	Total employed	Weekly earnings		
Credit and collection managers	60	351	36	—	24	—	—	40.0
Health administrators	200	431	102	545	98	357	65.5	49.0
Inspectors, except construction, public administration	104	380	93	388	10	—	—	9.6
Managers and superintendents, building	96	278	46	—	50	226	—	52.1
Office managers, n.e.c.	444	313	140	423	304	277	65.5	68.5
Officials and administrators, public administration, n.e.c.	443	441	324	484	120	337	69.6	27.1
Officials of lodges, societies, and unions	106	429	79	501	27	—	—	25.5
Purchasing agents and buyers, n.e.c.	260	390	182	453	78	285	62.9	30.0
Restaurant, cafeteria, and bar managers	393	275	227	312	166	223	71.6	42.2
Sales managers and department heads, retail trade	330	300	204	380	126	216	57.0	38.2
Sales managers, except retail trade	353	540	307	566	46	—	—	13.0
School administrators, college	129	491	88	552	41	—	—	31.8
School administrators, elementary and secondary	262	475	176	520	85	363	69.9	32.4
Managers and administrators, n.e.c.	3,713	431	2,984	481	729	281	58.5	19.6
Salesworkers	3,601	306	2,412	366	1,189	190	52.0	33.0
Advertising agents and salesworkers	100	334	50	418	50	258	61.7	50.0
Insurance agents, brokers, and underwriters	399	341	285	402	115	270	67.1	28.8
Real estate agents and brokers	218	326	100	390	118	277	70.9	54.1
Stock and bond sales agents	123	535	101	589	21	—	—	17.1
Sales representatives, manufacturing industries	369	434	310	473	59	306	64.7	16.0
Sales representatives, wholesale trade	768	396	686	407	82	303	74.3	10.7
Salesclerks, retail trade	1,032	178	410	229	622	154	67.4	60.3
Salesworkers except clerks, retail trade	379	288	334	305	44	—	—	11.6
Salesworkers, services and construction	169	332	112	397	56	235	59.1	33.1
Clerical and kindred workers	14,066	233	3,032	328	11,034	220	67.0	78.4
Bank tellers	464	189	28	—	436	188	—	94.0
Billing clerks	123	216	19	—	105	209	—	85.4
Bookkeepers	1,290	227	121	320	1,169	222	69.4	90.6
Cashiers	712	168	106	180	606	166	92.0	85.1
Clerical supervisors, n.e.c.	227	331	71	460	156	291	63.4	68.7
Collectors, billing and accounting	76	233	26	—	50	215	—	65.8
Counter clerks, except food	252	201	59	240	192	195	81.3	76.2
Dispatchers and starters, vehicle	106	327	65	385	41	—	—	38.7
Estimators and investigators, n.e.c.	477	319	219	394	258	256	65.0	54.1
Expeditors and production controllers	248	328	148	366	100	275	75.2	40.3
File clerks	230	192	37	—	192	189	—	83.5
Insurance adjusters, examiners, and investigators	183	270	75	356	107	230	64.7	58.5
Library attendants and assistants	61	203	9	—	52	197	—	85.2
Mail carriers, post office	222	406	196	408	26	—	—	11.7
Mail handlers, except post office	138	222	70	245	67	202	82.3	48.5
Messengers and office helpers	60	198	47	—	13	—	—	21.7
Office machine operators	844	238	227	324	616	223	68.8	73.0
Computer and peripheral equipment operators	506	260	185	342	320	232	67.8	63.2
Keypunch operators	212	223	11	—	201	222	—	94.8
Payroll and timekeeping clerks	203	247	40	—	163	237	—	80.3
Postal clerks	256	400	172	407	84	382	93.9	32.8
Receptionists	458	200	9	—	449	199	—	98.0
Secretaries	3,199	230	21	—	3,178	229	—	99.3
Secretaries, legal	159	260	1	—	158	260	—	99.4
Secretaries, medical	71	218	0	—	71	218	—	100.0
Secretaries, n.e.c.	2,969	229	20	—	2,949	228	—	99.3
Shipping and receiving clerks	480	247	376	263	104	205	78.2	21.7
Statistical clerks	333	242	71	326	261	227	69.7	78.4
Stenographers	55	275	7	—	48	—	—	87.3
Stock clerks and storekeepers	461	264	305	304	156	217	71.6	33.8
Teacher aides, except school monitors	168	167	6	—	163	166	—	97.0
Telephone operators	261	240	20	—	241	239	—	92.3
Ticket, station, and express agents	132	407	78	419	54	370	88.3	40.9
Typists	801	213	29	—	772	211	—	96.4
Miscellaneous clerical workers	997	233	184	325	813	222	68.3	81.5
Not specified clerical workers	336	227	70	292	267	217	74.6	79.5
Craft and kindred workers	10,558	352	9,963	360	595	239	66.5	5.6
Bakers	76	234	56	264	20	—	—	26.3
Brickmasons and stonemasons	87	401	87	401	0	—	—	.0
Bulldozer operators	90	327	90	329	1	—	—	1.1
Carpenters	699	325	689	326	10	—	—	1.4
Compositors and typesetters	142	274	98	311	44	—	—	31.0
Crane, derrick, and hoist operators	136	402	136	402	0	—	—	.0
Decorators and window dressers	66	210	22	—	43	—	—	65.2
Electricians	591	419	581	420	10	—	—	1.7
Electric power line and cable installers and repairers	122	409	121	410	1	—	—	.8
Excavating, grading, road machine operators; except bulldozer	269	337	268	337	2	—	—	.7
Blue-collar work supervisors, n.e.c.	1,772	394	1,587	409	186	262	64.2	10.5
Inspectors, n.e.c.	131	370	119	383	12	—	—	9.2

See footnotes at end of table.

Table 1. Continued—Median weekly earnings of wage and salary workers employed full time in occupations with total employment of 50,000 or more, by sex,¹ 1981 annual averages

[Numbers in thousands]

Occupation	Total, both sexes		Men		Women		Ratio female / male earnings times 100	Percent female workers
	Total employed	Weekly earnings	Total employed	Weekly earnings	Total employed	Weekly earnings		
Job and die setters, metal	95	358	92	360	4	—	—	4.2
Machinists	532	356	512	360	19	—	—	3.6
Mechanics and repairers	2,888	326	2,827	328	60	275	83.9	2.1
Air conditioning, heating and refrigeration mechanics	166	335	166	335	1	—	—	.6
Aircraft mechanics	121	427	116	429	5	—	—	4.1
Automobile body repairers	137	295	136	294	1	—	—	.7
Automobile mechanics	813	285	808	286	6	—	—	.7
Data processing machine repairers	95	395	88	401	7	—	—	7.4
Heavy equipment mechanics, including diesel	958	346	942	348	16	—	—	1.7
Household appliance, accessory installers and mechanics	96	309	90	315	5	—	—	5.2
Office machine repairers	71	327	66	331	4	—	—	5.6
Radio and television repairers	83	336	80	344	4	—	—	4.8
Railroad and car shop mechanics	57	405	56	405	1	—	—	1.8
Miscellaneous mechanics and repairers	193	323	187	325	6	—	—	3.1
Millwrights	105	443	105	443	0	—	—	.0
Molders, metal	52	253	42	—	10	—	—	19.2
Painters, construction and maintenance	258	271	248	275	10	—	—	3.9
Plumbers and pipe fitters	377	404	376	404	0	—	—	.0
Printing press operators	156	320	139	329	17	—	—	10.9
Roofers and slaters	78	267	77	266	1	—	—	1.3
Sheetmetal workers and tinsmiths	140	381	135	385	5	—	—	3.6
Stationary engineers	180	375	178	375	3	—	—	1.7
Structural metal craftworkers	77	455	77	455	0	—	—	.0
Telephone installers and repairers	316	412	284	417	32	—	—	10.1
Telephone line installers and repairers	75	387	71	384	4	—	—	5.3
Tool and die makers	164	433	159	436	5	—	—	3.0
Operatives, except transport	9,440	242	5,775	298	3,664	\$187	62.9	38.8
Assemblers	1,088	236	515	297	573	205	69.0	52.7
Bottling and canning operatives	51	279	31	—	20	—	—	39.2
Checkers, examiners, and inspectors; manufacturing	782	265	358	348	423	219	63.1	54.1
Clothing ironers and pressers	87	164	20	—	67	153	—	77.0
Cutting operatives, n.e.c.	259	226	180	252	79	185	73.3	30.5
Drillers, earth	51	393	50	393	0	—	—	.0
Filers, polishers, sanders, and buffers	111	223	73	246	38	—	—	34.2
Furnace tenders, smelters, and pourers	62	374	60	376	2	—	—	3.2
Garage workers and gas station attendants	217	179	204	181	12	—	—	5.5
Laundry and dry cleaning operatives, n.e.c.	126	166	38	—	88	151	—	69.8
Meat cutters and butchers, except manufacturing	150	316	141	325	10	—	—	6.7
Meat cutters and butchers, manufacturing	88	251	62	287	26	—	—	29.5
Mine operatives, n.e.c.	265	413	260	413	5	—	—	1.9
Mixing operatives	79	283	77	287	3	—	—	3.8
Packers and wrappers, except meat and produce	493	204	190	226	303	193	85.4	61.5
Painters, manufactured articles	146	269	124	282	22	—	—	15.1
Photographic process workers	69	230	33	—	36	—	—	52.2
Precision machine operatives	339	301	296	317	42	—	—	12.4
Drill press operatives	56	267	44	—	12	—	—	21.4
Grinding machine operatives	129	312	115	325	14	—	—	10.9
Lathe and milling machine operatives	100	322	95	327	5	—	—	5.0
Precision machine operatives, n.e.c.	54	258	43	—	11	—	—	20.4
Punch and stamping press operatives	105	292	72	316	33	—	—	31.4
Sawyers	118	204	107	208	10	—	—	8.5
Sewers and stitchers	734	157	24	—	710	156	—	96.7
Shoemaking machine operatives	71	154	20	—	52	147	—	73.2
Furnace tenders and stokers, except metal	82	342	81	342	1	—	—	1.2
Textile operatives	261	200	101	229	161	186	81.3	61.7
Spinners, twisters, and winders	83	207	26	—	57	189	—	68.7
Textile operatives, n.e.c.	123	194	54	219	69	180	82.1	56.1
Welders and flame cutters	678	334	643	338	35	—	—	5.2
Winding operatives, n.e.c.	56	237	31	—	25	—	—	44.6
Machine operatives, miscellaneous specified	1,261	273	908	309	353	206	66.8	28.0
Machine operatives, not specified	328	251	241	281	87	202	71.9	26.5
Miscellaneous operatives	724	232	480	262	244	185	70.5	33.7
Not specified operatives	150	271	101	311	48	—	—	32.0
Transport equipment operatives	2,792	303	2,656	307	136	237	77.2	4.9
Bus drivers	173	298	124	331	48	—	—	27.7
Delivery and route workers	446	274	421	280	25	—	—	5.6
Fork lift and tow motor operatives	373	284	352	284	21	—	—	5.6
Taxicab drivers and chauffeurs	112	240	104	246	8	—	—	7.1
Truckdrivers	1,580	314	1,528	315	32	—	—	2.1
Nonfarm laborers	3,227	238	2,893	244	335	193	79.3	10.4
Carpenters' helpers	50	223	50	223	0	—	—	.0
Construction laborers, except carpenters' helpers	654	250	642	252	11	—	—	1.7

See footnotes at end of table.

Table 1. Continued—Median weekly earnings of wage and salary workers employed full time in occupations with total employment of 50,000 or more, by sex,¹ 1981 annual averages

[Numbers in thousands]

Occupation	Total, both sexes		Men		Women		Ratio female / male earnings times 100	Percent female workers
	Total employed	Weekly earnings	Total employed	Weekly earnings	Total employed	Weekly earnings		
Freight and material handlers	641	259	579	266	62	207	78.0	9.7
Garbage collectors	62	189	60	189	2	—	—	3.2
Gardeners and groundskeepers, except farm	349	200	332	202	16	—	—	4.6
Timber cutting and logging workers	55	246	55	246	0	—	—	.0
Stock handlers	522	212	372	228	149	185	81.2	28.5
Vehicle washers and equipment cleaners	124	220	103	220	21	—	—	16.9
Warehouse laborers, n.e.c.	267	267	253	270	15	—	—	5.6
Miscellaneous laborers	168	297	155	308	12	—	—	7.1
Not specified laborers	241	245	215	246	26	—	—	10.8
Farmworkers	729	176	641	180	88	146	81.1	12.1
Farm laborers, wage workers	701	174	614	178	86	146	82.3	12.3
Service workers, except private household	6,990	196	3,475	238	3,515	170	71.3	50.3
Cleaning service workers	1,651	200	1,106	222	544	168	75.6	32.9
Lodging quarters cleaners, except private	99	142	5	—	94	141	—	94.9
Building interior cleaners, n.e.c.	559	184	253	213	306	168	79.2	54.7
Janitors and sextons	993	219	848	225	145	188	83.6	14.6
Food service workers	1,987	162	770	186	1,216	148	79.7	61.2
Bartenders	170	195	94	212	76	179	84.4	44.7
Waiters' assistants	70	143	57	144	13	—	—	18.6
Cooks, except private household	764	171	375	202	389	148	73.4	50.9
Dishwashers	105	135	73	136	32	—	—	30.5
Food counter and fountain workers	107	141	15	—	91	140	—	85.0
Waiters	532	150	79	200	453	144	72.0	85.1
Food service workers, n.e.c., except private household	239	165	76	178	163	160	90.0	68.2
Health service workers	1,415	188	178	216	1,237	185	85.4	87.4
Dental assistants	97	183	3	—	95	182	—	97.9
Health aides, except nursing	220	209	38	—	182	201	—	82.7
Nursing aides, orderlies and attendants	832	172	130	203	701	167	82.2	84.3
Practical nurses	263	227	6	—	256	227	—	97.3
Personal service workers	624	191	207	224	417	179	80.0	66.8
Attendants, recreation and amusement	88	182	49	—	39	—	—	44.3
Child-care workers, except private household	83	151	11	—	72	145	—	86.7
Hairdressers and cosmetologists	191	179	29	—	163	172	—	85.3
Housekeepers, except private household	96	219	32	—	64	205	—	66.7
Protective service workers	1,313	315	1,214	322	100	226	70.3	7.6
Firefighters	218	362	216	364	3	—	—	1.4
Guards	500	232	436	236	64	214	90.7	12.8
Police and detectives	508	363	481	368	27	—	—	5.3
Sheriffs and bailiffs	70	324	66	325	4	—	—	5.7
Private household workers	315	107	17	—	298	104	—	94.6
Child-care workers, private household	148	80	4	—	144	79	—	97.3
Maid and servants, private household	110	126	9	—	101	124	—	91.8

¹Excludes any earnings from self-employment.

²Data for "total" refer to all full-time workers, including those in occupations not shown.

NOTE: Not elsewhere classified is abbreviated n.e.c. Dashes indicate earnings not shown where base is less than 50,000.

in the crafts category, largely because men made up the overwhelming majority (95 percent) of all full-time craftworkers.

Ranking occupations

To illustrate the occupational earnings differences between men and women, the occupations in table 1 were ranked from high to low on the basis of male earnings, female earnings, the ratio of women's to men's earnings, and the percentage of female workers in each occupation. (See tables 2 to 5.) For each criterion the top 20 occupations are ranked. The rankings by male and female earnings are approximate because the earnings in very closely ranked occupations are often not statistically different.³ In addition, the occupations appearing in the female earnings ranking contain more two-digit occupations than the male earnings ranking because wom-

en are concentrated in fewer occupations, and in many occupations their number is less than 50,000. Of course, the ranking by the sex-earnings ratio includes just those occupations in which both men's and women's earnings are reported in table 1. Lastly, the occupations ranked by the percent of females employed are based on all occupations in table 1.

Male earnings ranks. Not surprisingly, the most highly paid occupations for men are from the professional and managerial groups. (See table 2.) Nineteen of the 20 are in one of these groupings. The only exception is "stock and bonds, sales agents," which is classified in the sales category.

Within the professional group, engineering specialties clearly stand out in the ranking, accounting for 7 of the top 20 occupations. The median usual weekly earnings

Table 2. Occupations with highest median weekly earnings for men employed full time in wage and salary work,¹ 1981 annual averages

Occupational title ²	Male earnings
Aerospace and aeronautical engineers	\$619
Stock and bond sales agents	589
Chemical engineers	583
Economists	580
Lawyers	574
Sales managers, except retail trade	566
Physicians, medical and osteopathic	561
Electrical and electronics engineers	555
School administrators, college and university	552
Industrial engineers	549
Mechanical engineers	547
Computer systems analysts	546
Health administrators	545
Engineers, not elsewhere classified	530
Airplane pilots	530
School administrators, elementary and secondary	520
Operations and systems researchers and analysts	515
Bank officers and financial managers	514
Personnel and labor relations workers	514
Civil engineers	507

¹Excludes any earnings from self-employment.

²Occupations listed are those in which male employment was 50,000 or more in 1981.

Table 3. Occupations with highest median weekly earnings for women employed full time in wage and salary work,¹ 1981 annual averages

Occupational title ²	Female earnings
Operations and systems researchers and analysts	\$422
Computer systems analysts	420
Lawyers	407
Physicians, dentists, and related practitioners	401
Social scientists	391
Teachers, college and university	389
Postal clerks	382
Engineers	371
Ticket, station, and express agents	370
School administrators, elementary and secondary	363
Life and physical scientists	357
Health administrators	357
Public administration officials and administrators, not elsewhere classified	337
Vocational and educational counselors	336
Registered nurses	331
Personnel and labor relations workers	330
Computer programmers	329
Editors and reporters	324
Secondary schoolteachers	321
Librarians	318

¹Excludes any earnings from self-employment.

²Occupations listed are those in which female employment was 50,000 or more in 1981.

of men in those specialties ranged from \$619 for aerospace and aeronautical engineers to \$507 for civil engineers. The high ranking of engineers occurs partly because the data are restricted to wage and salary workers and exclude some of the most highly paid workers in occupations where self-employment is quite common, for example, lawyers and physicians. Nonetheless, although restricted only to the wage and salary portion, the median usual weekly earnings of lawyers (\$574) and physicians (\$561) were in the upper half of the ranking.

The top 20 also included a number of technical and administrative occupations. Among the former are economists, airplane pilots, and two very high growth occupations, computer systems analysts, and operations and systems researchers and analysts. Among the latter occupations are school administrators at the college, secondary, and elementary levels; health administrators; and bank officers and financial managers.

Female earnings ranks. Much like the situation for men, the most highly paid occupations for women are in the professional and managerial categories. (See table 3.) The median usual weekly earnings in the top 20 occupations for women ranged from a high of \$422 for operations and systems researchers and analysts to \$318 for librarians. Many of the occupations appearing in the female ranking are the same or similar to those which appear in the male ranking. Among these (in addition to operations and systems researchers and analysts) are lawyers, engineers, physicians, dentists and related practitioners, social scientists, health administrators, elementary and secondary school administrators, computer systems analysts, and personnel and labor relations

workers. This suggests that the most highly paid occupations for women are about the same as those for men.

However, the earnings of women in these occupations do not approach the earnings of men. The \$422 median usual weekly earnings of female operations and systems researchers and analysts, for example, would place just above the pay of electricians for men, an occupation which is well below the top 20 on the male ranking. The pay for women librarians is just above that of men working as precision machine operatives, a classification which is in the bottom third of the male earnings ranking.

Table 4. Occupations of full-time wage and salary workers with highest ratios of women's to men's median weekly earnings,¹ 1981 annual averages

Occupational title ²	Ratio female/male earnings times 100
Postal clerks	93.9
Cashiers	92.0
Guards and watchmen	90.7
Food service workers, not elsewhere classified, excluding private household	90.0
Ticket, station, and express agents	88.3
Clinical laboratory technologists and technicians	88.1
Therapists	87.5
Packers and wrappers, except meat and produce	85.4
Editors and reporters	85.0
Bartenders	84.4
Mechanics and repairers	83.9
Janitors and sextons	83.6
Secondary schoolteachers	82.9
Mail handlers, except post office	82.3
Farm laborers, wage workers	82.3
Elementary schoolteachers	82.2
Nursing aides, orderlies, and attendants	82.2
Textile operatives, not elsewhere classified	82.1
Operations and systems researchers and analysts	82.0
Counter clerks, except food	81.3

¹Excludes any earnings from self-employment.

²Occupations listed are those in which both male and female employment was 50,000 or more in 1981.

Table 5. Occupations with highest percentage of female workers in full-time wage and salary work,¹ 1981 annual averages

Occupational title ²	Percent female
Secretaries, medical	100.0
Secretaries, legal	99.4
Secretaries, not elsewhere classified	99.3
Receptionists	98.0
Dental assistants	97.9
Practical nurses	97.3
Child-care workers, private household	97.3
Teachers aides, except school monitors	97.0
Sewers and stitchers	96.7
Prekindergarten and kindergarten teachers	96.5
Typists	96.4
Registered nurses	95.8
Lodging quarters cleaners, except private household	94.9
Keypunch operators	94.8
Bank tellers	94.0
Telephone operators	92.3
Maids and servants, private household	91.8
Bookkeepers	90.6
Stenographers	87.3
Child-care workers, except private household	86.7

¹Excludes self-employed workers.

²Occupations listed are those in which female employment was 50,000 or more in 1981.

Occupations which do not appear in the top male earnings rankings but appear in the top female rankings highlight other aspects of variation between men's and women's occupational earnings. Public sector employment is typical of several of the occupations which rank high in terms of female earnings. These include postal clerks, public administration officials and administrators

(not elsewhere classified), vocational and educational counselors, and secondary schoolteachers. Elementary and secondary school administrators is the only public sector occupation which also appears in the top 20 occupations in terms of men's earnings. Postal clerks ranked well below the top 20 for men. And as indicated in table 4, some of the highly paid public sector occupations for women are characterized by relatively high ratios of women's to men's earnings. Among postal clerks, women's earnings averaged almost 94 percent of men's. And a sex-earnings ratio of more than 80 percent is reported for secondary schoolteachers. This suggests that while the public sector may not offer the most highly paid employment, it may well afford women more equal opportunities than are found elsewhere.

Another characteristic of occupations ranking high in terms of female earnings is that they typically do not rank among those with the largest percentages of female workers. (See table 5.) The occupation of registered nurse, for example, is the only one which had both a high percentage of female workers (96 percent) and also ranked among the most highly paid occupations for women. (Compare table 3 with table 5.) Most of the occupations in which 90 percent of the workers or more are women are in the clerical category. By contrast, the very highly paid occupations, professional and managerial, are male-dominated. Women's earnings, much like men's, are highest in these occupations. □

— FOOTNOTES —

¹ See Earl F. Mellor, *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey*, Bulletin 2113, Bureau of Labor Statistics, January 1982.

² The Census Bureau classifies occupations on the basis of one-, two-, and three-digit groupings. The one-digit classification is the least detailed and consists of the major occupation groups, for example, professional, technical, and kindred workers; managers and administrators, except farm; and salesworkers. The three-digit classification is the most detailed. It includes specific occupations such as account-

ants, architects, aerospace and astronautical engineers, and civil engineers, all of whom come under the one-digit professional grouping. The two-digit classification is more detailed than the one-digit scheme and contains a number of broad occupations such as engineers and secretaries, under which are found such three-digit occupations as aerospace and astronautical engineers, or civil engineers, and legal secretaries, medical secretaries, and so forth.

³ The magnitude of the standard errors on occupational earnings ranged from roughly \$10 to \$30 at the .10 significance level.

Tenure as a factor in the male-female earnings gap

New data from the CPS indicate that women have fewer years in their current occupations than men, a factor which affects the earnings disparity

NANCY F. RYTINA

While numerous studies have attempted to account for the male-female earnings differential, results generally show that a substantial portion of the disparity remains after controlling for sex differences in education, job experience, and other factors affecting productivity. Among the reasons cited for the inability to explain more of the differential are inadequate data and other problems in measuring the variables selected for analysis.

One controversial measurement issue pertains to the effects of work experience on pay. The fact that women average fewer years in the work force than men is considered by many researchers to be an important factor in the wage gap between the sexes. However, reliable measures of work experience are not often available. The Current Population Survey (CPS)—the principal source of demographically oriented earnings data—does not elicit information from individuals regarding the number of years they have worked, the various jobs they have held, or the amount of time they held those jobs. Although questions on job tenure have been asked at least every 5 years as part of special CPS supplements, these questions have traditionally referred only to the length of tenure in one's current job. They have provided no information on the total number of years spent in the labor force or in one's current occupation.

It has therefore become common practice to use an indirect estimate of general experience, defined by: years of age minus years of school completed minus 6.¹ This yields a measure of a worker's potential years of work experience. It is considered a reliable estimate of the actual number of years of experience for workers who have been employed continuously in each year since leaving school. And this is generally the case for men. But, because women typically spend some time out of the labor force, an estimate of their potential years of experience will tend to overstate actual years of experience and understate the impact of work experience on earnings.² Thus, potential experience is not very useful for studies of male-female earnings differences.

Occasionally information is obtained in the CPS which may be used to improve the measurement of work experience, especially for women. In the January 1981 CPS supplement, data were obtained for the first time on "occupational" tenure.³ Workers employed in the same 3-digit census occupation in both January 1980 and January 1981 were asked to report the total number of years they had spent in that occupation, net of any intervening years spent in another occupation or not working. For one-quarter of the January sample, information was also obtained from workers on hours worked per week and usual weekly earnings, making it possible to examine the influence of occupational tenure on hourly earnings.

A year of experience in the current job or line of work should generally have more effect on current earn-

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ings than a year of experience et other jobs. For workers who switch fields entirely, experience in the previous field would very often have no bearing on current earnings. Accordingly, compared to potential experience, tenure in the current occupation should provide a much better indication of the portion of total work experience which is relevant to the current job and the earnings from that job. This is particularly true for women, who generally have fewer years of experience than men in the same occupation, as indicated by the distribution of tenure shown in table 1.

Method of the study. The new occupational tenure data from the January 1981 CPS were used in regression analyses, and the results were compared with those based on potential experience as a measure of the effect of work experience on men's and women's earnings.

For wage and salary workers age 25 and over, the following model was estimated by sex:

$$(1) \text{LnHE} = a + b_2 \text{Educ} + b_2 \text{Black} + b_3 \text{GExp} + b_4 \text{GExp}^2 + b_5 \text{Occten} + \sum_{i=6}^{23} b \text{OPers Char} + e$$

LnHE is the natural logarithm of hourly earnings. For workers paid by the hour it is the reported hourly wage. For other workers, usual weekly earnings were divided by usual weekly hours. Education (Educ) is single years of school completed, and Black is a dummy variable for nonwhite races. Two experience measures were included in the analysis.⁴ General experience (GExp) is years of potential labor market exposure and is defined as age minus years of education minus 6. Its square (GExp²) was included to allow for nonlinear effects. A second experience measure is the "years in the current occupation" variable, Occten. Because occupational tenure was coded as a categorical variable in the CPS, dummy variables were constructed for each category, excluding that for less than 1 year of tenure. Other personal characteristics (OPersChar) that influence earn-

ings include dummy variables for marital status, part-time employment, metropolitan residence, region, occupation, and industry.

Regression estimates of equation 1 using unweighted data are presented in table 2. For each sex, two specifications of the earnings equation were estimated. In the first, potential experience and its square were the only experience measures (column 1). The second specification added occupational tenure to the set of explanatory variables (column 2).⁵ Comparisons between the two specifications were used to examine the effects of occupational tenure on men's and women's earnings.

An overview of the results. The estimates in column 1 of table 2 indicate that an additional year of potential experience (evaluated at the mean) increases men's earnings by 2 percent, and women's, by 1 percent. However, one should not conclude from these results that the return to potential work experience is greater for men than for women. The estimate for women is subject to a great deal of measurement error associated with using potential experience to approximate actual experience. Column 1 estimates also indicate that for both sexes a year of potential experience has a smaller effect on earnings than education. While race does not significantly affect women's earnings, black men's earnings are 8.9 percent below those of white men.⁶

When years spent in the current occupation are included as a measure of work experience, the results demonstrate a number of important points. First, tenure in the occupation affects both men's and women's earnings over and above potential experience and all other personal characteristics. The rise in R²'s between columns 1 and 2 of .317 to .352 for men and .326 to .353 for women are both statistically significant.

Second, earnings of both sexes rise with occupational tenure. Relative to the earnings of workers with less than a year in the occupation, the earnings of men are 4.9 percent greater after 1 to 2 years in the occupation, and 21.7 percent more after 25 years. Similarly, for women, 1 to 2 years in the occupation is associated with a 6.9-percent increase in earnings and 25 years or more yields a 24.5-percent premium.

Third, with the addition of occupational tenure to the regression specification in column 2, the effects of potential experience are reduced, while race and education coefficients remain virtually unchanged.⁷ Measurement error in using potential for actual experience partially accounts for the reduced effects. Compared with the larger increases in earnings associated with additional years actually spent in the current occupation, an extra year of potential experience (at the mean) increases men's earnings just 0.4 percent and leaves women's earnings unchanged. For men, therefore, potential experience retains an effect on earnings apart from the larger

Table 1. Distribution of wage and salary workers by sex and tenure in current occupation, January 1981

[In percent]

Years of tenure	Men	Women
Total	100.0	100.0
Less than 1 year ¹	13.2	17.9
1 to 1.9 years	7.8	10.6
2 to 2.9 years	8.0	9.9
3 to 3.9 years	6.1	7.0
4 to 4.9 years	6.8	7.5
5 to 9.9 years	20.4	20.5
10 to 24.9 years	28.7	22.0
25 years or more	9.3	4.6

¹Includes workers whose detailed occupation in January 1980 differed from their current occupation in January 1981 as well as those who were unemployed or not in the labor force in January 1980.

Table 2. Regression estimates of the determinants of the log of hourly earnings, by sex, January 1981

Explanatory variable ¹	Men		Women	
	(1)	(2)	(1)	(2)
Education .....	.043	.041	.028	.026
Black	-.086	-.084	² .015	² .009
Potential experience .....	.021	.016	.011	.006
(Potential experience) ² /100	-.032	-.027	-.020	-.016
Tenure in current occupation:				
1 to 1.9 years	—	.046	—	.067
2 to 2.9 years	—	.061	—	.072
3 to 3.9 years	—	.099	—	.117
4 to 4.9 years	—	.100	—	.124
5 to 9.9 years	—	.146	—	.178
10 to 24.9 years	—	.185	—	.229
25 years or more	—	.196	—	.219
R ² .....	.317	.352	.326	.353
Sample size	6,679	6,679	5,263	5,263

¹ Also included in regressions were dummy variables for marital status, part-time employment, metropolitan residence, region, and major occupation and industry.
² Not significant at the .05 level.
NOTE: Unless otherwise indicated, entries were significant at the .01 level.

effects of occupational tenure. But for women, actual tenure in the occupation emerges as a stronger predictor of earnings.

Fourth, part of the wage gap between the sexes is due to the lower occupational tenure of women. Average hourly earnings were \$8.00 for men and \$5.29 for women, a difference of \$2.71. Women's hourly earnings would be \$5.39 if they had the same distribution of occupational tenure as men.⁸ Thus, 4 percent of the earnings gap reflects sex differences in the distribution of occupational tenure. However, it should also be noted that, even if women had the same mean levels on all variables in the column 2 regressions as men, their earnings would rise to only \$5.98, leaving 75 percent of the wage gap to be explained.

TWO BASIC CONCLUSIONS may be drawn from this analysis. First, when occupational tenure is included along with potential experience as a measure of work experience, not surprisingly some of the earnings differential between men and women reflects the lower tenure of women. Second, and consistent with past research, a substantial portion of the total wage gap remains unaccounted for.⁹ Whether this remainder may be attributed to worker and job characteristics not included in this analysis, or simply to pay discrimination, is a subject for further research. □

FOOTNOTES

¹ See Jacob Mincer, *Schooling, Experience, and Earnings* (New York, Columbia University Press, 1974).

² See exchange in *Journal of Human Resources*, Winter 1976, by Mark R. Rosenzweig and Jack Morgan, "Wage Discrimination: A Comment," pp. 1-7, and Alan S. Blinder, "On Dogmatism in Human Capital Theory," pp. 8-22.

³ Data were also collected on years with current employer during the May 1979 and the January 1981 CPS. The influence of this tenure variable on earnings has been examined in a number of other studies. See, for example, Wesley S. Mellow, "Employer Size and Wages," *Review of Economics and Statistics*, forthcoming.

⁴ Specialized experience is skills and knowledge accumulated in a particular line of work and useful only in that job. General experience includes nonspecific or other experience acquired during employment.

⁵ Because experience includes both specialized and other experience, potential experience and its square are included as estimates of other experience in the second regression to avoid specification bias. However, the inclusion of these variables introduces measurement bias in the regression for women.

⁶ For dummy variables, the proportionate impact on log earnings is computed by taking the antilog of the coefficient and subtracting 1.

⁷ Estimates for occupation and industry variables declined.

⁸ From column 2 regressions, \$5.39 is women's expected earnings if they had the same mean values as men for the occupational tenure categories, but retained the female intercept and female means and coefficients on all other independent variables. Computation is based on regression standardization. See, for example, Otis Dudley Duncan, "The Inheritance of Poverty or the Inheritance of Race," in Daniel P. Moynihan, ed., *On Understanding Poverty* (New York, Basic Books, 1967), pp. 85-110.

⁹ See, for example, Mary Corcoran and Greg J. Duncan, "Work History: Labor Force Attachment, and Earnings Differences Between the Races and Sexes," *Journal of Human Resources*, Vol. 1, 1979, pp. 1-20. Using data from the Panel Study of Income Dynamics, which included detailed work history and labor force attachment variables, they were able to account for less than half of the earnings differential between white men and black and white women.

Unemployment and its effect on family income in 1980

Survey on work experience of the population shows that the median income of families with an unemployed member was 21 percent lower than that of families without unemployment

SYLVIA LAZOS TERRY

Data from the "work experience" survey conducted in March 1981 show that, with the weakening of the economy in 1980, the total number of persons who were unemployed for at least 1 week during the year rose to 21.4 million, nearly 3 million more than in 1979. This represented 18.1 percent of all persons who were in the labor force for any part of 1980, well above the comparable proportion for 1979—15.8 percent—but still below the 1975 high of 20.2 percent. Also reflecting the impact of the 1980 recession was the relatively small increase recorded in the number of persons with jobs. About 115.8 million were employed during all or part of 1980, an increase of less than 800,000 over 1979 and the smallest annual increase since 1975.¹

The work experience survey is conducted each March as a supplement to the monthly Current Population Survey (CPS). In this supplement, respondents are queried concerning their employment and unemployment experiences, personal earnings, and family income for the preceding year.

Because of the dynamic nature of the labor force, the total number of persons with jobs or those engaged in job-seeking during the year, as obtained retrospectively through the work experience survey, is far higher than the "average" number employed or unemployed in any given month. Therefore, the survey data provide a much

more complete picture of the extent to which all persons of working age have engaged in employment or job search during the year.² In addition, the linkage of these data with the information on income obtained through the same survey provides valuable insights as to how employment and unemployment affect the economic welfare of individuals and of families.

The data show, for example, that the median income of families with one unemployed member or more during 1980 was 21 percent below the median for families not affected by unemployment (\$19,076 compared with \$24,020). Primarily because of lower earnings, 15 percent of the families affected by unemployment were in poverty in 1980. By contrast, among families where no working members experienced unemployment, only 6 percent had incomes which fell below the poverty level.

Job growth is slow

During the 4 years of economic recovery since the 1974-75 recession, the annual increases in the number of persons who worked during all or part of the year had averaged close to 3 million with more than half of the year-to-year gains being in year-round, full-time jobs. The 1979-80 increase of 759,000 in the number of persons with full- or part-year jobs represented only one-quarter of the average gain for the previous 4 years. Of this gain, only 230,000 were in full-time, year-round jobs, slightly more than one-tenth of the average increase in this category over the last 4 years.³

Since job growth in 1980 did not keep pace with population growth, the proportion of the working age

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population with some employment—68.3 percent—was slightly lower than in 1979. (See table 1.) The slow

Table 1. Work experience during the year of persons 16 years and over by extent of employment, race, and sex, 1979 and 1980

[In percent]

Extent of employment	Both sexes		Men		Women	
	1979 ¹	1980	1979 ¹	1980	1979 ¹	1980
All persons						
Population (in thousands) ² . . .	166,953	169,452	79,014	80,193	87,939	89,259
Worked during the year: ³						
Number (in thousands) . . .	114,993	115,752	64,063	64,260	50,929	51,492
Percent of the population . . .	68.9	68.3	81.1	80.1	57.9	57.7
Persons who worked during the year . . .	100.0	100.0	100.0	100.0	100.0	100.0
Full time ⁴ . . .	79.0	78.5	87.5	87.2	68.2	67.8
50 to 52 weeks . . .	56.3	56.1	66.3	65.2	43.7	44.7
27 to 49 weeks . . .	13.0	12.5	12.9	12.9	13.0	12.0
1 to 26 weeks . . .	9.7	10.0	8.4	9.1	11.4	11.0
Part time ⁵ . . .	21.0	21.5	12.5	12.8	31.8	32.2
50 to 52 weeks . . .	7.1	7.7	4.2	4.4	10.8	11.9
27 to 49 weeks . . .	5.5	5.2	3.1	3.0	8.4	8.0
1 to 26 weeks . . .	8.5	8.5	5.1	5.5	12.6	12.3
Whites						
Population (in thousands) ² . . .	145,671	147,371	69,439	70,154	76,232	77,217
Worked during the year: ³						
Number (in thousands) . . .	101,407	101,904	57,084	57,122	44,323	44,782
Percent of the population . . .	69.6	69.1	82.2	81.4	58.1	58.0
Persons who worked during the year . . .	100.0	100.0	100.0	100.0	100.0	100.0
Full time ⁴ . . .	78.8	78.4	87.7	87.5	67.2	66.9
50 to 52 weeks . . .	56.7	56.5	67.1	66.2	43.3	44.1
27 to 49 weeks . . .	12.7	12.4	12.7	12.7	12.8	12.0
1 to 26 weeks . . .	9.4	9.5	8.0	8.5	11.1	10.8
Part time ⁵ . . .	21.2	21.6	12.3	12.5	32.8	33.1
50 to 52 weeks . . .	7.3	7.8	4.3	4.4	11.1	12.2
27 to 49 weeks . . .	5.6	5.4	3.1	3.0	8.8	8.4
1 to 26 weeks . . .	8.3	8.4	4.8	5.1	12.9	12.6
Blacks						
Population (in thousands) ² . . .	17,701	18,105	7,884	8,065	9,817	10,039
Worked during the year: ³						
Number (in thousands) . . .	11,114	11,153	5,638	5,652	5,476	5,502
Percent of the population . . .	62.8	61.6	71.5	70.1	55.8	54.8
Persons who worked during the year . . .	100.0	100.0	100.0	100.0	100.0	100.0
Full time ⁴ . . .	80.3	78.9	85.4	84.5	75.0	73.1
50 to 52 weeks . . .	53.0	52.7	59.0	56.4	46.8	49.0
27 to 49 weeks . . .	14.8	13.1	15.1	14.3	14.6	11.9
1 to 26 weeks . . .	12.5	13.1	11.4	13.9	13.5	12.2
Part time ⁵ . . .	19.7	21.1	14.6	15.5	25.0	26.9
50 to 52 weeks . . .	5.9	6.9	3.6	3.8	8.3	10.0
27 to 49 weeks . . .	4.3	4.3	3.0	2.8	5.6	5.9
1 to 26 weeks . . .	9.5	9.9	7.9	8.9	11.2	11.0
Hispanics⁶						
Population (in thousands) ² . . .	8,394	8,862	4,043	4,255	4,351	4,607
Worked during the year: ³						
Number (in thousands) . . .	5,732	5,914	3,369	3,484	2,363	2,430
Percent of the population . . .	68.3	66.7	83.3	81.9	54.3	52.7
Persons who worked during the year . . .	100.0	100.0	100.0	100.0	100.0	100.0
Full time ⁴ . . .	82.8	82.4	87.5	88.3	76.0	73.9
50 to 52 weeks . . .	53.2	53.1	60.1	61.1	43.3	41.6
27 to 49 weeks . . .	16.9	15.2	17.4	15.7	16.2	14.4
1 to 26 weeks . . .	12.7	14.1	10.0	11.5	16.5	17.8
Part time ⁵ . . .	17.2	17.6	12.5	11.7	24.0	26.1
50 to 52 weeks . . .	5.0	5.9	3.6	4.0	7.0	8.6
27 to 49 weeks . . .	4.4	4.2	2.9	2.4	6.4	6.7
1 to 26 weeks . . .	7.8	7.6	5.9	5.4	10.6	10.8

¹ Data for 1979 reflect updated weights based on the 1980 Census of the Population; therefore, these differ from 1979 data previously published in the June 1981 *Monthly Labor Review*.

² Unadjusted population as of the survey date.

³ Weeks worked includes paid vacation and sick leave.

⁴ Usually worked 35 hours or more per week.

⁵ Usually worked 1 to 34 hours per week.

⁶ Persons of Hispanic origin may be of any race.

growth in employment for 1980 was evident among all major demographic groups. For example, after increasing steadily since 1976, the proportion of women 16 years old and over who worked during the year remained largely unchanged from 1979 to 1980, at 58 percent. For men, the job gain was only 300,000. This was considerably less than the increase in their population, so that the proportion with employment declined from 81 percent in 1979 to 80 percent in 1980. For black men, the proportion who worked during the year declined from 72 percent to 70 percent in 1980, reaching the lowest level since 1950, the starting point for this data series.

The proportion of workers employed at full-time jobs (35 hours or more per week) all year long remained at 56 percent in 1980. This was in line with the pattern observed over most of the last decade and significantly higher than the low (54 percent) registered during 1974–75. Among women with jobs, the proportion employed full-time, year-round continued to increase as it has since 1976. It rose slightly from 44 to 45 percent, but the comparable proportion for men edged down, from 66 to 65 percent.

Among blacks with jobs during the year, the proportion employed full-time, year-round continued to drop for men (from 59 to 56 percent), but rose further for women (from 47 to 49 percent). Black men remain less likely to be employed full-time, year-round than their white or Hispanic counterparts, while black women remain more likely to be employed full-time, year-round than white or Hispanic women.

Reflecting the deterioration in labor market conditions, more workers were apt to be employed only part time in 1980. The 25 million who usually worked part time represented 22 percent of all workers, a high previously reached in 1975, another recession year. The increase in part-time work during a recession reflects both cutbacks in hours among the employees on board, as well as the hiring of part-timers to fill jobs that normally would be for full-time workers.⁴ In addition to the 25 million usually employed part time in 1980, another 18 million workers reported that they were confined to part-time work for at least 1 week, although they were usually employed full time. Of the 43 million workers with some part-time work, 31 percent of them attributed it to unfavorable economic conditions—that is, slack work or being unable to find full-time jobs. This proportion was significantly higher than the 26 percent average for the previous 4 years.

A rise in unemployment

A total of 21.4 million persons experienced some unemployment during 1980. This figure is 2.7 times higher than the average number unemployed during any given month of 1980. In addition, it represents an in-

crease of 3 million over 1979, a year-to-year jump surpassed only once before in the history of the series—in 1974, also a recession year.⁵

In contrast to the usual patterns, a higher proportion

of men than women who were in the labor force encountered some unemployment during 1980 (19 versus 18 percent). (See table 2.) Since 1965, only in 1972 and 1973 had men been more likely to encounter unemploy-

Table 2. Persons 16 years and over who experienced some unemployment, by race and sex, 1979 and 1980

[Numbers in thousands]

Extent of unemployment	Both sexes		Men		Women	
	1979 ¹	1980	1979 ¹	1980	1979 ¹	1980
All Persons						
Employed or looked for work during the year	116,983	118,348	64,739	65,277	52,244	53,071
Percent unemployed	15.8	18.1	15.5	18.5	16.1	17.6
Persons unemployed	18,468	21,410	10,042	12,072	8,426	9,338
Did not work but looked for work	1,990	2,597	675	1,018	1,315	1,579
1 to 14 weeks	1,300	1,434	351	416	949	1,018
15 to 52 weeks	690	1,163	324	602	365	561
With work experience	16,478	18,813	9,367	11,054	7,111	7,759
Median weeks unemployed	—	12.5	—	13.2	—	10.7
Unemployed persons with work experience	100.0	100.0	100.0	100.0	100.0	100.0
Year-round workers unemployed 1 or 2 weeks	5.2	4.9	6.4	6.1	3.6	3.3
Part-year workers unemployed	94.8	95.1	93.6	93.9	96.4	96.7
1 to 4 weeks	25.9	20.8	21.2	16.6	32.0	26.7
5 to 14 weeks	35.7	33.1	37.4	33.7	33.4	32.4
15 weeks or more	33.3	41.2	35.0	43.6	31.0	37.7
With 2 spells or more of unemployment	32.2	31.7	35.7	34.5	27.7	27.7
Whites						
Employed or looked for work during the year	102,761	103,608	57,548	57,791	45,214	45,817
Percent unemployed	14.8	16.9	14.6	17.3	14.9	16.4
Persons unemployed	15,168	17,506	8,426	10,005	6,742	7,501
Did not work but looked for work	1,354	1,704	464	668	891	1,035
1 to 14 weeks	906	956	245	275	661	681
15 to 52 weeks	448	748	219	393	229	354
With work experience	13,814	15,802	7,962	9,336	5,851	6,465
Median weeks unemployed	—	12.3	—	12.9	—	10.3
Unemployed persons with work experience	100.0	100.0	100.0	100.0	100.0	100.0
Year-round workers unemployed 1 or 2 weeks	5.5	5.2	6.8	6.5	3.8	3.4
Part-year workers unemployed	94.5	94.8	93.2	93.5	96.2	96.6
1 to 4 weeks	26.9	21.7	21.9	17.1	33.8	28.3
5 to 14 weeks	36.4	33.2	38.4	34.1	33.8	31.8
15 weeks or more	31.1	39.9	33.0	41.3	28.5	36.4
With 2 spells or more of unemployment	31.9	31.5	35.4	34.8	27.0	26.9
Blacks						
Employed or looked for work during the year	11,702	11,980	5,837	5,972	5,865	6,007
Percent unemployed	24.6	28.0	24.2	29.4	25.0	26.6
Persons unemployed	2,880	3,352	1,412	1,755	1,468	1,596
Did not work but looked for work	588	826	198	321	390	505
1 to 14 weeks	362	434	99	125	263	309
15 to 52 weeks	226	392	99	196	126	197
With work experience	2,292	2,526	1,213	1,435	1,079	1,091
Median weeks unemployed	—	13.9	—	17.4	—	12.9
Unemployed persons with work experience	100.0	100.0	100.0	100.0	100.0	100.0
Year-round workers unemployed 1 or 2 weeks	3.5	3.2	4.5	3.6	2.4	2.6
Part-year workers unemployed	96.5	96.8	95.5	96.4	97.6	97.4
1 to 4 weeks	19.0	14.2	16.0	12.9	22.3	16.0
5 to 14 weeks	30.8	33.1	30.8	31.1	31.0	35.8
15 weeks or more	46.7	49.5	48.7	52.4	44.4	55.7
With 2 spells or more of unemployment	35.0	31.9	37.7	31.9	31.9	31.9
Hispanics						
Employed or looked for work during the year	5,872	6,069	3,416	3,547	2,456	2,522
Percent unemployed	22.4	23.0	22.2	23.2	22.6	22.7
Persons unemployed	1,314	1,396	757	822	556	574
Did not work but looked for work	140	155	47	63	93	93
With work experience	1,174	1,240	709	759	463	481
Median weeks unemployed	—	13.0	—	13.7	—	12.1
Unemployed persons with work experience	100.0	100.0	100.0	100.0	100.0	100.0
Year-round workers unemployed 1 or 2 weeks	3.9	2.7	4.6	3.5	2.8	1.4
Part-year workers unemployed	96.1	97.3	95.4	96.5	97.2	98.6
1 to 4 weeks	22.4	19.5	20.1	15.8	26.0	25.4
5 to 14 weeks	36.9	34.5	38.0	34.9	35.1	33.8
15 weeks or more	36.9	43.3	37.4	45.8	36.1	39.3
With 2 spells or more of unemployment	33.9	35.6	36.8	37.2	29.6	32.9

¹Data for 1979 reflect updated weights based on the 1980 Census of the Population; therefore these data differ from 1979 data previously published in the June 1981

Monthly Labor Review.

NOTE: Dashes indicate data not available.

ment during the year than women were. Men and women are not equally distributed among the various occupations and industries, and this affects their vulnerability to unemployment when the economy slows down.⁶ Relative to women, men are much more concentrated in blue-collar occupations and in goods-producing industries, which are very sensitive to economic fluctuations. In 1980, for example, one-fourth of all workers in blue-collar occupations were unemployed for at least 1 week. In contrast, only one-tenth of white-collar workers encountered some unemployment during the year.⁷

Because jobs are not readily available during recessionary periods, the duration of unemployment also rose in 1980. Of all the persons who encountered unemployment during the year, the proportion that was jobless for 15 weeks or more was 41 percent, up from 33 percent in 1979. The median duration of unemployment in 1980 was 12 weeks. Of course, ending a period of unemployment does not necessarily mean that a person found a job. Many who are unable to find work become discouraged over their prospects and simply stop looking.⁸

As in past years, men experienced more weeks of unemployment in 1980 than women. The median duration of unemployment in 1980 was 13 weeks for men and 11 weeks for women. One of four jobless women was unemployed only 1 to 4 weeks during the year compared with 1 of 6 men.

Race. Blacks and other minorities have traditionally experienced unemployment more often and for longer periods than whites and this was again the case in 1980. About 28 percent of all blacks who were in the labor force experienced some unemployment compared with 17 percent of all whites. And blacks remained unemployed longer than whites. Their median duration of unemployment was 14 weeks compared with 12 weeks for whites.

The differences in the incidence and the duration of unemployment between blacks and whites remained large, both among men and women. Over 29 percent of black men, who were in the labor force during the year, encountered some unemployment in 1980, and the median duration of their joblessness was 17 weeks. By comparison, 17 percent of all white men experienced some unemployment during the year; their median duration was 13 weeks. The incidence of unemployment for black women was 27 percent, compared with 16 percent for white women, and black women remained unemployed roughly 3 weeks longer than white women (a median 13 weeks versus 10 weeks).

The proportion of Hispanics who were unemployed at some time during 1980 was largely unchanged from the 1979 level, remaining at approximately 23 percent.

However, as for other demographic groups, the duration of unemployment for Hispanics rose in 1980, and at 13 weeks, was 1 week higher than the median for whites.

Age. Teenagers are much more likely to experience unemployment during the year than older workers. However, teenagers also spend less time looking for work. In 1980, 30 percent of all teenagers with labor force experience encountered some unemployment during the year, but their median duration of unemployment was only 10 weeks. (See table 3.)

Older persons are the least likely to experience a spell of joblessness during the year. However, when they do they tend to remain jobless longer. Both in 1980 and 1979 the median number weeks of unemployment for workers age 55 and over was 13 weeks, exceeding all other age categories.

Occupations. The 9.2 million blue-collar workers with some unemployment in 1980 represented one-fourth of all persons who worked at such jobs during all or part of 1980, the highest among all occupational groups. By comparison, 19 percent of all serviceworkers and only 13 percent of all farmworkers encountered some unemployment during the year. However, farmworkers were even more likely than blue-collar workers to experience more than one jobless period.

Workers employed in white-collar occupations experienced the smallest year-to-year increase in the proportion encountering unemployment, from 9 to 10 percent in 1980. They were also the least likely among all occupational groups to experience two periods or more of unemployment during the year. Managers and administrators, although having the lowest incidence of unemployment, experienced the sharpest year-to-year increase in the median duration of unemployment among all worker groups (from 9 weeks in 1979 to 12 weeks in 1980). (See table 3.)

Unemployment and annual earnings

Economically, unemployment represents a loss of earning power. Table 4 shows that the median annual earnings of persons who encountered some unemployment in 1980 was \$4,046 or only 38 percent as much as the median earnings of workers with no unemployment, \$10,760.⁹ However, this wide earnings gap also stems from unemployment often being symptomatic of other labor market problems. For example, at least 40 percent of all persons who encountered some unemployment in 1980 also dropped out of the labor force at some time during the year.¹⁰ In addition, the workers who are most prone to joblessness during the year have a different occupational and demographic mix than workers who do not experience unemployment. Persons who encounter

unemployment are more likely to be women, youths, blacks, and Hispanics, who, even when employed, tend to be concentrated in low-skill, low-paying occupations.¹¹

Unemployment had a particularly hard impact on blacks' earnings. The median annual earnings of blacks with some unemployment in 1980 was \$1,990 or only one-fifth that of blacks who did not encounter any unemployment. By comparison, whites and Hispanics with some unemployment earned at least two-fifths as much as their counterparts who were never unemployed. The median for blacks with unemployment is so low partly because a very high proportion of them never worked at all during the year. About one-quarter of all unemployed blacks were nonworkers who looked for work, compared to only one-tenth of whites and of Hispanics.¹²

Married men who experienced unemployment earned \$9,514 in 1980 or about half as much as those who were not unemployed. On the other hand, among women who maintained families, those who encountered un-

employment during the year had median earnings of only \$2,097, less than one-fourth that of those who were never unemployed during the year.

Unemployment and the family

Unemployment affects the economic well-being of the family unit as well as that of the individual. However, the impact on the family is often cushioned by the presence of other earners or of other sources of income.¹³

As shown in table 5, the 14.6 million families¹⁴ in which at least one member was unemployed had a median income of \$19,076—21 percent less than the median income of families where none of the working members were unemployed in 1980. And the likelihood of falling below the poverty level was 15 percent for families with unemployment compared with 6 percent for those who were free of unemployment.¹⁵ In addition, there were 3.5 million unrelated men and women who experienced some unemployment in 1980 and their me-

Table 3. Selected characteristics of persons who were unemployed during the year by percent with unemployment, percent with 2 spells or more of unemployment, and median number of weeks unemployed, 1979-80

Characteristic	1980				1979 ¹		
	Persons unemployed		Percent of unemployed workers with 2 spells or more of unemployment	Median number of weeks unemployed	Persons unemployed		Median number of weeks unemployed
	Number (in thousands)	Percent of the labor force			Number (in thousands)	Percent of the labor force	
All persons	21,410	18.1	31.7	13	18,468	15.8	10
Men	12,072	18.5	34.5	13	10,042	15.5	11
Women	9,338	17.6	27.7	11	8,426	16.1	9
Age							
16 to 19	3,235	29.5	36.1	10	3,085	26.5	8
20 to 24	5,197	28.8	33.2	12	4,523	25.4	9
25 to 54	11,415	15.9	30.2	13	9,566	13.7	11
55 and over	1,563	8.9	30.1	13	1,295	7.4	13
Occupation²							
White-collar	6,060	10.3	25.0	11	5,444	9.4	9
Professional, technical	1,458	8.2	20.9	10	1,341	7.7	9
Managers, administrators	867	7.0	25.7	12	740	6.3	9
Salesworkers	827	11.4	24.3	10	771	10.8	9
Clerical	2,907	13.4	26.9	11	2,592	12.1	8
Blue-collar	9,194	25.1	34.8	13	7,835	21.1	11
Craftsmen	2,959	20.6	36.7	13	2,486	17.3	10
Operatives, except transport	3,520	28.6	31.0	13	2,852	22.7	11
Transport equipment operatives	894	22.4	33.7	13	798	19.8	10
Nonfarm laborers	1,821	30.8	39.8	14	1,699	27.4	12
Serviceworkers	3,149	18.5	33.4	13	2,847	16.8	11
Private household workers	162	11.5	42.0	14	137	10.6	12
Other serviceworkers	2,987	19.1	32.9	13	2,710	17.3	11
Farmworkers	410	13.2	48.8	14	352	11.0	14
Farmers and farm managers	34	(³)	(³)	(³)	15	(³)	(³)
Farm laborers and supervisors	376	22.1	49.2	16	337	19.7	14
Marital and family status⁴							
Husbands	5,397	13.3	32.4	13	4,279	10.5	11
Wives	4,226	14.6	25.6	11	3,835	13.3	9
Others in married-couple families	4,214	26.1	33.1	11	3,895	23.6	9
Women who maintain families alone	1,406	22.3	26.9	12	1,228	20.5	10
Others in such families	1,889	34.1	36.7	14	1,499	28.4	12
Men who maintain families alone	315	20.3	38.4	14	211	15.6	12
Others in such families	435	30.5	35.4	14	339	25.4	12
Unrelated men	2,162	22.4	35.2	14	1,914	20.6	12
Unrelated women	1,366	16.9	32.4	10	1,268	16.5	8

¹ Data for 1979 reflect updated weights based on the 1980 Census of the Population; therefore, these data differ from 1979 data previously published in June 1981 *Monthly Labor Review*.

² Only persons who worked during the year are asked to report their occupation; there-

fore, the percent of the labor force with unemployment represents the percent of workers with unemployment.

³ Percentages and medians are not shown when base is less than 75,000.

⁴ Includes secondary families.

Table 4. Median annual earnings by whether persons did or did not encounter some unemployment during 1980, and by race, sex, and marital and family status

Characteristic	Persons with no unemployment		Persons with unemployment		Ratio of median earnings for the two categories
	Number (in thousands)	Median earnings	Number (in thousands)	Median earnings	
All persons	96,939	\$10,760	21,410	\$4,046	0.38
Men	53,206	15,491	12,072	5,724	.37
Women	43,733	7,198	9,338	2,636	.37
Race and sex					
Whites	86,102	11,036	17,506	4,508	.41
Men	47,786	16,077	10,005	6,251	.39
Women	38,316	7,131	7,501	2,919	.41
Blacks	8,628	9,250	3,352	1,990	.22
Men	4,217	10,997	1,755	2,963	.27
Women	4,411	7,696	1,596	1,024	.13
Hispanics	4,674	8,932	1,396	3,956	.44
Men	2,725	11,193	822	5,347	.48
Women	1,949	6,369	574	2,599	.41
Marital and family status					
Husbands	35,227	18,708	5,397	9,514	.51
Wives	24,807	7,183	4,226	3,218	.45
Others in married-couple families	11,949	3,076	4,214	1,970	.64
Women who maintain families alone	4,888	9,288	1,406	2,097	.23
Others in such families	3,648	5,085	1,889	1,572	.31
Men who maintain families alone	1,239	15,243	315	6,385	.42
Others in such families	989	6,908	435	2,568	.37
Unrelated men	7,476	14,031	2,162	6,070	.43
Unrelated women	6,716	9,689	1,366	4,157	.43

dian personal income was only half that of those not experiencing any unemployment.

The median income of black families in which at least one member was unemployed at some time in 1980 was \$12,880 compared with \$19,959 for white families. Because the income of black families is one-third lower than that of white families even when no members experience unemployment, the proportion whose incomes fell below the poverty line when affected by unemployment was 2.7 times higher for black families than for white ones (33 percent versus 12 percent). The median income of Hispanic families who experienced some unemployment (\$14,338) fell between that of black families and white families. Over one-fifth of all Hispanic families with unemployment had incomes which fell below the poverty line.

Of all the families with some unemployment in 1980, the vast majority, or 83 percent, had only one unemployed member, 15 percent had two members, and 2 percent had three members or more unemployed. Interestingly, the median income of the latter families was higher than that of families where only one or two members experienced unemployment. The reason is that the unemployment of three members or more is indicative of at least that many members actively participating in the labor market. Even with some unemployment, their combined earnings tend to boost the family's income.

More relevant in terms of the true impact of unemployment on income is the position occupied within the family by the members affected by unemployment and the type of family to which they belong. A closer examination of the data for 1980 provides some interesting insights.

A closer look

Husband-wife families constitute the majority of all families in the labor force. This is also the case among families in which at least one member was unemployed in 1980. (See table 5.) About 78 percent were husband-wife families, 18 percent were families maintained by women, and 4 percent were families maintained by men.

Mainly because there are more members participating in the labor force in husband-wife families, their incomes are higher than those of other family groups. The 11.3 million husband-wife families with at least one member unemployed in 1980 had the highest median income, \$21,448, and lowest incidence of poverty, 9 percent.

Unemployment has its greatest financial impact on husband-wife families when husbands are affected. For example, in the 4 million families in which only husbands encountered unemployment during the year the median income was \$17,432, about 19 percent below the median income of \$21,448 for all husband-wife families with any unemployed members. The incidence of poverty of families in which only the husband encountered unemployment was 14 percent compared with 9 percent for all husband-wife families. When both husband and wife experience some joblessness during the year, family income drops even more dramatically. In 1980 there were 925,000 such families. Their median income was \$14,840 and 16 percent had incomes which fell below the poverty level.

Husband-wife families were least affected by unemployment when the family member who experienced unemployment was not one of the spouses. In such cases, the median income of husband-wife families was more than \$30,000. Close to 80 percent of family members experiencing unemployment in these instances were youths from 16 to 24 years old. Their earnings often go to meet personal expenses rather than family expenses.

Regardless of labor force status, families headed by women are the least well-off financially of all family groups. According to the Bureau of the Census, in 1980 the poverty rate for the 9 million families headed by women was 33 percent, compared with 6 percent for husband-wife families.¹⁶ When a member of a family headed by a woman experienced unemployment, the incidence of poverty increased to 39 percent. (See table 5.)

In 1980, 2.6 million female-headed families were affected by joblessness. In roughly half of these families the individual who experienced unemployment was not

the householder but a related member—usually a young son or daughter. As in husband-wife families, unemployment had a very small impact on the family's economic welfare when only the young members experienced joblessness.

The economic impact of unemployment greatly increases when the female householder is out of work. There were 1.2 million families in 1980 in which only the female householder was unemployed, and for 60 percent of them, family incomes fell below the poverty line. For the 430,000 black families where only the

woman householder was unemployed, the poverty rate was 76 percent.

Aside from those who live in a family environment, there are millions who either live alone or with other persons to whom they are not related. In 1981, there were 18 million such individuals who participated in the labor market and, as could be expected, unemployment has a great impact on their personal incomes. For the 2.2 million such men who were unemployed at some time during 1980, personal median income was \$7,459. For the 1.4 million such women with some unemploy-

Table 5. Unemployment of families and unrelated individuals in 1980 by family relationship, member experiencing unemployment, income, and percent below poverty level

[Numbers in thousands]

Extent of unemployment	Number	Median family income	Percent below poverty level	Family income						
				Below \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$19,999	\$20,000 to \$24,999	\$25,000 to \$49,999	\$50,000 and over
All families in the labor force	53,048	\$22,700	8.0	2,153	5,143	6,932	7,708	7,900	19,273	3,938
All unrelated individuals in the labor force	17,720	11,090	13.6	2,919	4,547	4,109	2,729	1,597	1,489	206
Families with no members unemployed	38,455	24,020	5.5	1,038	3,114	4,700	5,423	5,934	14,994	3,251
Unrelated individuals with no unemployment	14,192	12,333	9.2	1,612	3,354	3,521	2,483	1,477	1,417	204
Families with at least one member unemployed	14,592	19,076	14.7	1,115	2,029	2,232	2,285	1,967	4,278	686
Unrelated individuals with some unemployment	3,528	6,616	31.2	1,306	1,193	588	245	120	73	3
Husband-wife families with at least one member unemployed	11,344	21,448	9.0	387	1,171	1,703	1,862	1,661	3,900	660
One member unemployed	9,357	21,555	8.3	297	941	1,376	1,570	1,423	3,231	519
Husband unemployed	4,023	17,432	14.0	219	630	759	787	594	968	66
Wife unemployed	2,980	21,455	4.3	58	213	460	578	566	1,008	97
Other related family member	2,353	32,039	3.7	20	98	157	204	262	1,255	356
16 to 19 years old	1,140	32,083	2.8	9	36	83	80	139	653	141
20 to 24 years old	825	32,651	3.8	7	32	42	85	88	415	155
25 years or older	389	30,247	6.1	4	30	32	39	35	188	60
Two members unemployed	1,770	19,900	12.6	85	220	302	275	207	568	113
Husband and wife only	925	14,840	15.9	73	177	222	179	112	147	17
Wife and other related family member	210	28,505	7.3	4	7	19	16	32	121	11
Husband and other related family member	316	23,021	13.8	9	23	47	54	34	129	20
Two related family members unemployed	320	35,050	5.7	0	13	15	26	29	171	66
Three members or more unemployed	217	29,854	9.3	5	10	25	16	32	102	28
Families maintained by women with at least one member unemployed	2,648	9,157	39.1	672	743	418	340	223	241	10
One member unemployed	2,249	8,681	40.5	627	619	338	285	179	192	9
Householder unemployed	1,196	5,527	60.1	523	378	153	75	48	19	1
Other related family member	1,053	14,670	18.2	103	241	184	210	132	174	8
16 to 19 years old	383	13,040	25.9	48	98	63	74	45	53	1
20 to 24 years old	343	15,532	14.3	30	65	68	76	35	64	5
25 years or older	326	15,483	13.2	25	78	53	60	51	57	2
Two members unemployed	338	11,522	30.9	41	106	72	44	39	35	2
Householder and other related family member	185	9,334	34.1	29	73	41	15	19	8	0
Two related family members unemployed	153	15,579	27.1	12	32	31	29	21	27	2
Three members or more unemployed	61	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Families maintained by men with at least one member unemployed	600	15,649	15.0	56	114	111	84	82	137	16
One member unemployed	504	15,511	14.7	42	99	97	76	61	117	13
Householder unemployed	244	11,656	24.6	36	64	48	35	24	38	0
Other related family member	260	19,852	5.4	6	35	49	40	38	79	12
16 to 19 years old	79	17,838	7.6	1	9	19	14	7	26	4
20 to 24 years old	94	19,190	5.8	2	14	15	18	20	20	5
25 years or older	87	21,720	3.1	3	13	15	9	11	33	3
Two members unemployed	82	19,245	18.6	14	13	10	6	20	14	3
Householder and other related family member	61	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Two related family members unemployed	21	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Three members or more unemployed	15	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Unrelated men with some unemployment ²	2,162	7,459	28.4	701	692	416	185	102	64	2
Unrelated women with some unemployment ²	1,366	5,674	35.5	605	501	172	61	17	9	1

¹Data not shown when base is less than 75,000.

²The income figures for unrelated individuals represent personal income.

ment, median income was \$5,674. The incidence of income below the poverty level for these individuals who experienced some unemployment in 1980 was approximately 33 percent.

THE NUMBER OF PERSONS who encountered some unemployment in 1980—when the Nation experienced a moderate recession—was 21.4 million. On the average, these persons earned only 38 percent as much as those who did not experience any unemployment. The median income of families in which at least one member

was unemployed was 20 percent lower than that of families with no unemployed members. For unrelated individuals with some unemployment, median personal income was only half that of those who did not experience any unemployment during the year.

With the labor market deteriorating further in the last half of 1981, the total numbers of persons affected by unemployment during the year is expected to show a further increase. The exact numbers will not be known until the work experience data to be collected in March 1982 are tabulated and analyzed. □

—FOOTNOTES—

¹ The work experience numbers reported here have been inflated using population weights based on results from the 1980 Census of the Population. The previously published 1979 work experience data, as they appeared in the June 1981 *Monthly Labor Review*, reflected population weights projected forward from the 1970 Census of the Population. The revision of the 1979 data raised the number of persons who worked or looked for work by 2.3 million and the number experiencing some unemployment by 500,000. Despite these significant changes in the data for 1979, the various relationships and rates based on the new estimates are nearly the same as those based on the previously published estimates. For example, the percent of the population with some unemployment in 1979 was estimated at 15.7 percent using the 1970 population weights and 15.8 percent using the 1980 weights. For further comparisons see Press Release USDL 81-413.

Because the numbers in this report are based on a sample they are subject to sampling error. Standard error tables, which estimate the magnitude of sampling errors, are available upon request. As in any survey, the results are also subject to errors in response and reporting. These may be relatively large in the case of persons with irregular attachment to the labor force.

² For a review of the employment and unemployment situation in 1980 based on the monthly CPS labor force data, see Diane N. Westcott and Robert W. Bednarzik, "Employment and unemployment: a report on 1980," *Monthly Labor Review*, February 1981, pp. 4-14.

³ Historical work experience data are published in the *Handbook of Labor Statistics*, Bulletin 2070, Bureau of Labor Statistics, December 1980, as well as in the *Employment and Training Report of the President*, U.S. Department of Labor and U.S. Department of Health and Human Services, 1980.

⁴ See Robert W. Bednarzik, "Involuntary part-time work: a cyclical analysis," *Monthly Labor Review*, September 1975, pp. 12-18.

⁵ The work experience figures may underestimate the number of persons who are unemployed during the year. Studies comparing the work experience and the monthly survey unemployment numbers estimate the degree of underreporting to be between 15 and 25 percent. Groups which are more likely to be in and out of the labor force during the year, such as teenagers and adult women, have a greater degree of underreporting. For further discussion see Richard Morgenstern and Nancy Barrett, "The Retrospective Bias in Unemployment Reporting by Sex, Race and Age," *Journal of the American Statistical Association*, June 1974, pp. 355-57; Wayne Vroman, "Measuring Annual Unemployment," Working Paper 1280-01, The Urban Institute, Washington, D.C., February 1979; and Francis W. Horvath, "Forgotten unemployment: recall bias in retrospective data," *Monthly Labor Review*, March 1982, pp. 40-43.

⁶ Women tend to find employment in a small selected number of occupations. Both in 1969 and 1979, about one-half of all working women were employed in fewer than 30 of the detailed census occupations, such as nurses, secretaries, and elementary schoolteachers. For further discussion of this issue and the related earnings issue, see Nancy F. Rytina, "Occupational segregation and earnings differences by sex," *Monthly Labor Review*, January 1981, pp. 49-53, and Francine Blau, "Women's Place in the Labor Market," *American Eco-*

nomic Review, May 1972, pp. 161-66.

⁷ With the major exception of the 1980 recession, women employed in manufacturing and in blue-collar occupations have in past recessions tended to lose their jobs more readily than men. For further discussion, see Norman Bowers, "Have employment patterns in recessions changed?" *Monthly Labor Review*, February 1981, pp. 15-28.

⁸ Unemployment and discouragement are directly related. The number of persons who become discouraged over their job prospects increases as the unemployment rate rises. See Paul O. Flaim, "Discouraged workers and changes in unemployment," *Monthly Labor Review*, March 1973, pp. 8-16. Also, see Carol M. Ondeck, "Discouraged workers' link to jobless rate reaffirmed," *Monthly Labor Review*, October 1978, pp. 40-42.

⁹ The medians as shown in this report are calculated from the corresponding distributions by linear interpolation within the interval in which the median falls. Therefore, because of this interpolation, the median value depends not only on the distribution of income but also on the income intervals used in calculating the median.

¹⁰ Only 14 million of the 21 million who were unemployed in 1980 indicated that looking for a job was their major activity when not working. For the remaining 7 million unemployed, activities such as keeping house, going to school, retirement, represented their major activity when not employed. Data on monthly labor force movements for 1980 show that, on average, 21 percent of persons who were unemployed in a given month dropped out of the labor force in the subsequent month.

¹¹ See Paul O. Flaim, "The effect of demographic changes on the Nation's unemployment rate," *Monthly Labor Review*, March 1979, pp. 13-23.

¹² When unemployed nonworkers are excluded from these computations, the median annual earnings for persons who were unemployed increased to \$4,886 from \$4,046. For blacks, the median annual earnings of the unemployed increased to \$3,658 from \$1,990 when excluding nonworkers.

¹³ Other Bureau of Labor Statistics studies which link individual labor force status to family income include "Linking Employment Problems to Economic Status," Report 2123, BLS, January 1982; and Howard Hayghe, "The effect of unemployment on family income in 1977," *Monthly Labor Review*, December 1979, pp. 42-44.

¹⁴ The term family is used broadly in this report. The count of 14.6 million includes 14.3 million primary families (a group of two persons or more residing together by blood, marriage, or adoption), and .3 million secondary families (a married couple or parent-child group sharing the living quarters of the married couple or persons maintaining the household).

¹⁵ Data on income are limited to money income received before personal income taxes and payroll deductions. Money income is the sum of the amounts received from earnings (hourly wages, salaries, or profits or losses of self-employed operations); social security or railroad retirement; public assistance or welfare payments; supplemental security income; dividends, interest, and rent (including losses); unemployment, veterans', and workers' compensation; government and private employee pensions; alimony, child support, or regular

contributions from persons not living in the household; and other periodic income. In the March 1981 cps, income did not reflect nonmoney transfers, such as: food stamps; subsidized housing; goods produced on a farm or in a home; employer-financed fringe benefits, such as retirement, stock options, or health insurance.

Poverty statistics presented in this report are based on a definition developed by the Social Security Administration in 1964 and revised by a Federal Interagency Committee in 1969. These indexes are based on the Department of Agriculture's Economy Food Plan and reflect the different consumption requirements of families based on their size and composition, sex and age of the family head, and farm-nonfarm

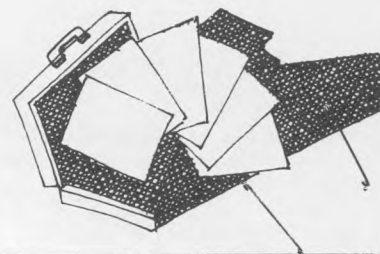
residence. The poverty thresholds are updated each year to reflect changes in the Consumer Price Index. For more information on the income and poverty population in 1980, see the advance report *Money Income and Poverty Status of Families and Persons in the United States: 1980*, advance report, Series P-60, No. 127, Bureau of the Census, August 1981. For a technical description of the income data, see *Money Income of Families and Persons in the United States: 1979*, Series P-60, No. 129, Bureau of the Census, November 1981, pp. 282-302.

¹⁶ *Money Income and Poverty Status of Families and Persons in the United States: 1980*, advance report, Series P-60, No. 127, Bureau of the Census, August 1981.

A note on communications

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

Conference Papers



The following excerpts are adapted from papers presented at the Thirty-Fourth Annual Meeting of the Industrial Relations Research Association, December 1981, in Washington, D.C.

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Why wages should not be blamed for the inflation problem

RUDOLPH A. OSWALD

The food, energy, and housing sectors in the United States—all with insignificant increases in labor costs and rather negligible overall labor costs—make up nearly two-thirds of the Consumer Price Index (63 percent). Increases in the prices of these items have been the real engine of inflation. These increases have not been determined by developments in collective bargaining.

The traditional two-factor production function focuses solely upon capital and labor inputs. The large volume of purchases of energy and intermediate materials are netted out, leaving capital and labor as the basic factors of production. Therefore, tremendous cost surges in energy—in no way determined by labor costs—are not directly incorporated in this approach. Using this two-factor model to evaluate inflationary trends, labor costs are weighted 65 percent. However, the rate of inflation has not been determined by trends in the costs of labor and capital—because the key role in the prices of these inputs was not related to the price of either labor or returns on new investment capital. In fact, indus-

try paid 19 cents of every sales dollar for labor costs in 1980, the lowest amount in 26 years, according to a recent survey by Standard and Poor's Corporation.¹

Because prices have risen more rapidly than wages, workers' real earnings have declined and the distribution of income has become less equitable. Not only have workers' wages not been the initial source of inflation, but the lagged response of wages to price increases has failed to restore lost buying power.

While union compensation increases have exceeded rises in nonunion compensation over the past five years, union increases have lagged behind the CPI. In 1979, for example, the average union wage adjustment was 9.1 percent, while the CPI rose 11.5 percent, and during 1980, union settlements averaged 9.9 percent while prices rose 13.5 percent.²

Some have tried to divert attention from the decline in the real spendable earnings of the average production worker by arguing that this decline has been offset by the increased number of earners in most households. This sidesteps the reality that workers' real wages have declined. Furthermore, 1980 U.S. Census data reveal that even with the increased incidence of multiple earner households, median household earnings adjusted for inflation actually declined 5.5 percent from the 1979 level. While real average family income declined in all quintiles of the income distribution, the decline for the bottom fifth was more than twice as great as for the top fifth.

According to U.S. Bureau of the Census data, the trend toward greater equality in the distribution of income came to an abrupt halt in 1968. The wealthiest quintile increased its share of income from 40.5 percent in 1968 to 41.6 percent in 1980. The 20 percent of American families in the next to the lowest quintile of income receivers has suffered the greatest loss. These families, with incomes of \$10,300 to \$17,400 a year in 1980, saw their slice of the pie drop from 12.4 percent in 1968 to 11.6 percent in 1980. This group includes many of the Nation's semi-skilled and unskilled workers, those who work in low-wage industries and generally the families who are the first to be victimized by inflation and recession.

The linkage between wage increases and price increases (or inflation) is not a simple or easy correlation. Prices are determined by a variety of factors, including

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monopoly power, target-profit pricing, so-called market or competitive pricing, and cost-based pricing. In theory, it is only the cost-based pricing strategies that will be affected in the short run by changes in labor costs.

Even the linkage between labor costs and wage changes is tenuous. As a matter of fact, the biggest factor increasing labor costs in 1982, particularly in manufacturing, will not be union-negotiated wage increases but rather recession-induced productivity losses.

High wage rates do not necessarily mean high labor costs. A number of studies have found that higher-paid unionized workers were more productive than lower-paid nonunion workers.³ Various explanations include the attraction of a union environment and union pay for higher quality workers, lower turnover and lower training costs, and consequently better personal relationships and worker morale.

Is it true that American workers are pricing themselves out of the market, relative to workers in other industrialized countries of the world? The fact is that the wages of American manufacturing workers have increased slower in the 1970's than in other major western countries. In terms of American dollars, between 1970 and 1980 hourly compensation increased 489 percent in Japan and 464 percent in Germany, compared with 128 percent in the United States. Even though these countries experienced faster productivity growth, their unit labor costs still rose faster than in the United States, according to the Bureau of Labor Statistics. During the 1970's, unit labor costs rose 192 percent in Japan, 252 percent in Germany, but only 78 percent in the United States.

Thus, U.S. firms should be in a more advantageous labor cost position vis-a-vis major foreign counterparts in 1980 than in 1970. And while productivity rose faster in various other countries, the statistics indicate that the U.S. worker is still the most productive in the world.

Some point a finger at cost-of-living adjustments (COLAs) in union contracts as a cause of inflation. But COLAs affect wages only *after* prices have increased, and the typical cost-of-living clause only recaptures 50 percent of the purchasing power lost to inflation. In fact, a Federal study revealed that between 1968 and 1974, escalator clauses in major agreements recouped only 49 percent of the CPI increase because of caps, corridors, inadequate COLA formulas, and so forth. And this estimate doesn't include the lag between price changes and wage adjustments. Three factors cause this lag: the delay between actual price changes and the date the BLS publishes them; the contractual delay in paying cost-of-living adjustments; and the administrative delay between the date the CPI is available and the date the worker actually receives the wage adjustment.

Escalator clauses are typically a quid pro quo for long-term agreements, which promote stability, and

thus help in the fight against inflation.

Today's inflation problem will not be solved by suppressing wages. Any "devil" theory of inflation that establishes wage increases as the "devil" is clearly unwarranted.

Today's inflation fight should deal with the factors responsible for inflation. Wages are not the villain. Indeed, workers are the victims of the current inflation. Unless workers' real earnings increase, they and their families will not be able to buy the goods and services that the economy is capable of producing. The danger for the 1980's may well be the lag in real wage income and purchasing power for most Americans while a small elite continue to prosper. In such a two-tier economy characterized by massive inequality in income distribution, the lack of balance assures continued troubles for the economy. □

—FOOTNOTES—

¹ "Labor Cost Decline Seen," *New York Times*, Dec. 16, 1981, p. D-5.

² *Current Wage Developments* (Bureau of Labor Statistics, Oct. 1981), pp. 42-44.

³ Charles Brown and James Medoff, "Trade Unions in the Production Process," *Journal of Political Economy*, Vol. 86 (1978), p. 368; Kim B. Clark, "Unionization and Productivity: Microeconomic Evidence," *NBER Working Paper Series* #330 (March 1979); and Steven G. Allen, *Unionized Construction Workers Are More Productive* (Washington, Center to Protect Worker Rights, 1979), p. ii.

Determinants of voter participation in union certification elections

RICHARD N. BLOCK AND MYRON ROOMKIN

The rate of voter participation in National Labor Relations Board (NLRB) representation elections has been considered one of the strongest and most successful aspects of the National Labor Relations Act. Typically, about 90 percent of eligible employees vote in NLRB elections,¹ as compared to a participation rate of roughly 50 percent in major political elections. It is not surprising, therefore, that the participation rate in NLRB elections is seen as strong evidence of the acceptability of the process by which representation disputes are resolved. However, in work recently completed, we found

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that this seemingly satisfactory situation may obscure some disturbing characteristics of the participation rate. Our evidence suggests that variations in the participation rate across NLRB elections may not be random, and may possibly be linked to the outcome of some elections.²

A theory of voter behavior

The general model of voter participation was developed by Anthony Downs.³ Using a utility maximizing framework, he hypothesized that a person would vote in an election when the benefits of voting exceeded the costs. According to Downs, the benefits of voting to an individual are a function of (1) the party differential, or the difference in utility to the individual if one party wins as opposed to the other; (2) the extent to which the individual's vote will make a difference in the election; and (3) the utility to the individual from participating in the democratic process. The primary cost of voting is time—in this case, the time it takes to obtain information about the opposing parties and the time it takes to vote.

In view of this, it is not surprising that voter participation in NLRB representation elections is high. To begin with, workers have strongly held views on the question of unionization, which should motivate people to participate in the decisionmaking process. Second, the difference in the bundle of economic and noneconomic terms and conditions of employment with and without collective bargaining might be so large that all workers are likely to perceive a positive differential between the union winning and the employer winning. Third, any individual employee's vote is important. Elsewhere, we found that, for the period July 1972 through September 1978, a shift of 7.8 votes would have changed the outcome of the average single-union election.⁴ In addition, a marginal voter might still be influenced to participate in the election by a strong sense of obligation to his employer, fellow workers, and the election process itself.⁵

Apart from the benefits, the costs of voting are minimal. Voting occurs at the workplace; thus, no time need be allocated to it that is not already allocated to work. Moreover, the costs of acquiring information are minimized because NLRB and court decisions have given the parties the right to campaign at the workplace.⁶

Why some workers don't vote

Although the above-mentioned forces work to encourage voter participation, our earlier study found that voter participation in NLRB elections tended to decline the longer it took to conduct the election. Furthermore, this decline was asymmetrical between union wins and employer wins, the decline being less pronounced in the latter case. Voting abstentions are important because

NLRB representation elections tend to be close enough, and are decided by a sufficiently small number of voters, that the number of nonvoters could make a difference in the outcome. For example, during the period July 1972 through September 1978, an average 89.9 percent of all eligible workers voted in NLRB single-union, nondecertification elections. The average election unit size during this time period was 56.1 employees. This means, then, that in the average election, roughly 5.6 employees did not vote. As noted earlier, a change of only 7.8 votes would have altered the outcome of the average election.⁷ Variations around these means strongly suggest that nonparticipation affected the outcome of many elections. For example, assuming that all nonvoters would have voted against the winner, union victories would have been reversed to losses in those elections in our sample which took place after 3 to 4 months of campaign activity.⁸

Why might employees, in spite of the obvious importance of the outcome of the election, choose to refrain from voting? Four nonmutually exclusive reasons should be considered. First, turnover during the campaign might result in some new employees' being unaware of the costs and benefits of collectivizing the employment relationship with their (new) employer. Second, some employees might be truly disinterested. We believe that nonvoting for these two reasons is likely to be minimal and, more important, unlikely to be altered by Board policy.⁹

Other causes of nonparticipation seem more crucial. Delay might cause uncertainty in the minds of the voters. This may be a result of the parties' campaign. Because the union is associated with change, and change implies risk, some employers might stand to benefit from nonvoting that occurred for this reason. It would be expected that the uncertainty would be concentrated disproportionately among nominal union supporters. Generally, the results discussed earlier suggest that this factor is operating.

Also, some employees may be fearful of the enmity of one party should they be identified with the other. Thus, an employee who supports the union might be concerned that, if the union loses, the employer will take some retaliatory action against him or her. Similarly, a pro-employer employee may have similar fears about retaliation from fellow employees or the union if the union wins.

Still, it is reasonable to believe that these employees are interested in the outcome of the election. Such nonvoters could constitute free-riders,¹⁰ who abstain from voting only if they believe that their vote will not alter the outcome of the election, and that by voting they may bear a cost. Consistent with Downs, the costs of voting in terms of the risk of retaliation are so great as to offset the small benefits from voting in an election

which is not perceived to be close. Thus, a nominal supporter of one party will not vote if he or she believes that the opposition will win in any case. Analogously, a union or employer supporter who believes the union (employer) will win without the extra vote will also abstain. In distinction from the previous case, the benefits of voting in this case and the risk of retaliation are both low. However, the costs or risks are still greater than zero because, even in the presence or absence of a union, the employer on one hand or the union or fellow employees on the other may still perceive that the abstaining voter can be harassed. In general, if prior to the election an employee is known to be a supporter of the (ultimately) losing side, that employee, by not voting, can at least claim that he or she did not participate in the decision.

There are two assumptions underlying the free-rider hypotheses: (1) the individual employee-voter can accurately "handicap" the outcome of the election; and (2) other employees and the employer know the pre-election preferences of the individual employee-voter. These strike us as reasonable assumptions. The average election unit is small (56.1 employees between July 1972 and September 1978). Considering the intensity of many election campaigns, the length of the average campaign (approximately 2 months after a petition is filed), and the amount of employee interaction that is likely to occur in small units, it is reasonable to believe that these assumptions will hold. Although an employee's actual vote is secret, other employees and the employer will perceive an employee who votes as voting in accordance with his or her (known) pre-election preference.

Statistical results indicated, as expected, that voter participation declined as the margin of victory increased. This is what would be anticipated if nonvoters were risk averse, handicapped the outcome of the election, perceived that their preferences were known, and deduced that their votes would not make a difference.

OBVIOUSLY, NO GOVERNMENT AGENCY can require all employees to vote, nor should it interfere with a worker's right to abstain. But, if employees are not participating in union elections because of fear of retaliation from the loser, and if the nonparticipation influences the outcome of elections, then it might be necessary to re-evaluate existing rules governing the campaign and the election to see how they actually encourage or discourage participation. □

FOOTNOTES

¹ These and other data on NLRB elections have been taken from computer files of the agency's administrative records for fiscal years 1973-78.

² Myron Roomkin and Richard N. Block, "Case Processing Time and the Outcome of Representation Elections: Some Empirical Evi-

dence," *University of Illinois Law Review*, Vol. 1, 1981, pp. 75-99.

³ Anthony Downs, *An Economic Theory of Democracy* (New York, Harper & Row, Publishers, 1957), pp. 36-50, 260-76. For some other work in this area, see William H. Riker and Peter Ordeshook, "A Theory of the Calculus of Voting," *American Political Science Review*, March 1968, pp. 25-42; and John A. Ferejohn and Morris P. Fiorina, "The Paradox of Not Voting: A Decision Theoretic Analysis," *American Political Science Review*, June 1974, pp. 525-36.

⁴ Roomkin and Block, "Case Processing Time." This was the average for all (45,115) single-union nondecertificated representation cases closed between July 1972 and September 1978.

⁵ See Downs, *An Economic Theory*; Riker and Ordeshook, "A Theory of the Calculus"; and Ferejohn and Fiorina, "The Paradox."

⁶ See, for example, *Livingston Shirt Corp.*, 107 NLRB 400 (1953); *General Knit of California*, 239 NLRB 619 (1968); and *Republic Aviation vs. NLRB*, 324 U.S. 793 (1945). Unions may have access to the employer's premises only if there are not other reasonable means to reach the employees. See *NLRB vs. Babcock and Wilcox Co.*, 351 U.S. 105 (1956).

⁷ Roomkin and Block, "Case Processing Time."

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ See Robert Abrams, *Foundations of Political Analysis* (New York, Columbia University Press, 1980), for a discussion of free-riders in political elections.

A model for measuring effectiveness of the grievance process

DAVID LEWIN AND RICHARD B. PETERSON

How important is the grievance procedure within the broader framework of the labor-management relationship? In the day-to-day management of labor relations, the majority of time and effort is spent on grievance handling, and a recent study found that more than nine working hours, on average, were devoted to the formal meetings required to process a typical grievance.¹ This did not include the investigation and preparation of each side's case, which is especially time consuming, even in those cases that do not reach arbitration.

Given the importance of the grievance process, one would expect to find a large amount of research on the subject. Unfortunately, this is not the case. Most research on the grievance procedure has been disjointed in the sense that there has been a lack of an overall framework or direction across the various studies. Moreover, in many of the studies, the findings are not linked to those of earlier research even when similar variables have been examined. Nevertheless, it is possible to assign most of the studies to five major groups, which reflect certain underlying themes. These include

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(1) demographic differences between grievants and non-grievants; (2) effects of management and union leadership patterns on grievance incidence rates; (3) organizational characteristics and grievance activity; (4) personality traits and grievance behavior; and (5) comparison and contrast of grievance activity within and between sectors and industries.²

Some important gaps need to be filled before it is possible to draw any firm or broad conclusions about the grievance process itself. First, there is an apparent need for a conceptual framework to identify the key factors affecting grievance activity and to derive hypotheses concerning relationships among independent, intervening, and dependent variables in the grievance process. Where there is theoretical support for a specific relationship, this needs to be clearly identified. Such identification would help us to gain a better appreciation of the multivariate nature of the grievance procedure.

Second, we need to redirect our energies toward measuring grievance effectiveness as an outcome of the grievance process. The vast majority of research on this subject has used the grievance rate as the dependent variable. Numerous writers have commented on the limitations of this variable as a valid measure of effectiveness. In particular, the filing of grievances may be a pressure tactic in negotiations; the union may be so weak that employees rarely consider filing grievances; low grievance activity may be associated with high rates of absenteeism and turnover; grievance activity may represent a calculated political strategy of the union leadership to support its continuation in office; and grievances may emanate from a small number of employees in a few departments, plants, or offices of a large firm. Clearly, the number of grievances by itself is a limited, perhaps even a poor, index of the effectiveness of the grievance procedure.

What constitutes a satisfactory measure of effectiveness? This is an empirical question that needs to be answered by going into the field and questioning the parties. What may be judged an effective grievance process by management may be viewed quite differently by union leaders and members. The expectations and definitions of an effective grievance process may vary among unions and within the membership of a single union. Even the grievance process itself can vary according to complexity, formality, and provisions for skipping intermediate steps of (that is, expediting) the process for certain types of grievances. Further, there can also be variation in the ability of unions to strike if the parties do not resolve a grievance at the final step.

Finally, it should be recognized that numerous factors may influence grievance effectiveness in a given labor-management relationship. In this regard, future studies might well include longitudinal designs to cap-

ture the effects of time, changes in union and management leadership, and changes in the characteristics of the labor-management relationship on grievance effectiveness.

A model of the grievance process that may help to guide future research on this subject follows below and incorporates variables that interact to influence the outcomes of grievance processing.

1. *Environmental forces* include economic, political, legal and technical forces. For example, one might hypothesize that rapid technological change serves to increase the number of grievances relating to work assignments and that these grievances might be especially severe and difficult to resolve because both union and management officials have very limited ability to predict and plan for technological change.

2. *Characteristics of the management and the union organization* include, but are not limited to, the degree of centralization of the labor relations function, the extent of internal management and union conflict, the nature and characteristics of first line supervision, and the ratio of union stewards to members.³

3. *Management and union grievance policies* include the formality and consistency with which management policies are applied, the union's use of militant pressure tactics during grievance processing, and union and management policies to file and challenge certain types of grievances.

4. *Characteristics of the labor-management relationship* include variables such as trust, respect, legitimacy, and cooperative orientation, which are presumed to aid in resolving grievances. The absence of these characteristics or the presence of opposite ones will frustrate grievance resolution and, more generally, grievance process effectiveness.

5. *Characteristics of the grievance process* encompass such factors as the age of the grievance process, the functions which the process is designed to serve, the formality and structure of the process, including provisions for expedited procedures, and the volume and types of grievances filed.

6. *Grievance resolution measures* can include the frequency with which management's or the union's position is upheld (or compromise solutions are reached), the reinstatement of workers to their jobs or other "original positions," the awarding of backpay and other monetary benefits, the grievance rate, speed of settlement (measured by time), and the level of settlement, including the percentage of grievances settled at the lowest formal step of the procedure.

We recognize that union members' satisfaction with the grievance process and grievance resolution do not appear in this model. These are not minor matters, be-

cause the long-run viability of a given union (and the union movement itself) is based, in part, on whether union members view the union as performing effectively in representing the members' interest in contract administration. Similarly, management's satisfaction with the grievance process and grievance resolution are absent from the model. While satisfaction of both union and management with the grievance process conceivably could be added to the model, data concerning such variables (1) are not easily obtained, (2) present substantial problems of index construction, and (3) provide attitudinal rather than behavioral measures. In our judgment, behavioral measures are more germane than attitudinal measures to assessing grievance process effectiveness.⁴ □

—FOOTNOTES—

¹ D.R. Dalton and W.D. Todor, "Win, Lose, Draw: The Grievance Process in Practice," *Personnel Administration*, March 1981, pp. 25-29.

² The first four categories are based on those of D.R. Dalton and W.D. Todor, "Manifest Needs of Stewards: Propensity to File a Grievance," *Journal of Applied Psychology*, December 1979, pp. 654-59.

³ The union variable can include such characteristics of the membership as size, occupational composition, age, sex, race, and work experience.

⁴ This is not to say that both types of data cannot be obtained and combined for analysis in a single study.

Pay equity emerges as a top labor issue in the 1980's

WINN NEWMAN

Although the Civil Rights Act has prohibited discrimination in compensation since 1964, and lawsuits attacking discrimination of this kind have been filed since at least 1970, the issue has until recent years attracted little attention. "Pay equity," "comparable worth," or "equal pay for work of equal value" has now apparently become the women's economic issue of the 1980's. It appears that the general populace—women as well as men—are just beginning to understand that there is more to discrimination in compensation than "equal pay for equal work" and that this is just the tip of the iceberg.

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The Equal Pay Act generally offers little protection to women workers because most jobs continue to be illegally segregated by sex. This is because the act applies *only* to those job classifications in which men as well as women are employed and to employees in a so-called "female" job who are performing essentially the same work as employees in a historically segregated male classification. Therefore, women in sex-segregated jobs are rarely able to obtain relief under the act.

The average full-time female worker earns less than 60 percent of the average male's wage.¹ Economic research and a growing line of pay equity lawsuits indicate that the denial of equal pay for equal work explains little of this differential and that a significant part of the earnings gap can only be explained by the perpetuation of job segregation and pay discrimination between "men's" and "women's" jobs which are *different in job content*.² Such discrimination would occur if the lower-paid "women's job" is of equal or greater value to the employer, when measured under standard job analysis in terms of skill, effort, responsibility, and working conditions.

The basic thrust of this article is:

First, that the issue of discrimination in compensation is "old hat" to the industrial relations scene.³ In its most obvious form it is little more than a job rate inequity problem common to the world of industrial relations which is frequently resolved through collective bargaining, including arbitration.

Second, that, unlike the concept of equal pay for equal work, the pay equity issue exists only where there has been a history of a sex (or sometimes race) segregated work force, and that the passage of the Equal Pay Act may have had the unintended effect of providing an incentive to employers to segregate by sex in order to avoid violating the act.

Third, the push for future action can be expected to come from unions, women's organizations, or both, and not from government.

Initial assignment discrimination

The most blatant form of systemic wage discrimination becomes apparent when sex-based wage disparities result from initial assignment discrimination. This occurs when women and men arrive at the workplace with equivalent education, training, and ability—or an equivalent lack thereof—and the employer assigns them on the basis of sex to predominantly female or male jobs. Experience in electrical, glass, restaurant, and many other industries shows that a consistent effect of initial assignment discrimination is that women not only regularly get assigned to the lower paying job—a discriminatory assignment violation of the Civil Rights Act in its own right—but that the rate for the work

performed is also discriminatory because the job frequently requires equal or greater skill, effort, and responsibility than the "men's" job.

The recent pay equity rulings in *County of Washington v. Gunther*⁴ and *International Union of Electrical, Radio and Machine Workers (IUE) v. Westinghouse*⁵ established that sex-based wage discrimination violates Title VII of the Civil Rights Act. In the *Gunther* case, the matrons guarded fewer prisoners than the male guards, but, unlike the latter, also performed clerical work. The record indicated that the matrons, who received 70 percent of what the guards were paid, would—but for sex—have been classified in a labor grade higher than that of matrons but lower than that of the male guards.

In the *IUE* case, the record indicated that Westinghouse had properly evaluated men's and women's jobs irrespective of sex, but thereafter established a rate for the women's jobs which was less than the "men's" jobs which had been given an equal number of job evaluation points on the basis of the company's evaluation plan. This resulted, for example, in female assemblers ultimately being placed three to four labor grades below that of janitors and other unskilled common jobs which were awarded the same number of points.

While it is still unknown what kinds of evidence will be required to show that a wage disparity is illegal under the *Gunther* test, it is important to recall that the issue of wage inequities resulting from sex-segregated jobs is not new to the industrial relations world. During World War II, the War Labor Board applied standard job evaluation techniques to resolve "intraplant inequity" cases—those involving disputes over the correctness of rates paid for jobs in relation to rates for other jobs *in the same plant*, whether occupied by men or women.⁶ The same standard was applied in comparing "female" to "male" jobs.

The decisions of the War Labor Board make clear that third-party resolution of disputes relating to the proper rate for a job has been a standard industrial relations technique for more than 40 years and judges in equal pay cases routinely determine on the basis of job content, with and without the assistance of expert testimony, whether two jobs which are not identical are nevertheless substantially equal and, therefore, should be paid the same rate.⁷

Moreover, as previously stated, the correction of job inequities through arbitration is "old hat" to the industrial relations scene. Unions have regularly grieved and arbitrated the proper rate for a job, and arbitrators have been called upon to resolve the dispute by establishing the proper wage rates for a particular classification, frequently by comparing the grieved rate with rates paid for different jobs requiring equal skill, effort, and responsibility.⁸

Unfortunately, however, studies of arbitration decisions since the days of the War Labor Board show that the male-dominated world of industrial relations and arbitration wore "blindness" when women's jobs were compared with men's jobs.⁹ These intraplant wage inequity cases present the clearest examples of what will *not* pass muster under the *Gunther* and *IUE* cases.

Unions to lead way

Management and union representatives agree that immediate comparable worth initiatives "will not come from the Government," but rather from "private plaintiffs and predominantly labor unions in the public sector."¹⁰ Indeed, in predicting that the American Federation of State, County and Municipal Employees (AFSCME) would be taking the initiative in future pay equity litigation, Bruce Nelson, a leading Title VII defense lawyer, stated that "public employers seem to be more vulnerable to the equity argument than private employers." He also said that "the most horrendous fact situations arise in the public sector" and that "if I were going to prove this legal theory, I would sue municipalities all the time."¹¹

In bringing pay equity and other discrimination lawsuits, unions have a distinct advantage over private plaintiffs and can be expected to take greater advantage of the available financial and legal resources. Through their knowledge of employer practices, and their access to civil rights-related information from employers, unions are in an excellent position to identify discriminatory practices which might otherwise have gone unrecognized by the affected employees.

Unions are also able to inform affected workers about their rights and to assist them in bringing their complaints before the proper authorities. Moreover, as a number of courts have recognized, through their expertise, their ability to offer financial and legal resources, and their knowledge of the plant or employer, unions can and should contribute immeasurably to the effectiveness of fair employment litigation.¹²

In a series of *IUE* cases,¹³ which may prove in the long run to be more significant than *Gunther* or *IUE v. Westinghouse*, the National Labor Relations Board and the Court of Appeals of the District of Columbia have recently affirmed that *litigation is an integral part of the collective bargaining process*, and that an employer therefore must supply information dealing with race and sex data even where the union has said that, if necessary, it would use the information to file suit against the very same employer. *IUE* and *AFSCME* have frequently used litigation to compel compliance with equal employment opportunity laws.

While the litigative route is an essential backstop, the more traditional collective bargaining approach offers a far more effective method of handling the present mas-

sive amount of pay discrimination. The concept of joint employer-union committees which study job rates, with or without the assistance of a job evaluator, could play a major role in correcting the pay of historically undervalued female jobs.

Disputes that cannot be resolved by the joint committee may be submitted to arbitration and may be handled in the same manner as any wage rate dispute is now handled by an arbitrator. If the wage rate properly reflects the skill, effort, and responsibility of the traditional women's job when contrasted with the rate of men's jobs of comparable skill, effort, and responsibility, there would probably be no violation of the collective bargaining agreement or the civil rights laws.

While treating pay equity issues as a mere job inequity would take much of the mystery out of this issue in unionized establishments, such action would not fully resolve the myriad of problems which result when job comparisons cross bargaining unit lines. This is no reason not to utilize fully the collective bargaining and arbitration process in the first instance and to minimize the use of administrative agencies and the courts. These alternatives would still be available where the arbitration process is unsuccessful.

On the other hand, if employers are to be encouraged to employ more traditional collective bargaining mechanisms to resolve this issue, it is essential that unions continue to assert the right to use Federal and State antidiscrimination laws, the National Labor Relations Act, and other collective bargaining laws. Where the issues are not resolved at the bargaining table, unions can be expected to respond to their increasingly militant female membership and to litigate more frequently when collective bargaining fails.

Finally, the effect of a segregated job structure on pay rates cannot be overemphasized. The Supreme Court addressed this general issue in the landmark school segregation case, *Brown v. Board of Education*.¹⁴ The Court stressed that "separating the races is usually interpreted as denoting the inferiority of the Negro group."¹⁵ That holding has equal validity to sex segregation in the workplace, that is, separating the sexes in the workplace also denotes the inferiority of women and results in inferior wages and other employment condi-

tions. It is apparent that this separation, which is frequently the result of illegal initial assignment discrimination by employers, continues to be the linchpin for occupational segregation and wage discrimination, and results in the denial of better jobs for women.

SEX-BASED WAGE DISCRIMINATION continues unabated. Initial assignment discrimination or the channeling of women into sex-segregated jobs is the heart of occupational segregation, wage discrimination, and future promotional opportunity. The wage gap will continue as long as women and minorities are shunted into the lower paying jobs upon hiring and remain there, are denied equal pay for work of equal value, and are denied access to higher paying jobs. □

— FOOTNOTES —

¹ U.S. Department of Labor, *The Earnings Gap Between Women and Men* (Washington, D. C., Government Printing Office, 1979).

² See Committee on Occupational Classification and Analysis, National Academy of Sciences, *Women, Work and Wages: Equal Pay for Jobs of Equal Value*, eds. Don Treiman and Heidi Hartmann, 1981; *Taylor v. Charley Brothers*, 25 FEP 602 (W.D. Pa., 1981).

³ Winn Newman and Carole W. Wilson, "Job Segregation and Wage Discrimination," statement before the Equal Employment Opportunity Commission, reprinted in *Daily Labor Report*, Apr. 28, 1980, p. E-1, at p. E-11.

⁴ 101 Sup. Ct. 2242 (1981).

⁵ 631 F.2d 1094 (3d Cir., 1980), cert. denied, 49 U.S.L.W. 3954 (U.S., June 22, 1981).

⁶ Newman and Wilson, "Job Segregation," pp. E-2-3.

⁷ *Ibid.*, p. E-12.

⁸ *Ibid.*, p. E-11.

⁹ Jean McKelvey, "Sex and the Single Arbitrator," 24 *Industrial & Labor Relations Review* 335, 1971; Winn Newman, "Post-Gardner-Denver Developments in the Arbitration of Discrimination Claims," *Proceedings of Twenty-Eighth Annual Meeting, National Academy of Arbitrators*, 1975, pp. 36, 47.

¹⁰ Bruce Nelson, unedited speech, Fourth Annual Conference, Employment Discrimination Law Update in Washington, D.C., Aug. 13, 1981. See also Carole W. Wilson, *Breaching the Next Barricade: Pay Equity for Women*, Americans for Democratic Action, June 1981.

¹¹ Bruce Nelson, unedited speech.

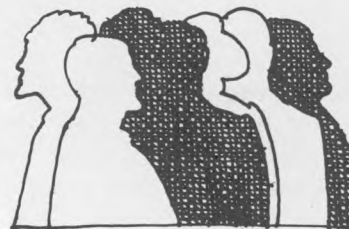
¹² See Winn Newman and Carole W. Wilson, "The Union Role In Affirmative Action," *Labor Law Journal*, June 1981, pp. 334-36.

¹³ *IUE v. Westinghouse Electric Corporation*, et al., 648 F.2d 18 (D.C. Cir., 1980).

¹⁴ 347 U.S. 483 (1954).

¹⁵ *Ibid.*, pp. 494-95.

Special Labor Force Reports—Summaries



Educational attainment of workers, March 1981

ANNE MCDUGALL YOUNG

Employers continue to use education as one of the basic qualifications for hiring and promotion, and in recent years the educational level of workers has increased dramatically. In March 1981, there were almost as many workers age 25 to 64 who had completed a year or more of college as had ended their formal education with a high school diploma. (See table 1.) Each of these two groups accounted for about 40 percent of the work force. As recently as 1970, only 26 percent of the workers had completed any college after high school.¹ (See table 2.) This change reflects primarily the coming of age of the more highly educated baby boom generation,² and, to a lesser extent, early retirement among older and generally less educated workers.

To cope with the very large number of students who reached college age between the mid-1960's and early 1970's, the education industry expanded both in physical plant and staff. The number of institutions of higher education increased by 47 percent from 1963 to 1978, from 2,132 to 3,134, and the number of full-time equivalent teaching staff rose from 242,000 to 597,000.³ Over half (55 percent) of the new institutions were 2-year public colleges. The relatively easy accessibility of these colleges enabled many students to attend without leaving home and often while working at a full-time job. Indeed, among persons under age 35, part-time students accounted for half of the growth in total college enrollment during the 1970-80 decade.⁴

The relationship between men and women in terms of educational attainment did not change over the decade, except among the youngest group. The proportion of men with a year or more of college continued to be almost 6 percentage points above that of women, while women remained less likely to be high school dropouts. However, among workers 25 to 34—the age group

comprising the largest part of the baby boom generation—the male-female difference in the proportion with some college narrowed substantially. Close to half of all workers in that age group had completed some college.

Participation rates

More education has historically been associated with higher rates of labor force participation, a pattern that persisted in March 1981. College graduates had the highest labor force participation rates, and high school dropouts, the lowest. (See table 2.)

Participation rates for men have continued their historical drift downward among all age and educational attainment groups except college graduates under age 55. This general trend among men has been observed over the past 25 years.⁵ Accounting in part for this trend are more widely available disability and pension benefits, which have made early retirement possible. Persons in poor health or who have been out of work for a number of months, have been the most likely to retire before age 65,⁶ and workers with less education are in these circumstances more often than are persons with extensive education.

While men have reduced their labor force participa-

Table 1. Labor force status of persons age 25-64, by sex and years of school completed, March 1980 and March 1981

[Numbers in thousands]

Years of school completed	Men			Women		
	1980		1981	1980		1981
	Original	Revised		Original	Revised	
Total population	49,848	50,782	51,840	53,664	54,777	55,813
Total labor force	44,755	45,417	46,363	32,010	32,593	33,910
High school:						
Less than 4 years	10,022	10,103	9,963	5,885	5,999	5,889
4 years only	16,017	16,232	16,917	14,586	14,801	15,635
College:						
1 to 3 years	7,880	8,042	8,083	5,566	5,686	6,086
4 years or more	10,837	11,040	11,402	5,974	6,106	6,300
Labor force participation rate (in percent)	89.8	89.4	89.4	59.6	59.5	60.8
High school:						
Less than 4 years	79.4	78.8	79.3	43.9	43.7	44.2
4 years only	92.2	91.9	91.2	61.4	61.2	62.4
College:						
1 to 3 years	92.7	92.4	92.0	66.5	66.4	68.0
4 years or more	95.5	95.3	95.4	73.6	73.4	74.3

NOTE: See text footnote 1 regarding revised numbers. Due to rounding, sums of individual items may not equal totals.

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tion, rates for women have increased at all levels of educational attainment and at all ages except among those 55-64 years of age. Among women age 25 to 34, the sharp rise in participation rates between 1970 and 1981 reflected the trend toward delayed marriage and childbearing. Increases in participation were also substantial among women 35 to 54, although to a lesser degree than among younger women. Most of the women over age 35 were married (72 percent), and such factors as expanded job opportunities in the white-collar and service sectors, as well as inflationary pressure on family budgets, boosted their labor force activity.

Occupations

The increase in the proportion of more highly educated workers was supported by growth in the demand for a trained labor force. Computerized design and manufacturing operations, word processing and other new business machines, engineering development, biological research, and changing medical care procedures all needed personnel with sufficient education to use the new technology which became available during the

1970's.⁷ Consequently, the proportion of workers in professional-technical and managerial occupations increased from 26 percent in 1970 to 29 percent in 1981. (See table 3.)

The number of college graduates in the professions increased substantially over the decade. But because there were so many more graduates competing for available positions, those finding professional-technical jobs represented a smaller percentage of all graduates—54 percent in 1981 compared with 67 percent in 1970. The situation was intensified by the relative lack of growth in the demand for teachers, as the baby boom generation passed through the schools. This trend was especially important for the greatly increased number of women with college degrees. Whereas 50 percent of the employed female graduates were teachers in 1970, that proportion had declined to 29 percent in 1981.

A greater proportion of the college graduates were managers in 1981. This was, in part, a response to the growth of large scale enterprises, such as banking and investment services, in which the increased quantity and variety of transactions have created more complex man-

Table 2. Years of school completed by persons in the labor force, and labor force participation rates, by age and sex, March 1970 and March 1981

Years of school completed	25 to 64 years		25 to 34 years		35 to 44 years		45 to 54 years		55 to 64 years	
	1970	1981	1970	1981	1970	1981	1970	1981	1970	1981
LABOR FORCE										
Men										
Total: Number (thousands)	39,302	46,363	11,211	17,312	10,518	11,982	10,429	9,847	7,142	7,222
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
High school: Less than 4 years	37.5	21.5	25.1	13.4	35.7	19.9	41.2	29.2	54.5	33.3
4 years only	34.5	36.5	40.4	37.8	34.6	36.7	34.0	35.2	25.9	34.6
College: 1 year or more	27.9	42.0	34.5	48.8	29.7	43.4	24.8	35.6	19.6	32.1
1 to 3 years	12.2	17.4	15.3	22.3	12.1	16.4	11.4	13.4	8.8	12.9
4 years or more	15.7	24.6	19.2	26.5	17.6	27.0	13.4	22.2	10.8	19.2
Women										
Total: Number (thousands)	22,458	33,910	5,735	12,945	6,014	8,904	6,516	7,189	4,198	4,872
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
High school: Less than 4 years	33.5	17.4	23.6	10.5	32.5	16.7	35.5	23.0	45.6	28.6
4 years only	44.3	46.1	48.2	43.6	47.2	47.0	45.6	49.2	33.0	46.7
College: 1 year or more	22.1	36.5	28.3	46.0	20.3	36.2	18.9	27.8	21.5	24.7
1 to 3 years	10.9	17.9	13.1	22.2	10.5	17.3	9.8	13.8	10.3	13.9
4 years or more	11.2	18.6	15.2	23.8	9.8	18.9	9.1	14.0	11.2	10.8
LABOR FORCE PARTICIPATION RATES										
Men										
Total	93.5	89.4	96.5	94.7	97.1	95.0	94.6	91.0	83.4	71.3
High school: Less than 4 years	89.3	79.3	95.1	89.3	94.7	89.0	91.5	83.7	79.4	62.1
4 years only	96.3	91.2	98.2	96.1	98.2	95.8	96.3	92.7	88.8	73.6
College: 1 to 3 years	95.6	92.0	95.7	94.2	98.7	96.0	97.5	92.8	87.5	76.8
4 years or more	96.3	95.4	95.4	96.1	98.8	98.3	97.4	98.2	90.0	84.3
Women										
Total	48.9	60.8	45.6	67.4	51.3	66.5	54.4	61.7	43.7	42.1
High school: Less than 4 years	42.9	44.2	40.3	47.4	47.6	52.9	47.9	48.5	36.7	32.7
4 years only	51.3	62.4	45.5	66.9	52.7	67.9	57.8	65.0	49.4	45.3
College: 1 to 3 years	50.8	68.0	45.5	71.6	52.7	72.8	57.0	66.9	50.6	50.7
4 years or more	60.9	74.3	57.6	78.7	57.7	74.0	67.5	76.3	64.1	54.7

NOTE: The labor force participation rate is the percent of the civilian population in the labor force. Due to rounding, sums of individual items may not equal totals.

agement situations.⁸ College graduates were also more likely to be salesworkers, often as specialists in technical services and equipment, and small but growing proportions were in blue-collar and service occupations.

Many workers who had completed their formal education with 1 to 3 years of college had earned certificates and other awards of achievement. During 1970–71 to 1977–78, the number of associate degrees conferred increased by 63 percent.⁹ Among the recipients in 1977–78, 59 percent had been in occupational curricula such as science or engineering, data processing, or health sciences. Nevertheless, between 1970 and 1981, the proportion of workers with only 1 to 3 years of college who held white-collar jobs decreased 12 percentage points among men and almost 3 percentage points among women. Increased employment in craft and service work accounted for most of the change among men. The relatively smaller change among women reflected their continuing concentration in clerical occupations and their modest gain in the management field.

Workers with no formal education beyond high school were at an increasing disadvantage, compared to those with 1 to 3 years of college, in finding employ-

ment in professional-technical and managerial occupations. The proportion of male high school graduates with no college who were blue-collar workers rose from 52 to 57 percent over the decade. The proportion of women with no education beyond high school who were in clerical jobs dropped from 50 to 46 percent—with some shifting to managerial jobs and some to service jobs.

In March 1981, most high school dropouts were employed as operatives, nonfarm laborers, and service workers. These occupations frequently do not require a high school diploma as a condition of employment. However, the average educational attainment has risen substantially in these jobs, and is now well over 12 years. Thus, even for these relatively unskilled occupations, dropouts faced increased competition from workers with more education.

The educational composition of the labor force may undergo several changes in the near future. First, the baby boom generation will have worked its way through the educational system by the mid-1980's, putting an end to the bulge in the number of workers in entry level jobs. Second, the next wave of labor force

Table 3. Occupation of employed persons age 18 and over, by years of school completed and by sex, March 1970 and March 1981

[In percent]

Years of school completed	Total		Professional-technical	Managers	Sales	Clerical	Craft	Operatives	Nonfarm laborers	Service	Farm
	Number (in thousands)	Percent									
Both sexes:											
1970	75,658	100.0	14.8	10.9	5.9	17.7	13.1	18.1	4.1	11.8	3.6
1981	96,644	100.0	16.9	12.1	6.2	18.7	12.9	13.8	3.9	13.1	2.6
Men:											
1970	47,062	100.0	14.4	14.8	5.5	7.5	20.4	19.9	6.3	6.1	5.0
1981	55,005	100.0	16.4	15.4	6.1	6.3	21.2	16.5	6.0	8.6	3.5
Women:											
1970	28,596	100.0	15.5	4.5	6.5	34.6	1.1	15.1	.4	21.0	1.4
1981	41,639	100.0	17.6	7.7	6.4	35.2	1.8	10.3	1.1	19.2	.9
High school:											
Less than 4 years:											
Men:											
1970	17,326	100.0	1.4	8.4	2.8	4.5	25.7	29.4	10.7	8.3	8.8
1981	11,741	100.0	1.5	7.0	2.2	3.8	26.4	28.7	11.0	12.2	7.2
Women:											
1970	8,585	100.0	1.8	3.3	6.5	14.7	1.7	30.4	.8	37.9	2.8
1981	6,779	100.0	2.4	3.9	5.5	15.2	2.8	27.3	2.1	39.0	1.9
4 years only:											
Men:											
1970	16,563	100.0	6.9	15.5	5.9	9.9	25.0	21.5	5.4	6.2	3.7
1981	20,966	100.0	5.7	12.7	5.3	6.9	29.1	21.0	6.9	9.0	3.5
Women:											
1970	13,053	100.0	6.7	4.7	7.3	50.0	1.1	12.0	.3	17.0	.9
1981	19,556	100.0	6.0	7.1	6.9	45.5	2.0	10.9	1.2	19.6	.8
College:											
1 to 3 years:											
Men:											
1970	6,334	100.0	19.7	22.3	10.8	12.8	13.1	9.7	3.3	5.7	2.4
1981	10,096	100.0	15.6	19.1	9.0	9.9	18.9	10.6	4.8	10.4	1.8
Women:											
1970	3,799	100.0	22.1	6.8	7.2	46.6	.6	2.9	.2	13.0	.7
1981	8,226	100.0	19.7	9.8	7.5	42.9	1.3	2.7	.8	14.9	.5
4 years or more:											
Men:											
1970	6,837	100.0	60.6	22.4	6.8	4.3	2.5	1.4	.3	.9	.8
1981	12,200	100.0	50.0	25.4	8.7	4.5	4.7	1.8	.8	2.9	1.2
Women:											
1970	3,159	100.0	80.9	4.1	1.9	10.6	.3	.5	—	1.6	.2
1981	7,080	100.0	61.9	10.3	4.4	16.6	.8	1.3	.3	3.9	.5

entrants will be smaller, and the relative shortage of new high school and college graduates may lead to more readily available entry level jobs. On the other hand, these workers will face continuing competition for advancement from the huge group which preceded

them. And third, modifications of national priorities and possible changes in spending patterns in both the private and public sectors may shift the demand for more highly educated workers from one occupational group to another. □

—FOOTNOTES—

¹ Data in this report are based on tabulations from the March 1981 Current Population Survey (CPS), conducted for the Bureau of Labor Statistics by the Bureau of the Census. The data relate to the labor force 25 to 64 years of age, unless otherwise specified. The data have been inflated using population weights based on results from the 1980 census. The March 1980 data in table 1 have also been revised to bring them in line with the new population weights and to make them comparable with the March 1981 data. Previously published data for the years 1971 through 1980 reflected population weights projected forward from the 1970 census.

As table 1 shows, the number of persons age 25 to 64 years old was revised upward by 2 million, and the number in the labor force was estimated to be 1.2 million greater than originally reported. Despite these significant changes in the data for 1980, the various relationships and percentages based on the new estimates are similar to those based on the previously published estimates. For example, the labor force participation rate for persons with 4 years of high school was estimated at 74.4 percent using the 1970 weights and 74.2 percent using the 1980 weights.

For a more complete description of changes in labor force data stemming from the use of 1980 census population weights in the CPS, see "Revisions in the Current Population Survey Beginning in January 1982," *Employment and Earnings*, February 1982.

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

mates, should be interpreted with caution. This report is the latest in a series on this subject. The most recent was published in the *Monthly Labor Review*, "Trends in educational attainment among workers in the 1970's," July 1980, pp. 44-47. Data on the educational attainment of the population are published by the Bureau of the Census in *Current Population Reports*, Series P-20.

² The expression "baby boom generation" usually refers to persons born between 1946 and 1964. The rate of births to women 15 to 44 years of age rose to over 24 per 1,000 in 1946, over 25 per 1,000 in 1957, and remained over 21 per 1,000 through 1964. See *Historical Statistics of the United States, Colonial Times to 1970*, Part 1 (Bureau of the Census, 1975), table B 5-10.

³ *The Condition of Education*, 1975 Edition (U.S. Department of Education, National Center for Education Statistics), table 67; *The Condition of Education*, 1980 Edition, tables 3.7 and 3.10; and unpublished data from the National Center for Education Statistics.

⁴ Unpublished data from the October 1970 and 1980 supplements to the Current Population Survey (CPS), Bureau of Labor Statistics.

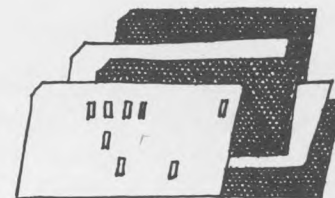
⁵ *Employment and Training Report of the President, 1980*, table A-4.

⁶ Karen Schwab, "Early Labor Force Withdrawal of Men: Participants and Nonparticipants Aged 58-63," *Social Security Bulletin*, August 1974, pp. 24-38.

⁷ *Occupational Outlook for College Graduates*, 1978-79 Edition (Bureau of Labor Statistics).

⁸ *Ibid.*

⁹ *The Condition of Education*, 1980 Edition, table 1.11.



How women's health affects labor force attachment

ELIZABETH G. MARET

Most analysts would agree that a person's health is a major determinant of his or her labor force attachment. However, there has been little systematic investigation of the relationship between health and work in the United States, and most of the reliable evidence pertains only to male populations.

Preliminary findings based on the National Longitudinal Surveys suggest that health has "an important effect on the labor force participation of women," and that this effect is more pronounced for black than for white women. But authors of the final report on the study cautioned that their results are ambiguous and called for "more intensive examination" of the issue.¹

The purpose of this analysis is to provide such examination of the relationship between health and labor force attachment for American women. More explicitly, we will test the hypothesis that the overall lifetime supply of labor provided by mature women is related to their health, or their subjective assessment thereof, and a corollary, that the supply of labor by black women is more affected by self-rated health than that of whites (although reported participation rates for black women are consistently higher than those for whites).² An attachment index which incorporates hours worked, rather than the mere fact of labor force participation, will be used as the measure of labor force attachment.

The data base. Data from the National Longitudinal Surveys of Work Experience (NLS) for mature women are the basis for this study. The NLS mature women cohort file consists of a national probability sample of approximately 5,000 women who were age 30 to 45 at the

time of the initial survey in 1967.³ The same women were interviewed in 1968, 1969, 1971, 1972, and 1974.

The NLS data are particularly appropriate for racial comparisons of women's work experience because of the intentional oversampling of black women. For the purpose of this research, a subsample of the NLS was drawn, which included those respondents identified as "black" or as "white" at the time of the initial survey. Women categorized as "other" were excluded from analysis, yielding a total sample of 4,886 women, of whom 1,352 were black and 3,534 were white.

The labor supply model. The measure of labor force attachment (LFA) was originally defined and applied to the 1967-71 mature women cohort file in an earlier article in the *Review*.⁴ The purpose of the original formulation was to incorporate important dimensions of labor force participation into one longitudinal index of the lifetime supply of labor provided by mature women.

More specifically, the measure included three dimensions of labor force participation: (1) continuity of work experience, or the proportion of years worked at least 6 months since leaving regular school; (2) full-time as distinguished from part-time employment, or hours worked per week; and (3) year-round as opposed to temporary or seasonal employment, or weeks worked per year. The first dimension reflects the continuity of work experience prior to the initial survey in 1967. The second and third dimensions reflect the intensity of work experience during the survey years.

For the following analysis of the expanded 1967-74 cohort file, the LFA formula was respecified to accommodate data from additional survey years. This revised formula is:

$$\text{LFA} = [(A/B) + C/36 + D/36] 50$$

where *A* is the number of years during which the respondent worked at least 6 months between leaving regular school and 1967; *B* is the number of years since the respondent left regular school and 1967; *C* is the number of hours employed per week in a given survey year (categorized into values ranging from 0 to 18); and *D* is the number of weeks worked per year between 1967

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Table 1. Women's labor force attachment, by race and health category

Health category	Sample distribution				Measure of labor force attachment		
	Blacks		Whites		Blacks	Whites	Difference
	Number	Percent	Number	Percent			
Total	1,352	100.0	3,534	100.0	40.9	34.6	6.3
Excellent	404	29.9	1,620	45.8	47.9	37.3	10.6
Good	617	45.6	1,422	40.2	43.6	35.5	9.1
Fair	242	17.9	407	11.5	31.2	27.8	3.4
Poor	89	6.6	85	2.4	17.5	17.9	-4

and 1974 (categorized into values ranging from 0 to 18).⁵

For the NLS mature women cohort, this formula encompasses work experience both before and since 1967. The dimension of interyear continuity of work prior to the 1967 survey is reflected in the expression A/B , which can assume a maximum value of 1. The C and D values represent the intensity of labor market experience between 1967 and 1974. The dimensions of intensity are each divided by 36 to ensure that these intrayear measures of recent labor market activity do not "overshadow" the continuity dimension, which reflects experience before the initial survey. When divided by 36 (a constant representing twice the maximum possible value), neither C nor D can be greater than 0.5, and $C + D$ cannot exceed 1. The sum of the dimensional values (A/B , C , D) is multiplied by 50 to yield scores ranging from 0 (for no significant work experience prior to the 1967 survey and no recent work experience) to 100 (for continuous participation prior to 1967 and full-time, year-round participation after 1967).

Empirical results. The findings reported in table 1 are based on simple analysis of variance. Mean levels of labor force attachment are presented for each health category within the subsamples of black and white women. These results suggest that the labor supplied by women is affected by conditions of health, particularly in the case of blacks. Average LFA scores for black women vary from 47.9 for those with excellent health to 17.5 for those whose health is poor. The simple correlation coefficient (r_1) between the labor force attachment and health of black women is .259. In other words, the health variable appears to explain almost 7 percent (that is, r_1^2) of the variability in black women's labor force attachment.

Health is also significantly associated with the labor force attachment of white women, although the relationship is not as strong as that observed for blacks. There is a 20-point range of LFA scores among health categories, and the unadjusted correlation ratio indicates that health can explain about 2 percent of the variability in the labor force attachment of white women.

Interracial differences in the amount of labor supplied

are greater among women whose health is excellent or good, and smaller among those whose health is fair or poor. The differential in labor force attachment is 10.6 points, or approximately 28 percent, for respondents who claimed to be in excellent health, compared with an observed difference of -0.4—about 2 percent—between whites and blacks in poor health. The latter figure suggests a slightly higher degree of labor force attachment for white women than for black women in the poor health category.

To summarize, the findings presented in table 1 indicate that: (1) the supply of labor varies significantly among health categories for both white and black women; (2) although health is correlated with labor force attachment for both races, it is more important in the labor supply of blacks than of whites; and, (3) differences in the labor supplied by black and by white women increase under conditions of excellent and good health, but virtually disappear under conditions of poor health. Because the proportion of black women in the excellent and good health categories is lower than the corresponding proportion of whites—75 percent compared to 86 percent—one might expect the interracial differential in labor force participation to be even greater if the distributions of respondents among the categories were more similar.

Of course, it is possible that the observed differentials by race are due to other factors. However, the evidence presented in table 2 suggests no marked change in the relative importance of the health variable when other selected demographic characteristics are controlled. The effects of health appear greater for black than for white women, even after adjustment for the effects of education, marital status, number of children, and age.⁶ The unadjusted correlation coefficient between health and la-

Table 2. The differential labor force attachment of women after adjustment for selected demographic characteristics, by race and health category

Race and health category	Unadjusted deviation	Unadjusted correlation coefficient (r_1)	Adjusted deviation	Adjusted correlation coefficient ¹ (r_2)
Black²				
Excellent	6.7	.26	6.0	.24
Good	2.8		2.7	
Fair	-9.9		-8.8	
Poor	-23.3		-23.0	
White³				
Excellent	2.7	.13	1.9	.10
Good	-.3		.1	
Fair	-6.8		-4.9	
Poor	-15.6		-15.4	

¹ The correlation coefficient after controlling for the effects of age, education, marital status, and children on the labor force attachment of sample members.

² The grand mean for LFA, upon which the unadjusted deviations are based, is 41.2.

³ The grand mean for LFA is 34.7.

bor force attachment (r_1) for black women is .26, while the adjusted coefficient (r_2) is .24. For white women, the unadjusted and adjusted coefficients are .13 and .10, respectively. The impact of the other variables is minimal for black women; the greatest effect appears in the tapering of the reduction in labor force attachment among blacks in fair health. This attenuation can also be noted for white women in fair health, while there is a slight decrease in the LFA score for whites in excellent health.

THE RESULTS OF THIS ANALYSIS support the conclusions of other researchers that health variables should be included among the determinants of labor supply. For both women and men, information on the health of workers should increase the explanatory power of analytic models; such data appear to be particularly important for studies of black workers.

The greater observed variability of self-rated health conditions among blacks, and the greater impact of health conditions on the amount of labor supplied by black workers, also have implications for policy. Those concerned with the socioeconomic effects of health programs targeted at certain segments of the work force might do well to include labor supply considerations in their assessments of relative benefits and costs. □

— FOOTNOTES —

¹ *Dual Careers: A Longitudinal Study of Labor Market Experience of Women, Vol. 1*, Manpower Research Monograph 21 (U.S. Department of Labor, 1970).

² William G. Bowen and T. Aldrich Finegan, *The Economics of Labor Force Participation* (Princeton, N.J., Princeton University Press, 1969).

³ See Elizabeth Maret-Havens, "Developing an index to measure female labor force participation," *Monthly Labor Review*, May 1977, appendix, p. 38, for a more detailed description of the NLS mature women cohort file.

⁴ See Maret-Havens, "Developing an index," pp. 35–38.

⁵ For each of the 6 years (1967–69, 1971–72, and 1974), respondents were assigned a value of 3 if they worked the maximum period of 50 to 52 weeks; a value of 2 if they worked 27 to 49 weeks; a value of 1 if they worked 26 weeks or less; and a value of 0 if they did not work. The results were then summed for the six periods to yield a value ranging from 0 (for no weeks worked) to 18 (for consistent year-round employment). A similar procedure was followed for dimension C. For each of the 6 years, a value of 3 was assigned to those who worked 40 or more hours a week; a value of 2 was used for 21 to 39 hours; and a value of 1 was used for 1 to 20 hours. Summing the results again yielded a value which could range from 0 to 18.

⁶ The demographic variables used in this analysis are defined in reference to the NLS mature women cohort as follows: *Race*—identified by respondents as "white" or "black" in 1967; *health*—rated by respondents in 1967 as "excellent," "good," "fair," or "poor," in relation to others of about the same age; *education*—the number of years of school completed; *marital status*—classified as married-spouse present, married-spouse absent, separated, divorced, widowed, or never married in 1967; *children*—the number of own and other children who ever lived with the respondent as of the 1967 survey; and *age*—divided into three subcohorts of those who were 37 to 41, 42 to 46, and 47 to 51 at the time of the 1974 survey.

Business studies views of managers and workers on productivity and quality

A recent survey of business executives by the U.S. Chamber of Commerce asked managers for their opinions on employees' attitudes concerning productivity and product quality. It compared the findings with those of an earlier joint study by the Chamber of Commerce and the Gallup polling organization, which surveyed workers for their attitudes and their opinions of fellow workers' attitudes about productivity and quality.

Nine out of ten executives, and especially those in large firms, believe that employees want the company's goods and services to be of high quality; 43 percent said employees are "very concerned" about quality and 47 percent said "somewhat concerned." Only 5 percent said their employees are "not very much concerned." According to the earlier study, workers share this view of themselves and their colleagues; 49 percent said they are "very concerned" about quality of product and service and 37 percent said they are "somewhat concerned." Only 11 percent said they and their coworkers are "not very much concerned."

In fact, the data show that executives believe their workers are more concerned about quality of goods and services than about company productivity. Twelve percent said that workers are very concerned about increasing productivity; 61 percent believed workers are somewhat concerned; and 21 percent, not very concerned. This view also was held more by executives in large companies than by those in small ones. Of the workers themselves, 88 percent said it is important to them to increase productivity, and 70 percent think this factor is important to their coworkers.

A key finding of both surveys is that managers and workers believe that worker involvement in the decisionmaking process will improve both quantity and quality of the finished product, if workers know it will affect their jobs; 79 percent of managers held this view, and 84 percent of workers.

Effective communication between management and employees is seen as vital. Managers ranked communication factors affecting employee productivity. Most important was explaining to workers what increased productivity can mean for both the company and the employee; 63 percent believe this to be important. Second was asking employees for their ideas on productivity, 45 percent. Third was indicating more clearly the productivity expected of workers, 33 percent. Fourth was conveying to workers the steps being taken by management to increase company productivity, 16 percent. Fifth was making it known that management is aware and concerned about the needs of workers, 14

percent. Sixth was conveying to employees exactly what the company provides in the total wage and benefit package, 12 percent.

Management and workers have markedly different views on the most effective way of encouraging good ideas to improve the performance of the company. About 51 percent of the surveyed executives think personal recognition is the most effective means. A third believe monetary reward is the most effective. As for workers, 42 percent said monetary reward is the most effective means, and 26 percent cited personal recognition. Only 6 percent of executives, but 26 percent of workers, think promotion is the most effective method.

Executives assign top rank to workers' attitudes and abilities as a factor that could increase overall company productivity. Among all firms surveyed, managers in 40 percent ranked this as the most important factor, even above supervisor attitudes and abilities; 47 percent held this view in small firms, 36 percent in large ones. However, only 20 percent of executives believe that efforts at a worker's level can make the greatest contribution to

improved productivity. Most believe the greatest chances for improvement are in the supervisory, middle executive, and top executive levels. Among executives, the most frequently cited incentive used to improve productivity among employees at all levels is bonuses for outstanding work, 56 percent.

The survey was conducted during January and February of 1981, as part of the quarterly survey of business executives' attitudes by the Chamber of Commerce. Questionnaires were sent to 1,870 high-ranking executives, representing a cross section of business by type of industry, size of firm, and geographical region. There were 1,083 respondents, or 58 percent. The earlier, joint survey of employee attitudes was conducted in late 1979. Data for the survey of executives were compiled by the Chamber of Commerce' Survey Research Center and its Productivity Center. Copies of the report, *Management Attitudes Toward Productivity*, may be obtained from the Economic Policy Division, Chamber of Commerce of the United States, 1615 H Street, N.W., Washington, D.C. 20062. □

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in May is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union ¹	Number of workers
Affiliated Dress Manufacturers, Inc., and 2 others (Interstate)	Apparel	Ladies Garment Workers	15,000
Allied Construction Employers Association, Inc. (Wisconsin)	Construction	Carpenters	2,700
American Standard, Inc., Chinaware Department (Interstate)	Stone, clay, and glass products	Pottery and Allied Workers	1,800
Arkansas Power & Light Co. (Arkansas)	Utilities	Electrical Workers (IBEW)	2,200
Associated Contractors of Ohio, Inc., Akron Division	Construction	Carpenters	1,200
Associated Contractors of Ohio, Inc., Cincinnati Division	Construction	Carpenters	3,500
Associated Tile Contractors of Southern California (Interstate)	Construction	Bricklayers	1,000
Avco Corp., Avco Lycoming Engineering Group (Stratford, Conn.)	Transportation equipment	Auto Workers (Ind.)	1,950
Associated General Contractors of America, Inc.: Alabama Chapter	Construction	Carpenters; Laborers; Operating Engineers; Cement Masons; Teamsters (Ind.)	5,000
Arizona Chapter	Construction	Carpenters; Laborers; Operating Engineers; Cement Masons; Teamsters (Ind.)	22,400
Detroit Chapter, 2 agreements	Construction	Laborers; Cement Masons; Bricklayers	4,500
Nevada Chapter, and 2 others	Construction	Teamsters (Ind.)	1,000
Ohio Building Chapter (Interstate)	Construction	Laborers	1,800
Ohio State Building Chapter	Construction	Carpenters	3,500
Building Owners and Managers Association of San Francisco	Real estate	Service Employees	1,000
Boilermakers Employers of Western Pennsylvania Area (Interstate) ²	Construction	Boilermakers	1,150
California & Hawaiian Sugar Co. (Crockett, Calif.)	Food products	Seafarers	1,000
California Brewers Association, and others	Food products	Teamsters (Ind.)	1,300
Campbell Soup Co. (Sacramento, Calif.)	Food products	Teamsters (Ind.)	1,400
Carrier Air Conditioning Co. (McMinnville, Tenn.)	Machinery	Sheet Metal Workers	1,800
Connecticut Light & Power Co.	Utilities	Electrical Workers (IBEW)	1,700
Construction Employers Association, Inc. (Interstate)	Construction	Carpenters	2,000
Del Monte Corp., Plants 126 & 127 (Oregon and Washington)	Food products	Teamsters (Ind.)	1,700
Fashion Apparel Manufacturers' Association (Interstate)	Apparel	Ladies Garment Workers	8,000
Food Industry (Missouri)	Retail trade	Food and Commercial Workers	8,500
Freuhauf Corp., Maryland Shipbuilding and Drydock Co. (Baltimore, Md.)	Transportation equipment	Marine and Shipbuilding Workers	1,500
Goodyear Atomic Corp. (Piketon, Ohio)	Chemicals	Oil, Chemical and Atomic Workers	1,600
Grace, W. R. & Co., Agricultural Chemical Group (Florida)	Mining	Chemical Workers	1,350
Greater Blouse, Skirt & Undergarment Association, Inc., 2 agreements (Interstate)	Apparel	Ladies Garment Workers	21,000
Homestake Mining Co. (Leed, S. Dak.)	Mining	Steelworkers	1,400
Hospital Service & Medical-Surgical Plans of New Jersey	Insurance	Office and Professional Employees	1,450
Hotel Industry (Hawaii)	Hotels	Hotel and Restaurant Employees	10,000
Industrial Association of Juvenile Apparel Manufacturers, Inc. (New York)	Apparel	Ladies Garment Workers	6,000
Industrial Employers and Distributors Association (California)	Wholesale trade	Longshoremens and Warehousemen	3,500
International Paper Co., Androscoggin Mill (Jay, Maine)	Lumber	Paperworkers; Firemen and Oilers	1,000
Ironworkers Employers Association of Western Pennsylvania	Construction	Iron Workers	2,400
Kerr-McGee Nuclear Corp. (New Mexico)	Chemicals	Oil, Chemical & Atomic Workers	1,050
Kimberly-Clark Corp., Neenah Mill, Lakeview and Badger Globe Divisions (Neenah, Wis.)	Paper	Paperworkers	1,300
Knitted Outerwear Manufacturers Association, Pennsylvania District (Philadelphia, Pa.)	Apparel	Ladies Garment Workers	5,000
Mason Contractors Association of Milwaukee, and 1 other (Wisconsin)	Construction	Bricklayers	1,500

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

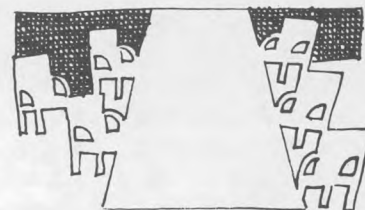
Employer and location	Industry	Union ¹	Number of workers
Master Builders Association of Western Pennsylvania, Inc., 3 agreements	Construction	Laborers; Carpenters; Teamsters (Ind.)	20,000
Mechanical Contractors Association of Central Ohio, Inc.	Construction	Plumbers	1,050
Mechanical Contractors Association of Rochester, Inc., and 1 other (New York)	Construction	Plumbers	1,000
Metropolitan Detroit Plumbing & Mechanical Contractors Association, Inc., and 1 other (Michigan)	Construction	Plumbers	2,000
Millwright Conveyor & Machine Erector (Michigan) ²	Construction	Carpenters	1,250
National Association of Blouse Manufacturers, Inc. (New York)	Apparel	Ladies Garment Workers	1,000
National Automobile Transporters Agreement (Interstate)	Trucking	Teamsters (Ind.)	4,800
National Skirt & Sportswear Association, Inc. (Interstate)	Apparel	Ladies Garment Workers	1,500
New England Apparel Manufacturers Association (Rhode Island and Massachusetts)	Apparel	Ladies Garment Workers	3,500
Niagara Mohawk Power Corp. (New York)	Utilities	Electrical Workers (IBEW)	7,500
North American Royalties, Inc., The Wheland Foundry Division (Chattanooga, Tenn.)	Primary metals	Steelworkers	1,200
New York Coat & Suit Association (Interstate)	Apparel	Ladies Garment Workers	20,000
National Electrical Contractors Association, 3 agreements (Interstate)	Construction	Electrical Workers (IBEW)	7,400
Painting and Decorating Contractors of America, Inc., Detroit and Wayne Chapters (Michigan)	Construction	Painters	2,400
Pennsylvania Electric Co.	Utilities	Electrical Workers (IBEW)	2,150
Potomac Electric Power Co. (District of Columbia)	Utilities	Electrical Workers (IBEW)	3,500
Pennsylvania Power & Light Co.	Utilities	Electrical Workers (IBEW)	4,800
Republic Airlines, Mechanics (Interstate) ³	Air transportation	Machinists	2,500
Restaurants & Bars (Everett, Wash.) ²	Restaurants	Hotel and Restaurant Employees	1,500
Roper Corp., Roper Eastern Group (Maryland)	Furniture	Furniture Workers	1,200
San Francisco Electrical Contractors Association, Inc. (California)	Construction	Electrical Workers (IBEW)	1,400
San Francisco Employers Council (California)	Wholesale trade	Teamsters (Ind.)	2,000
Southwestern Michigan Contractors Association, and 1 other	Construction	Carpenters	1,800
Squibb, E. R. & Sons, Inc., Production and Maintenance (New Jersey)	Chemicals	Oil, Chemical & Atomic Workers	1,950
Stanley Works (Connecticut)	Fabricated metal products	Machinists	2,400
Stayton Canning Co. Cooperative (Oregon)	Food products	Teamsters (Ind.)	2,300
Television Videotape Agreement Syndication (Interstate)	Motion pictures	Musicians	5,000
Tri-State Contractors Association, Inc. (Kentucky)	Construction	Laborers	1,100
Twin City Hospitals (Minnesota) ²	Hospitals	American Nurses	6,100
United Knitwear Manufacturers League, Inc. (New York)	Textiles	Ladies Garment Workers	3,600
Whirlpool Corp., St. Joseph Michigan Division (Michigan)	Electrical products	Machinists	1,550
Wisconsin Power & Light Co.	Utilities	Electrical Workers (IBEW)	1,750

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

³Information is from newspaper reports.

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

Developments in Industrial Relations



UAW-Ford agreement

The Big Three domestic automobile manufacturers moved closer to separate labor cost structures when Ford Motor Co. and the Auto Workers negotiated a new contract. According to union President Douglas Fraser, Ford could save up to \$1 billion over the contract's term.

The first deviation from uniform labor costs that had characterized the Ford, General Motors, and Chrysler auto companies since the mid-1950's was in October 1979, when UAW members at Chrysler Corp. agreed to a less costly 3-year agreement than the virtually identical agreements the union negotiated with Ford and GM. Subsequently, in 1980 and in 1981, Chrysler employees agreed to further reductions to aid Chrysler's efforts to win Federal loan guarantees. Combined, total concessions amounted to \$1.068 billion. These concessions, combined with the continuing slump in sales of domestic automobiles, led GM and Ford to press the UAW for concessions during 1981. The UAW agreed to begin bargaining with the two companies in January 1982; normally, talks would have started in July on renewal of the 1979 agreements, which were scheduled to expire September 14.

At GM, talks started January 10, were broken off on January 20, resumed on January 26, and were again broken off 2 days later. Reportedly, the parties stopped negotiating because they doubted that UAW members at GM would agree to compensation concessions. A major principle that did emerge from the talks was a GM commitment to allocate the entire value of any concessions that would have been negotiated to reducing the prices of its vehicles. However, after the talks were terminated, a company official said that commitment would not necessarily apply to concessions resulting from subsequent negotiations.

Ford did not make the same commitment because it was operating at a loss (\$1.06 billion for 1981), unlike

GM, which earned a profit of \$333 million in 1981. The Ford talks started on January 10, the new agreement was reached on February 15, and ratification by union members was announced on February 28. The vote tally was 43,683 to 15,933.

The new agreement, effective from March 1, 1982, to September 14, 1984, did not provide for any specified pay increases. (Under the 1979 accord, Ford workers had received a specified increase of 3 percent plus 24 cents an hour in September of 1979, followed by 3 percent increases in September of 1980 and 1981.) It provided for continuation of the cost-of-living pay adjustment formula (1 cent an hour for each 0.26-point movement in a composite 1967=100 price index derived from the official United States and Canadian government indexes), but there were other changes that will slow the rise in Ford's labor costs. Ford gained some immediate labor cost relief because each of the first three quarterly cost-of-living adjustments will be reduced by 2 cents an hour, and the effective dates deferred for 18 months. This means that the first adjustment, normally effective in March 1982, will be deferred until September 1983, and then it will be combined with the quarterly adjustment regularly scheduled at that time. (If the calculated amounts of the first three adjustments, after deduction of the 6 cents, exceeds 60 cents, the excess amount will be effective on the "normal" date, rather than being deferred 18 months.) Based on an assumed 7.5-percent annual rate of increase in the composite price index, the UAW estimated that employees' pay would increase \$1.99 an hour over the contract term, with the last of the 10 quarterly adjustments in June 1984. This would bring hourly pay to \$13.66 for assemblers and \$15.83 for toolmakers. Under the 1979 agreement, UAW workers at Ford had received \$1.99 in cost-of-living adjustments during the period ending with the December 1981 adjustment. This does not include 10 cents that was diverted to help finance benefit improvements.

Another wage provision calls for new employees to start at 85 percent of the standard rate for their jobs and progress to the standard rate in three equal steps over an 18-month period. Previously, new employees started 60 cents below the standard rate and progressed

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

to the standard rate within 90 days. New workers also will have longer waits before they become eligible for certain supplementary benefits.

A major change in benefits was the termination of paid personal holidays. Under the previous agreement, Ford workers had received 8 paid personal holidays in calendar 1980, 9 in 1981, and had been scheduled to receive 9 in 1982. There was no change in the provision for regular paid holidays, except that the workers will no longer receive an extra day of holiday pay in December.

In return for the UAW's concession, Ford agreed to a 2-year moratorium on the closing of plants or other facilities that would have occurred as the result of "outsourcing," that is, the purchase of parts from other companies. Closings will be permitted in cases of internal consolidations of operations or to balance production capacity with sales volume. Ford made several commitments regarding outsourcing, including pledges to (1) make every effort to maintain its current work; (2) manage future employment reductions through attrition rather than layoffs; (3) experiment at two locations with a pilot "employment guarantee" project based on a "lifetime job security" concept that will apply to 80 percent of the employees at each of the locations; (4) review past outsourcing decisions and inform the union in a timely manner of future decisions; and (5) join with the UAW in pressing the Government to adopt the principle that foreign manufacturers should provide jobs, pay taxes, and support the economy of the market in which they sell.

Other changes intended to preserve jobs and aid laid-off workers included:

- New preferential placement opportunities for workers who are affected by plant closing and do not already have transfer or "bumping" rights.
 - The principle of equality of sacrifice, under which economic adjustments for hourly workers will be applied in a similar manner to salaried employees. A procedure also was adopted for resolving local union claims that proportionally fewer supervisors than production workers are laid off.
 - Company-managed counseling and placement assistance programs to aid workers laid off because of plant closings, with the UAW to assist in developing and executing the programs.
 - Establishment of a Guaranteed Income Stream for employees with at least 15 years of service who are laid off after the effective date of the contract and meet certain eligibility requirements. Payments will be equal to 50 percent of pay for 15 years of service, plus 1 percentage point for each additional year of service, to a maximum payment of 75 percent of gross weekly pay, or 95 percent of weekly after-tax pay, minus \$12.50, whichever is less. The payments, will be reduced by the full amount of contractual or
- government unemployment benefits and by 80 percent of earnings from other employment, and will continue until the laid-off worker retires or reaches age 62. The period during which the participants draw guaranteed income payments will count as regular active service for pension purposes; also, they will be covered by health and life insurance during the period.
 - Establishment of a jointly-managed Training and Retraining Program to upgrade and broaden the skills of employees and displaced employees.
 - Establishment of Mutual Growth Forums to give employees a voice in management decisions. The forums, which will operate at the national and plant levels, will undertake "advance discussion of certain business developments that are of material interest and significance to the union, the employees, and the company." At the national level, the forum will examine and discuss such things as Ford's general operations and certain business developments. The director of the union's National Ford Department will be permitted to address Ford's board of directors twice a year. At the plant level, the forums will be expected to meet at least quarterly to discuss such things as "the plant's general operation and certain business developments."
 - A \$70-million Ford advance to the union's Supplemental Unemployment Benefits (SUB) plan to permit the resumption of benefits to laid-off workers whose payments had been terminated because the fund had fallen below the minimum level. In addition, Ford's regular payment into the fund will be increased by 3 cents for every compensated hour. Workers with 10 years of service will be eligible to earn enough credits to make them eligible for up to 104 weeks of SUB payments, instead of the previous 52 weeks.
 - Provision for payment of an improvement in pension benefit rates that had been scheduled for August 1, 1982, under the 1979 contract; a change in the special early retirement benefit (which is added to regular pensions and continues to age 62) permitting workers to receive the \$15-a-month for each year of service up to 30 (was 25); and a change giving laid-off workers 5 years (was 2) to decide if they want to retire early.
 - Adoption of a profit-sharing plan, beginning with 1983 for production workers and salaried employees who do not receive bonuses. The plan provides for sharing that portion of Ford's profits on U.S. operations in excess of 2.3 percent of total sales. The distribution will equal 10 percent of that portion of the profit between 2.3 and 4.6 percent, plus 12.5 percent of the portion between 4.6 and 6.9 percent, plus 15 percent of profits over 6.9 percent.
 - An increase in Ford's financing obligation for Part B medicare benefits to \$12.20, \$13, and \$13.50 a month in August of 1982, 1983, and 1984.

The agreement, scheduled to expire on September 14, 1984, is subject to reopening on all economic terms after December 31, 1982, if retail deliveries in the United States of new cars and trucks produced or imported by Ford exceeds 1,925,000 units in any 6 consecutive months.

In the wake of the Ford settlement, UAW leaders indicated that there was a possibility that they would resume talks with General Motors if sufficient support developed among the union's members. UAW President Douglas Fraser repeated his contention that it would be better tactically to settle early, saying, "If GM doesn't get an agreement by September 1982, they could unilaterally change the terms of the agreement, and then we'd have the simple choice of working without an agreement under new economic dictates by the company or going on strike when the company has big inventories."

The UAW also was studying American Motors Corp's proposal that its 15,000 production workers lend the company \$150 million from scheduled future pay increases, which the company would start repaying, with interest, in 1984.

Trucking employees forgo wage increases

The economic plight of the organized trucking industry was reflected in a recent settlement between the Teamsters and several employer associations that did not provide for any guaranteed wage increases over the 38-month period. The settlement also called for work-rule changes intended to reduce labor costs. The contract was effective March 1, 1982, and superseded the remaining month of the 1979 agreement.

Union president Roy L. Williams said the contract would "preserve the jobs of those now employed and will help regain the thousands of jobs lost through layoffs and business failures in the trucking industry." Arthur H. Bunte, president of Trucking Management, Inc., the industry's main bargaining arm, added that the agreement would "enhance our companies' ability to compete in a deregulated marketplace," referring to the influx of nonunion, lower-cost operators since passage of the Motor Carrier Act of 1980.

The contract provided for revisions in the cost-of-living pay adjustment clause: adjustments will continue to be at the rate of 1 cent an hour for each 0.3-point movement in the CPI-W (1967=100), but will be made annually (in April) instead of semiannually. During the contract term, part or all of the cost-of-living adjustments will be diverted, if necessary, to meet cost in-

creases for maintaining existing health and welfare and pension benefits. If diversion of the entire amount of the adjustment is insufficient to cover benefit cost increases, the employers are required to increase their current \$90.50-a-week payment into the two funds.

The first application of this diversion rule occurred with the April 1, 1982, cost-of-living adjustment, as the 225,000 employees received only 47 cents of the 72 cent-increase they would otherwise have received. (This adjustment—but not the diversion—actually resulted from the 1979 contract, which provided for deferring to April 1, 1982—a day after that contract was scheduled to expire—the semiannual adjustment that would normally have been effective in October 1981.) During the term of the 1979 agreement, employees received a total of \$1.86 an hour in automatic cost-of-living pay increases, plus \$1.50 in specified increases not contingent on movement of a price index.

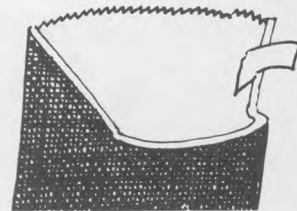
Some of the terms of the 1982 settlement were contained in 31 area agreements supplementing the National Master Freight Agreement, which presented the general terms for all areas. The supplemental agreements, which varied somewhat among areas, generally provided for new employees to start at 70 percent of the pay rate for their job and move, in steps, to the full rate after 3 years of service. Previously, new employees generally received the full rate immediately.

Another gain for the industry was a relaxation of the rules governing deliveries and pickups. In most areas, over-the-road drivers will now be required to make one delivery and pickup within a city area if they are in route to their destination. The impact of this change will not be uniform, because some supplements already allowed this and because the change only applies to "truckload" shipments.

Other provisions favorable to employers permit the adoption of "nonstandard" workweeks that eliminate premium pay for some weekend work; give individual employers greater flexibility in negotiating with their employees; and permit greater leeway in the determination of seniority for probationary employees.

Provisions favorable to the union included a ban on employers selling, leasing, transferring, or subcontracting part of their operations to evade the terms of the agreement, and extension of recall rights for currently laid-off employees. There also is a provision for reopening bargaining after April 1, 1984, "if the parties agree that the financial status of the industry has either substantially increased or decreased compared to the date of the ratification of this agreement." □

Book Reviews



Behavioral analysis perspective

Macro Organizational Behavior. By Robert H. Miles. Santa Monica, Calif. Goodyear Publishing Co., Inc., 1980. 542 pp. \$19.95.

Resourcebook in Macro Organizational Behavior. Edited by Robert H. Miles. Glenview, Ill., Scott, Foresman and Co., 1980. 478 pp.

In these companion books, Robert H. Miles has attempted to establish a separate academic discipline called "macro organizational behavior," and in doing so has put a new face on organizational theory. Most of the ideas presented are organizational theory concepts. Many of the authors cited are also cited in organizational theory textbooks. Perhaps Miles' penchant for "application," which goes beyond the limitations one recognizes in theory, induces him to insist that the term "behavior" is more appropriate.

Macro Organizational Behavior is proposed as a "beginning handbook for understanding, designing, and managing macro organizational behavior." "Macro" organizational behavior takes a sociological view of organizations, whereas "micro" organizational behavior is oriented toward psychological perspectives. To study the "macro" aspects, then, is to expand upon the knowledge gained in the study of "micro" organizational behavior in the same manner that students take separate courses in micro and macro economics.

The *Resourcebook* (a supplement to the "Handbook") contains 35 articles that have appeared in either scholarly or practitioner journals. Miles describes the *Resourcebook* as a "beginning reader" for the field of macro organizational behavior which attempts to bring implications of macro organizational behavior concepts and research findings "into focus for organizational designers and practicing managers."

The *Handbook* is divided into three parts: "Organizations—Structures and Processes"; "Organization-Environment Relations"; and "Emerging Perspectives and New Frontiers in Macro Organizational Behavior." As indicated by its title, part 1 focuses on internal aspects of organizations to deal with the usual organizational theory subjects of organizational structure and structural accommodation to technology, then goes further to include chapters on organizational conflict and politics.

Part 2 deals with external concerns of organizations—the environment and the boundary spanning subsystems organizations develop to cope with the environment. Part 3 curiously mixes a chapter attempting to come to grips with organizational effectiveness with two chapters describing new organizational designs both abroad and in the United States.

The *Resourcebook* has four parts. Part 1, "The Nature of Organizations," contains readings that serve to introduce the reader to organizational theory and behavior. Its other three parts parallel those of the *Handbook* and contain readings in areas that further explain the concepts advanced in the companion volume. Interestingly, of the 35 articles in the *Resourcebook*, only four are listed in the bibliography for the *Handbook*.

In these two volumes, Miles has expertly presented a new discipline, whether it was needed or not. The *Handbook* is skillfully compiled with several well-placed, current examples. It would appear to be appropriate as a textbook for upper level undergraduate students or for graduate students.

The question to be answered then is, "What would the course be called which uses *Macro Organizational Behavior*?" My answer would be, "Organizational Theory." Yet, I have reservations about the book as an organizational theory text. Rather than divorcing his presentation from organizational psychologists as he said was his intention, Miles frequently delves into their work concerning conflict, power, leadership, and motivation. These subjects are treated in the traditional organizational behavior courses, and although these factors are endemic to the organization's environment, they do not require emphasis in an organizational theory course.

My other reservation about the *Handbook* is its acceptance of some pioneering studies as gospel. If the theories presented were universally accepted and ubiquitously applicable, the term "behavior" might be appropriate. However, conflicting evidence brings into question the universality of the findings of even such well-known theorists as Joan Woodward, Paul R. Lawrence and Jay W. Lorsch, and E. L. Trist and L. W. Bamforth. The conflicting evidence is ignored, perhaps with the intent of increasing the acceptance of what is presented as true organizational behavior.

For many years, a major complaint in the social sciences has been that everyone desires more precise defini-

nitions in order to make the field more "scientific". Miles' work, which adds another imprecise term to the lexicon, has not aided the cause which asks for precision.

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Equality is the goal

Working Women in Japan: Discrimination, Resistance, and Reform. By Alice H. Cook and Hiroko Hayashi. Ithaca, N.Y., Cornell University, New York State School of Industrial and Labor Relations, 1980. 124 pp. \$12.50, cloth; \$7.95, paper.

Japanese men tend to think of women as children and this view is prevalent among male coworkers. Even though Japan's female labor force participation rate is very high, the employment system treats them unfairly—exploiting female workers probably more than any other industrialized country. Alice H. Cook and Hiroko Hayashi describe the Japanese employment system as being "at bottom paternalistic, indeed even feudalistic in spirit and motivation."

The Japanese government is also a party to sex discrimination. The following quotations taken from a meeting one of the authors had with a group of female civil servants from a government tax office illustrate the attitudes and practices with which Japanese women have to cope.

Husbands often put wives under considerable pressure to quit work and remain at home because they think it does not look well for them if they permit their wives to work

In the tax office there is no clear policy on early retirement and no pressures from supervisors for women to retire. But when women have children they have to take more days off than men do and gradually they experience the feeling that they are taking advantage of their fellow workers and are regarded as failures within their group. This sense of their own inadequacy is bad for their work

Women do not yet have any clear sense of their right to work and therefore little feeling that they can or should defend their rights

Discrimination exists in a very fundamental form within the office. To obtain a job, candidates must pass a national examination but there are two different examinations, one for men and one for women. The one for women admits them only to general office work; the one for men admits them to 'tax work.' As soon as they are hired, men are sent to school. Women start work without special training. Men are thus in the mainstream, women in subsidiary work. This division of assignments is based on the belief that women are not fitted for research or for inspection outside the tax office, that they can only work inside the office on routine assignments. Women are only very exceptionally promoted to work outside the office

The beginning wage for men and women differs, based on different work content. Men are promoted rapidly, women progress very slowly. As soon as men finish their 6 months of school, they get their first wage raise, women have to wait a year, though the civil service law provides only for annual increases

A large portion of this book focuses on legal discrimination cases, citing detailed accounts of the problems encountered by Japanese women and how the court ruled. Cases are grouped by the following subjects: equal pay, early retirement, transfers, and maternity and related leaves.

In the "equal pay" cases, the defendants complain of low wages despite seniority, almost nonexistent promotional opportunities, and a low rating, in general, for women's jobs. Equal pay issues are up against strong opposition—in at least one case, the employer refused to accept judgment even though the lower court decided in favor of the plaintiff. As of April 1980, resolution of this particular case was still pending in the high court. Hayashi sums it up by saying that "legislation is only the beginning, and full implementation of this principle is still a distant target."

Most Japanese employers believe that when a woman becomes a homemaker she automatically becomes a less efficient employee. Reflecting this, retirement discrimination cases are placed into five categories depending on individual employer practices. These categories are "retirement on marriage, retirement at childbirth, dismissal of 'part time' or 'temporary' employees, retirement at age 30, and different retirement ages for men and women at career's end." Surprisingly, these policies are public knowledge. For example, one Japanese broadcasting firm referred to their retirement plan upon marriage as "a gift from our company to the bride."

The transfer system is often used by companies as a roundabout way of dismissing female employees. One such case involved a married teacher. When she reached the age of 40, her employer informed her that she was "no longer useful to the school." She had an ill child who needed her care. Her attendance record had inconvenienced the school somewhat and therefore it was expected that she would resign without any coercing from her employer. She did not resign and was subsequently transferred to an island where transportation was available to the mainland *only* on weekends. Thus, she gave up her fight, although as the authors point out, "She was a public employee and presumably especially protected in her right to equal job opportunity." Other discrimination cases presented in court involved using "transfer" as a punitive measure against union involvement. Fortunately, union-related cases are dealt with fairly smoothly because the Japanese Trade Union Act forbids this type of behavior on the part of the employer.

Lastly, we are given a glimpse of the court cases concerning maternity and menstrual leave which is written into Japanese law. Seldom are Japanese women allowed to use these rights to their full advantage. A study in 1974 by the Women's and Minor's Bureau of the Japanese Ministry of Labor found that "about 74 percent of the women took half or less of their legally prescribed leave." Also, if a pregnant woman feels overwhelmed by her present duties, she will endeavor to continue her normal work routine (even at the risk of miscarriage) rather than request special permission to be placed on a lighter job. This is done because of the woman's fear of being asked to resign. The core of this problem rests on the fact that "no real provision is made to implement these rights."

Cook and Hayashi conclude with a brief but skillful analysis of the steps now being taken to improve working conditions for Japanese women. These include discussion of litigation, the role of unions, and government plans. An appendix and tables describe the role of women in the Japanese labor force from the 1960's to 1978. The reader who is interested in this subject will benefit greatly from the inclusion of a bibliography which indicates indepth research on the part of these well-versed authors.

Working Women in Japan raises important issues which will be of interest to both men and women who are concerned with today's labor movement and its history. Many readers will feel empathy, even outrage, but more important, a sense of hope will be gained from this book. In one case, women "not only regained their jobs but got 6 years' backpay to cover the long period of legal proceedings." This shows remarkable progress, albeit slow, in the Japanese women's struggle toward equality in the workplace.

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Bureau of Labor Statistics

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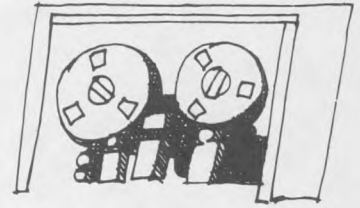
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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted labor force data in tables 2-7 were revised in the March 1982 issue of the *Review* to reflect experience through 1981. The original estimates also were revised to 1970 to reflect 1980 census population controls.

Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, February 1980). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year.

Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 begins with the August 1980 issue using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent

changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of \$3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is \$2 ($\$3/150 \times 100 = \2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *BLS Handbook of Labor Statistics*, Bulletin 2070, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

- p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
- r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
- n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Series	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	April 2	March	May 7	April	1-11
Producer Price Index	April 9	March	May 14	April	26-30
Consumer Price Index	April 23	March	May 21	April	22-25
Real earnings	April 23	March	May 21	April	14-20
Major collective bargaining settlements	April 28	1st quarter	....	....	35-36
Productivity and costs:					
Nonfarm business and manufacturing	April 29	1st quarter	....	....	31-34
Nonfinancial corporations	....	....	May 26	1st quarter	31-34

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 60,000 households beginning in May 1981, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are

those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2-7 are seasonally adjusted, based on the seasonal experience through December 1981.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950-81

[Numbers in thousands]

Year	Total non-institutional population	Total labor force		Civilian labor force					Not in labor force	
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural industries	Number		Percent of labor force
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,272	85,959	61.3	82,771	78,678	3,463	75,215	4,093	4.9	54,315
1971	143,033	87,198	61.0	84,382	79,367	3,394	75,972	5,016	5.9	55,834
1972	146,574	89,484	61.1	87,034	82,153	3,484	78,669	4,882	5.6	57,091
1973	149,423	91,756	61.4	89,429	85,064	3,470	81,594	4,365	4.9	57,667
1974	152,349	94,179	61.8	91,949	86,794	3,515	83,279	5,156	5.6	58,171
1975	155,333	95,955	61.8	93,775	85,846	3,408	82,438	7,929	8.5	59,377
1976	158,294	98,302	62.1	96,158	88,752	3,331	85,421	7,406	7.7	59,991
1977	161,166	101,142	62.8	99,009	92,017	3,283	88,734	6,991	7.1	60,025
1978	164,027	104,368	63.6	102,251	96,048	3,387	92,661	6,202	6.1	59,659
1979	166,951	107,050	64.1	104,962	98,824	3,347	95,477	6,137	5.8	59,900
1980	169,848	109,042	64.2	106,940	99,303	3,364	95,938	7,637	7.1	60,806
1981	172,272	110,812	64.3	108,670	100,397	3,368	97,030	8,273	7.6	61,460

NOTE: Data for 1970-81 have been revised to reflect 1980 census population controls.

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1981												1982	
	1980	1981	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
TOTAL																
Total noninstitutional population ¹	169,848	172,272	171,400	171,581	171,770	171,956	172,172	172,385	172,559	172,758	172,966	173,155	173,330	173,495	173,657	
Total labor force	109,042	110,812	110,155	110,492	110,906	111,420	110,565	110,827	110,978	110,659	111,170	111,430	111,348	111,038	111,333	
Civilian noninstitutional population ¹	167,745	170,130	169,280	169,453	169,641	169,829	170,042	170,246	170,399	170,593	170,809	170,996	171,166	171,335	171,489	
Civilian labor force	106,940	108,670	108,034	108,364	108,777	109,293	108,434	108,688	108,818	108,494	109,012	109,272	109,184	108,879	109,165	
Employed	99,303	100,397	100,069	100,406	100,878	101,045	100,430	100,864	100,840	100,258	100,343	100,172	99,613	99,581	99,590	
Agriculture	3,364	3,368	3,346	3,343	3,470	3,405	3,348	3,342	3,404	3,358	3,378	3,372	3,209	3,411	3,373	
Nonagricultural industries	95,938	97,030	96,723	97,063	97,408	97,640	97,082	97,522	97,436	96,900	96,965	96,800	96,404	96,170	96,217	
Unemployed	7,637	8,273	7,965	7,958	7,899	8,248	8,004	7,824	7,978	8,236	8,669	9,100	9,571	9,298	9,575	
Unemployment rate	7.1	7.6	7.4	7.3	7.3	7.5	7.4	7.2	7.3	7.6	8.0	8.3	8.8	8.5	8.8	
Not in labor force	60,806	61,460	61,246	61,089	60,864	60,536	61,608	61,558	61,581	62,099	61,797	61,724	61,982	62,456	62,324	
Men, 20 years and over																
Civilian noninstitutional population ¹	71,138	72,419	71,951	72,037	72,142	72,251	72,359	72,472	72,559	72,670	72,795	72,921	73,020	73,120	73,209	
Civilian labor force	56,455	57,197	56,816	57,028	57,157	57,479	57,094	57,172	57,250	57,262	57,355	57,459	57,665	57,368	57,448	
Employed	53,101	53,582	53,383	53,618	53,820	53,884	53,597	53,874	53,791	53,693	53,504	53,354	53,122	53,047	53,097	
Agriculture	2,396	2,384	2,349	2,352	2,419	2,390	2,379	2,383	2,422	2,383	2,413	2,382	2,311	2,390	2,386	
Nonagricultural industries	50,706	51,199	51,034	51,266	51,401	51,494	51,218	51,491	51,369	51,310	51,091	50,972	50,811	50,657	50,711	
Unemployed	3,353	3,615	3,433	3,410	3,337	3,595	3,497	3,298	3,459	3,569	3,851	4,105	4,543	4,322	4,351	
Unemployment rate	5.9	6.3	6.0	6.0	5.8	6.3	6.1	5.8	6.0	6.2	6.7	7.1	7.9	7.5	7.6	
Not in labor force	14,683	15,222	15,135	15,009	14,985	14,772	15,265	15,300	15,309	15,408	15,440	15,462	15,355	15,752	15,761	
Women, 20 years and over																
Civilian noninstitutional population ¹	80,065	81,497	80,966	81,076	81,193	81,308	81,434	81,561	81,671	81,792	81,920	82,038	82,151	82,260	82,367	
Civilian labor force	41,106	42,485	41,974	42,152	42,332	42,608	42,581	42,682	42,666	42,344	42,831	42,987	42,888	42,868	43,031	
Employed	38,492	39,590	39,211	39,365	39,536	39,737	39,757	39,810	39,841	39,426	39,814	39,878	39,713	39,764	39,744	
Agriculture	584	604	616	610	609	605	585	590	609	608	596	635	572	649	628	
Nonagricultural industries	37,907	38,986	38,595	38,755	38,927	39,132	39,172	39,220	39,232	38,818	39,218	39,243	39,141	39,115	39,116	
Unemployed	2,615	2,895	2,763	2,787	2,796	2,871	2,824	2,872	2,825	2,918	3,017	3,109	3,175	3,104	3,286	
Unemployment rate	6.4	6.8	6.6	6.6	6.6	6.7	6.6	6.7	6.6	6.9	7.0	7.2	7.4	7.2	7.6	
Not in labor force	38,959	39,012	38,992	38,924	38,861	38,700	38,853	38,879	39,005	39,448	39,089	39,051	39,263	39,392	39,336	
Both sexes, 16 to 19 years																
Civilian noninstitutional population ¹	16,543	16,214	16,363	16,341	16,305	16,270	16,249	16,213	16,169	16,131	16,093	16,037	15,995	15,955	15,913	
Civilian labor force	9,378	8,988	9,244	9,184	9,288	9,206	8,759	8,834	8,902	8,888	8,826	8,826	8,631	8,643	8,686	
Employed	7,710	7,225	7,475	7,423	7,522	7,424	7,076	7,180	7,208	7,139	7,025	6,940	6,778	6,771	6,748	
Agriculture	385	380	381	381	442	410	384	369	373	367	369	355	326	373	359	
Nonagricultural industries	7,325	6,845	7,094	7,042	7,080	7,014	6,692	6,811	6,835	6,772	6,656	6,585	6,452	6,398	6,389	
Unemployed	1,669	1,763	1,769	1,761	1,766	1,782	1,683	1,654	1,694	1,749	1,801	1,886	1,853	1,872	1,938	
Unemployment rate	17.8	19.6	19.1	19.2	19.0	19.4	19.2	18.7	19.0	19.7	20.4	21.4	21.5	21.7	22.3	
Not in labor force	7,165	7,226	7,119	7,157	7,017	7,064	7,490	7,379	7,267	7,243	7,267	7,211	7,364	7,312	7,227	
White																
Civilian noninstitutional population ¹	146,122	147,908	147,132	147,335	147,539	147,670	147,804	147,976	148,144	148,370	148,562	148,631	148,755	148,842	148,855	
Civilian labor force	93,600	95,052	94,552	94,756	95,199	95,666	94,887	95,126	95,163	94,884	95,365	95,535	95,329	95,120	95,333	
Employed	87,715	88,709	88,388	88,653	89,080	89,237	88,799	89,170	89,221	88,628	88,734	88,498	88,010	87,955	87,990	
Unemployed	5,884	6,343	6,164	6,103	6,119	6,429	6,088	5,956	5,942	6,256	6,631	7,037	7,319	7,165	7,344	
Unemployment rate	6.3	6.7	6.5	6.4	6.4	6.7	6.4	6.3	6.2	6.6	7.0	7.4	7.7	7.5	7.7	
Not in labor force	52,522	52,856	52,580	52,579	52,340	52,004	52,917	52,850	52,981	53,486	53,197	53,096	53,426	53,722	53,522	
Black																
Civilian noninstitutional population ¹	17,824	18,219	18,076	18,105	18,137	18,170	18,206	18,239	18,266	18,297	18,333	18,362	18,392	18,423	18,450	
Civilian labor force	10,865	11,086	10,951	11,036	11,126	11,126	11,033	10,971	11,069	11,134	11,188	11,207	11,226	11,188	11,205	
Employed	9,313	9,355	9,350	9,383	9,488	9,460	9,310	9,338	9,267	9,319	9,313	9,321	9,279	9,314	9,265	
Unemployed	1,553	1,731	1,601	1,653	1,638	1,666	1,723	1,633	1,802	1,815	1,875	1,886	1,947	1,874	1,939	
Unemployment rate	14.3	15.6	14.6	15.0	14.7	15.0	15.6	14.9	16.3	16.3	16.8	16.8	17.3	16.8	17.3	
Not in labor force	6,959	7,133	7,125	7,069	7,011	7,044	7,173	7,268	7,197	7,163	7,145	7,155	7,166	7,235	7,245	

¹As in table 1, population figures are not seasonally adjusted.

1970-81 have been revised. Also, seasonally adjusted data have been revised based on the seasonal experience through December 1981.

NOTE: Effective with January 1982 data, population counts derived from the 1980 census are incorporated into the estimation procedures used in the Current Population Survey. Data for

3. Selected employment indicators, seasonally adjusted

[Numbers in thousands]

Selected categories	Annual average		1981												1982	
	1980	1981	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
CHARACTERISTIC																
Total employed, 16 years and over	99,303	100,397	100,069	100,406	100,878	101,045	100,430	100,864	100,840	100,258	100,343	100,172	99,613	99,581	99,590	
Men	57,186	57,397	57,331	57,531	57,792	57,793	57,279	57,640	57,551	57,471	57,266	57,051	56,725	56,629	56,658	
Women	42,117	43,000	42,738	42,875	43,086	43,252	43,151	43,224	43,289	42,787	43,077	43,121	42,888	42,952	42,932	
Married men, spouse present	39,004	38,882	38,944	39,036	39,186	39,120	38,930	38,961	38,961	38,855	38,746	38,553	38,342	38,234	38,255	
Married women, spouse present	23,532	23,915	23,824	23,920	23,979	24,192	24,106	24,159	24,043	23,626	23,874	23,820	23,691	23,744	23,727	
OCCUPATION																
White-collar workers	51,882	52,949	52,739	52,860	52,855	53,016	52,957	52,907	53,141	52,908	53,199	53,086	53,084	52,836	52,841	
Professional and technical	15,968	16,420	16,185	16,219	16,178	16,093	16,410	16,364	16,621	16,598	16,681	16,657	16,774	16,803	16,612	
Managers and administrators, except farm	11,138	11,540	11,629	11,725	11,616	11,488	11,411	11,578	11,460	11,533	11,616	11,461	11,424	11,091	11,253	
Salesworkers	6,303	6,425	6,397	6,372	6,290	6,562	6,513	6,373	6,490	6,441	6,400	6,418	6,450	6,520	6,544	
Clerical workers	18,473	18,564	18,528	18,544	18,771	18,873	18,623	18,592	18,570	18,336	18,502	18,550	18,436	18,423	18,432	
Blue-collar workers	31,452	31,261	31,193	31,288	31,685	31,796	31,538	31,580	31,611	31,266	30,953	30,683	30,344	30,203	30,309	
Craft and kindred workers	12,787	12,662	12,684	12,826	12,825	12,911	12,749	12,787	12,724	12,514	12,446	12,411	12,446	12,370	12,454	
Operatives, except transport	10,565	10,540	10,618	10,644	10,691	10,716	10,703	10,719	10,658	10,524	10,410	10,220	10,169	9,966	9,955	
Transport equipment operatives	3,531	3,476	3,446	3,447	3,483	3,466	3,493	3,526	3,530	3,506	3,580	3,438	3,368	3,415	3,503	
Nonfarm laborers	4,567	4,583	4,445	4,551	4,686	4,703	4,593	4,548	4,699	4,722	4,517	4,614	4,361	4,451	4,397	
Service workers	13,228	13,438	13,347	13,478	13,468	13,470	13,214	13,526	13,282	13,391	13,525	13,670	13,639	13,709	13,612	
Farmworkers	2,741	2,749	2,728	2,730	2,826	2,748	2,710	2,727	2,753	2,743	2,770	2,802	2,660	2,817	2,787	
MAJOR INDUSTRY AND CLASS OF WORKER																
Agriculture:																
Wage and salary workers	1,425	1,464	1,389	1,391	1,560	1,499	1,437	1,495	1,501	1,461	1,502	1,436	1,352	1,377	1,426	
Self-employed workers	1,642	1,638	1,637	1,638	1,661	1,654	1,664	1,593	1,638	1,643	1,631	1,641	1,602	1,674	1,596	
Unpaid family workers	297	266	306	299	286	235	263	244	256	256	261	321	228	380	359	
Nonagricultural industries:																
Wage and salary workers	88,525	89,543	89,104	89,592	89,913	90,402	89,508	89,971	89,995	89,376	89,460	89,238	88,991	88,759	88,586	
Government	15,912	15,689	15,875	15,930	15,885	15,776	15,707	15,637	15,526	15,475	15,491	15,397	15,585	15,578	15,527	
Private industries	72,612	73,853	73,229	73,662	74,028	74,626	73,801	74,334	74,469	73,901	73,969	73,841	73,406	73,181	73,059	
Private households	1,192	1,208	1,190	1,242	1,249	1,192	1,177	1,216	1,259	1,102	1,162	1,204	1,291	1,248	1,761	
Other industries	71,420	72,645	72,039	72,420	72,779	73,434	72,624	73,118	73,210	72,799	72,807	72,637	72,115	71,932	71,898	
Self-employed workers	7,000	7,097	7,080	7,065	7,150	6,966	7,128	7,071	7,103	7,217	7,152	7,141	7,057	6,971	7,055	
Unpaid family workers	413	390	384	374	325	356	376	389	387	399	451	425	410	410	408	
PERSONS AT WORK¹																
Nonagricultural industries	90,209	91,377	91,287	91,405	91,094	91,745	91,500	92,532	91,569	90,878	91,384	91,323	90,922	90,125	90,892	
Full-time schedules	73,590	74,339	74,482	74,453	74,259	74,871	74,693	75,620	74,467	73,794	73,886	73,915	73,360	72,803	73,028	
Part time for economic reasons	4,064	4,499	4,227	4,290	4,200	4,264	4,033	4,374	4,350	4,656	5,009	5,026	5,288	5,071	5,563	
Usually work full time	1,714	1,738	1,650	1,660	1,593	1,657	1,465	1,680	1,729	1,759	2,006	1,945	2,121	1,783	2,193	
Usually work part time	2,350	2,761	2,577	2,630	2,607	2,607	2,568	2,694	2,621	2,897	3,003	3,081	3,167	3,287	3,370	
Part time for noneconomic reasons	12,555	12,539	12,578	12,662	12,635	12,610	12,774	12,538	12,752	12,428	12,489	12,382	12,274	12,251	12,300	

¹Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

ensus are incorporated into the estimation procedures used in the Current Population Survey. Data for 1970-81 have been revised. Also, seasonally adjusted data have been revised based on the seasonal experience through December 1981.

NOTE: Effective with January 1982 data, population counts derived from the 1980

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1981											1982	
	1980	1981	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
CHARACTERISTIC															
Total, 16 years and over	7.1	7.6	7.4	7.3	7.3	7.5	7.4	7.2	7.3	7.6	8.0	8.3	8.8	8.5	8.8
Men, 20 years and over	5.9	6.3	6.0	6.0	5.8	6.3	6.1	5.8	6.0	6.2	6.7	7.1	7.9	7.5	7.6
Women, 20 years and over	6.4	6.8	6.6	6.6	6.6	6.7	6.6	6.7	6.6	6.9	7.0	7.2	7.4	7.2	7.6
Both sexes, 16 to 19 years	17.8	19.6	19.1	19.2	19.0	19.4	19.2	18.7	19.0	19.7	20.4	21.4	21.5	21.7	22.3
White, total	6.3	6.7	6.5	6.4	6.4	6.7	6.4	6.3	6.2	6.6	7.0	7.4	7.7	7.5	7.7
Men, 20 years and over	5.3	5.6	5.4	5.3	5.2	5.6	5.3	5.0	5.2	5.5	5.9	6.4	6.9	6.6	6.7
Women, 20 years and over	5.6	5.9	5.7	5.7	5.7	5.9	5.7	5.8	5.5	5.9	6.1	6.3	6.4	6.3	6.6
Both sexes, 16 to 19 years	15.5	17.3	17.2	16.8	17.0	17.5	16.8	16.4	16.1	17.2	17.7	19.0	19.0	19.6	20.0
Black, total	14.3	15.6	14.6	15.0	14.7	15.0	15.6	14.9	16.3	16.3	16.8	16.8	17.3	16.8	17.3
Men, 20 years and over	12.4	13.5	12.0	12.1	12.1	13.0	13.7	12.7	13.6	14.5	14.7	15.5	16.5	16.3	16.0
Women, 20 years and over	11.9	13.4	13.2	13.6	12.9	13.1	13.3	13.1	13.8	14.0	13.9	13.6	14.1	13.3	14.5
Both sexes, 16 to 19 years	38.5	41.4	38.3	39.7	40.2	36.9	40.9	40.0	49.0	40.8	45.6	44.1	42.2	41.2	42.3
Married men, spouse present	4.2	4.3	4.1	4.1	3.8	4.0	4.2	3.9	4.0	4.4	4.8	5.2	5.7	5.3	5.3
Married women, spouse present	5.8	6.0	5.8	5.9	5.9	5.8	5.7	5.7	5.5	6.0	6.1	6.5	6.6	6.2	7.0
Women who maintain families	9.2	10.4	9.8	9.6	9.9	10.4	10.7	11.2	10.1	10.7	10.6	10.8	10.5	10.4	10.2
Full-time workers	6.9	7.3	7.1	7.1	6.9	7.1	7.1	6.8	6.9	7.3	7.7	8.1	8.7	8.4	8.5
Part-time workers	8.8	9.4	9.1	9.1	9.2	9.6	9.2	9.3	9.6	9.6	9.5	10.2	9.2	9.6	10.8
Unemployed 15 weeks and over	1.7	2.1	2.1	2.1	2.0	2.0	2.2	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.5
Labor force time lost ¹	7.9	8.5	8.2	8.2	8.2	8.6	7.9	7.9	7.9	8.5	9.1	9.5	10.1	10.0	9.8
OCCUPATION															
White-collar workers	3.7	4.0	3.8	3.9	4.0	4.0	3.9	4.0	3.9	4.1	4.1	4.2	4.5	4.2	4.6
Professional and technical	2.5	2.8	2.6	2.7	3.1	2.8	2.8	2.8	2.5	2.8	2.6	2.7	3.4	2.9	3.1
Managers and administrators, except farm	2.4	2.7	2.5	2.5	2.4	2.6	2.7	2.6	2.7	2.7	2.8	3.0	3.1	2.7	3.1
Salesworkers	4.4	4.6	4.1	4.1	4.2	4.6	4.3	4.9	4.7	5.0	4.9	5.0	4.9	4.5	4.8
Clerical workers	5.3	5.7	5.4	5.7	5.6	5.6	5.4	5.7	5.7	5.8	6.0	6.0	6.2	6.3	6.7
Blue-collar workers	10.0	10.3	10.2	10.0	9.7	9.9	9.8	9.5	9.5	10.2	10.9	11.8	12.7	12.5	12.5
Craft and kindred workers	6.6	7.5	7.1	7.1	6.8	7.2	7.1	6.9	7.0	7.7	8.3	8.5	9.3	9.0	8.4
Operatives, except transport	12.2	12.2	12.1	11.7	11.6	11.8	11.1	11.1	11.1	11.6	12.8	14.1	15.5	15.4	15.4
Transport equipment operatives	8.8	8.7	8.6	9.1	8.1	8.2	8.1	7.3	8.0	8.7	8.0	10.4	10.5	10.2	10.3
Nonfarm laborers	14.6	14.7	14.9	14.2	14.0	13.5	14.7	14.4	13.2	14.6	15.6	16.0	16.9	16.9	17.9
Service workers	7.9	8.9	8.7	8.3	8.5	9.4	8.9	8.0	8.9	9.0	9.3	9.7	9.6	9.2	9.8
Farmworkers	4.6	5.3	4.9	5.2	3.9	5.2	6.2	4.8	5.4	4.0	6.2	6.2	6.4	6.9	4.9
INDUSTRY															
Nonagricultural private wage and salary workers ²	7.4	7.7	7.6	7.5	7.3	7.7	7.4	7.2	7.3	7.7	8.1	8.4	9.1	8.8	9.0
Construction	14.1	15.6	13.7	14.7	14.5	15.7	16.1	15.2	16.2	16.3	17.6	17.8	18.1	18.7	18.1
Manufacturing	8.5	8.3	8.5	8.1	7.6	7.8	7.4	7.3	7.0	7.9	8.6	9.4	11.0	10.4	10.6
Durable goods	8.9	8.2	8.7	8.0	7.5	7.4	7.1	7.1	6.5	7.7	8.6	9.5	11.8	11.0	11.3
Nondurable goods	7.9	8.4	8.3	8.3	7.8	8.6	7.9	7.6	7.9	8.3	8.6	9.3	9.6	9.5	9.5
Transportation and public utilities	4.9	5.2	5.4	6.1	5.5	5.7	4.9	4.1	4.8	4.2	4.8	5.5	6.0	6.4	5.9
Wholesale and retail trade	7.4	8.1	7.7	7.6	7.5	8.3	7.7	7.9	7.9	8.5	8.4	8.6	8.9	8.7	9.0
Finance and service industries	5.3	5.9	5.9	5.6	5.8	5.8	5.8	5.7	6.0	6.2	6.1	6.4	5.9	6.5	
Government workers	4.1	4.7	4.3	4.6	4.7	4.7	4.6	4.6	4.5	4.7	4.7	5.2	5.0	4.8	5.2
Agricultural wage and salary workers	11.0	12.1	11.9	12.1	9.4	11.0	13.3	10.7	12.0	11.0	13.4	14.1	14.8	16.2	12.8

¹ Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

² Includes mining, not shown separately.

NOTE: Effective with January 1982 data, population counts derived from the 1980 census are incorporated into the estimation procedures used in the Current Population Survey. Data for 1970-81 have been revised. Also, seasonally adjusted data have been revised based on the seasonal experience through December 1981.

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

Sex and age	Annual average		1981												1982	
	1980	1981	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
Total, 16 years and over	7.1	7.6	7.4	7.3	7.3	7.5	7.4	7.2	7.3	7.6	8.0	8.3	8.8	8.5	8.8	
16 to 19 years	17.8	19.6	19.1	19.2	19.0	19.4	19.2	18.7	19.0	19.7	20.4	21.4	21.5	21.7	22.3	
16 to 17 years	20.0	21.4	21.3	21.4	21.6	21.3	22.6	19.8	20.8	21.4	21.5	22.6	21.9	21.9	22.7	
18 to 19 years	16.2	18.4	17.7	17.6	17.2	17.7	17.5	17.8	17.6	18.5	20.0	20.5	21.2	21.3	22.0	
20 to 24 years	11.5	12.3	11.9	11.8	12.0	12.6	12.1	11.5	12.1	12.3	12.7	13.0	13.5	13.5	14.1	
25 years and over	5.1	5.4	5.2	5.2	5.1	5.2	5.3	5.2	5.2	5.4	5.7	6.0	6.5	6.3	6.4	
25 to 54 years	5.5	5.8	5.6	5.6	5.4	5.6	5.6	5.5	5.5	5.8	6.2	6.5	6.9	6.7	6.8	
55 years and over	3.3	3.6	3.5	3.6	3.4	3.4	3.5	3.5	3.5	3.8	3.8	3.8	4.1	4.2	4.3	
Men, 16 years and over	6.9	7.4	7.2	7.1	6.9	7.3	7.2	6.7	7.1	7.3	7.7	8.3	9.0	8.6	8.7	
16 to 19 years	18.3	20.1	20.0	19.8	19.5	20.0	20.0	18.8	19.8	19.9	20.1	21.8	22.3	22.1	22.5	
16 to 17 years	20.4	22.0	22.1	21.7	22.5	22.3	24.0	19.9	21.5	21.1	22.7	22.6	23.0	23.0	23.0	
18 to 19 years	16.7	18.8	18.5	18.5	17.4	18.0	18.2	17.9	18.3	18.7	19.3	21.0	22.2	21.4	22.1	
20 to 24 years	12.5	13.2	12.9	13.0	13.0	13.8	12.9	11.6	12.9	13.1	13.8	14.4	14.8	14.9	15.4	
25 years and over	4.8	5.1	4.9	4.8	4.6	4.7	5.0	4.7	4.9	5.0	5.5	5.8	6.5	6.3	6.3	
25 to 54 years	5.1	5.5	5.2	5.1	4.9	5.1	5.2	5.0	5.2	5.5	5.9	6.3	6.9	6.7	6.7	
55 years and over	3.3	3.5	3.3	3.3	3.2	3.4	3.4	3.4	3.4	3.5	3.7	3.7	4.4	4.3	4.2	
Women, 16 years and over	7.4	7.9	7.7	7.7	7.7	7.8	7.7	7.8	7.7	8.0	8.2	8.4	8.5	8.4	8.9	
16 to 19 years	17.2	19.0	18.2	18.5	18.4	18.7	18.4	18.6	18.2	19.5	20.7	20.9	20.5	21.2	22.1	
16 to 17 years	19.6	20.7	20.3	21.2	20.5	20.2	21.1	19.7	20.0	21.2	21.9	22.5	21.1	20.6	22.5	
18 to 19 years	15.6	17.9	16.8	16.6	17.1	17.4	16.8	17.7	16.9	18.3	20.6	19.9	20.0	21.1	21.9	
20 to 24 years	10.4	11.2	10.9	10.5	10.9	11.2	11.2	11.3	11.1	11.4	11.5	11.3	12.0	11.9	12.7	
25 years and over	5.5	5.9	5.6	5.8	5.7	5.8	5.7	5.8	5.6	6.0	6.1	6.4	6.4	6.3	6.5	
25 to 54 years	6.0	6.3	6.0	6.2	6.1	6.4	6.1	6.1	6.0	6.3	6.5	6.8	6.9	6.7	7.0	
55 years and over	3.2	3.8	3.8	4.2	3.7	3.4	3.5	3.7	3.7	4.3	4.0	3.8	3.7	4.1	4.3	

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

[Numbers in thousands]

Reason for unemployment	1981												1982	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
NUMBER OF UNEMPLOYED														
Lost last job	4,050	3,989	3,958	4,032	4,173	3,867	4,106	4,426	4,573	4,905	5,343	5,205	5,153	
On layoff	1,312	1,323	1,303	1,357	1,302	1,225	1,276	1,452	1,631	1,826	2,042	1,860	1,740	
Other job losers	2,738	2,666	2,655	2,675	2,871	2,642	2,830	2,974	2,942	3,079	3,301	3,345	3,413	
Left last job	911	901	903	1,004	896	926	879	921	976	916	923	835	964	
Reentered labor force	2,020	2,069	2,044	2,106	2,039	2,078	2,034	2,058	2,178	2,339	2,244	2,079	2,277	
Seeking first job	943	988	988	956	973	940	971	977	1,002	996	1,021	1,055	1,100	
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	
Job losers	51.1	50.2	50.1	49.8	51.6	49.5	51.4	52.8	52.4	53.6	56.1	56.7	54.3	
On layoff	16.6	16.6	16.5	16.8	16.1	15.7	16.0	17.3	18.7	19.9	21.4	20.3	18.3	
Other job losers	34.6	33.5	33.6	33.0	35.5	33.8	35.4	35.5	33.7	33.6	34.6	36.5	35.9	
Job leavers	11.5	11.3	11.4	12.4	11.1	11.9	11.0	11.0	11.2	10.0	9.7	9.1	10.2	
Reentrants	25.5	26.0	25.9	26.0	25.2	26.6	25.5	24.6	25.0	25.5	23.5	22.7	24.0	
New entrants	11.9	12.4	12.5	11.8	12.0	12.0	12.2	11.7	11.5	10.9	10.7	11.5	11.6	
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE														
Job losers	3.7	3.7	3.7	3.7	3.8	3.6	3.8	4.1	4.2	4.5	4.9	4.8	4.7	
Job leavers	.8	.8	.8	.9	.8	.9	.8	.8	.9	.8	.8	.8	.9	
Reentrants	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	1.9	2.1	
New entrants	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	1.0	1.0	

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1981												1982	
	1980	1981	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
Less than 5 weeks	3,295	3,449	3,267	3,277	3,189	3,378	3,303	3,323	3,326	3,529	3,707	3,852	4,037	3,852	3,789	
5 to 14 weeks	2,470	2,539	2,379	2,408	2,472	2,606	2,423	2,312	2,469	2,585	2,686	2,882	3,016	3,068	3,052	
15 weeks and over	1,871	2,285	2,322	2,269	2,187	2,231	2,363	2,170	2,217	2,248	2,292	2,364	2,372	2,399	2,724	
15 to 26 weeks	1,052	1,122	1,072	1,057	1,048	1,061	1,227	1,096	1,078	1,146	1,166	1,229	1,189	1,210	1,445	
27 weeks and over	820	1,162	1,250	1,212	1,139	1,170	1,136	1,074	1,139	1,102	1,126	1,135	1,183	1,190	1,278	
Average (mean) duration, in weeks	11.9	13.7	14.1	13.9	13.7	13.3	14.3	14.1	14.3	13.7	13.6	13.1	12.8	13.5	14.1	

NOTE: Effective with January 1982 data, population counts derived from the 1980 census are incorporated into the estimation procedures used in the Current Population Survey. Data for 1970-81 have been revised. Also, seasonally adjusted data have been revised based on the seasonal experience through December 1981.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 166,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14-20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in services industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The

Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of June 1981 data, published in the August 1981 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through March 1981 and seasonally adjusted data from January 1974 through March 1981) and in *Employment and Earnings, United States, 1909-78*, BLS Bulletin 1312-11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10-19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9-20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1979-81, see *Employment and Earnings*, November 1981, pp. 7-8. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, selected years, 1950-81

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1960 ¹	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,471	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	86,697	851	4,229	20,505	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	89,823	958	4,463	21,040	5,136	20,192	5,204	14,989	4,975	17,112	15,947	2,773	13,147
1980	90,564	1,020	4,399	20,300	5,143	20,386	5,281	15,104	5,168	17,901	16,249	2,866	13,383
1981	91,543	1,104	4,307	20,261	5,151	20,738	5,343	15,395	5,331	18,598	16,054	2,772	13,282

¹Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Jan. 1981	Dec. 1981	Jan. 1982 ^P	State	Jan. 1981	Dec. 1981	Jan. 1982 ^P
Alabama	1,343.0	1,352.8	1,336.1	Montana	274.8	292.5	287.8
Alaska	161.1	176.0	171.2	Nebraska	611.1	629.1	610.9
Arizona	1,024.4	1,060.4	1,040.1	Nevada	397.2	417.3	411.8
Arkansas	739.8	735.0	713.6	New Hampshire	382.1	397.1	388.5
California	9,884.6	10,167.6	10,005.1	New Jersey	3,016.1	3,094.2	3,028.0
Colorado	1,258.5	1,290.3	1,278.2	New Mexico	456.7	470.8	461.2
Connecticut	1,418.4	1,447.1	(¹)	New York	7,099.4	7,355.7	7,183.2
Delaware	251.8	260.1	244.3	North Carolina	2,364.8	2,391.6	2,339.8
District of Columbia	608.8	606.6	600.1	North Dakota	239.4	253.0	244.6
Florida	3,697.6	3,823.9	3,804.0	Ohio	4,303.8	4,301.4	4,192.6
Georgia	2,150.2	2,165.4	(¹)	Oklahoma	1,151.7	1,221.9	1,203.9
Hawaii	402.4	406.6	397.3	Oregon	1,006.1	989.1	965.9
Idaho	322.9	323.7	313.7	Pennsylvania	4,653.7	4,703.7	4,569.8
Illinois	4,753.7	4,827.7	4,718.0	Rhode Island	391.6	402.2	388.1
Indiana	2,098.1	2,081.5	2,033.1	South Carolina	1,175.8	1,195.1	1,171.5
Iowa	1,077.4	1,085.1	1,048.1	South Dakota	231.0	235.8	228.4
Kansas	938.8	953.8	936.8	Tennessee	1,719.8	1,734.8	1,690.8
Kentucky	1,186.3	1,193.5	1,174.6	Texas	5,962.6	6,299.0	6,236.6
Louisiana	1,603.0	1,651.4	1,619.7	Utah	546.1	568.8	557.7
Maine	406.7	412.3	400.5	Vermont	200.0	203.6	200.2
Maryland	1,688.6	1,706.6	1,647.1	Virginia	2,110.4	2,176.2	2,140.4
Massachusetts	2,609.6	2,690.5	2,602.0	Washington	1,583.8	1,576.6	1,537.5
Michigan	3,437.2	3,385.0	(¹)	West Virginia	633.1	628.9	610.3
Minnesota	1,726.3	1,764.5	1,712.7	Wisconsin	1,914.3	1,912.8	1,860.0
Mississippi	815.9	821.9	806.9	Wyoming	209.3	215.5	210.2
Missouri	1,936.3	1,967.5	1,926.8	Virgin Islands	36.3	35.7	(¹)

¹ Not available.

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1981												1982	
	1980	1981	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. P	Feb. P	
TOTAL	90,564	91,543	90,138	90,720	91,337	91,848	92,481	91,600	91,598	92,159	92,424	92,293	91,932	89,760	89,863	
MINING	1,020	1,104	1,071	1,084	941	957	1,132	1,155	1,169	1,169	1,164	1,170	1,166	1,150	1,141	
CONSTRUCTION	4,399	4,307	3,901	4,048	4,246	4,356	4,477	4,554	4,579	4,516	4,493	4,369	4,155	3,706	3,686	
MANUFACTURING	20,300	20,261	20,065	20,160	20,253	20,342	20,531	20,337	20,473	20,600	20,368	20,122	19,804	19,440	19,385	
Production workers	14,223	14,083	13,971	14,049	14,127	14,195	14,325	14,108	14,230	14,376	14,147	13,904	13,583	13,267	13,260	
Durable goods	12,181	12,136	12,042	12,120	12,197	12,235	12,334	12,198	12,188	12,292	12,163	11,999	11,786	11,572	11,531	
Production workers	8,438	8,316	8,279	8,345	8,412	8,438	8,500	8,347	8,323	8,440	8,313	8,153	7,941	7,754	7,738	
Lumber and wood products	690.3	679.3	674.5	678.3	686.9	703.4	711.0	708.6	701.5	691.0	664.5	638.7	618.8	598.8	603.6	
Furniture and fixtures	468.8	476.6	471.7	472.1	478.0	479.0	480.5	472.0	480.6	484.7	483.5	476.5	471.1	462.0	456.5	
Stone, clay, and glass products	665.6	650.2	630.6	639.5	652.6	659.7	671.0	666.7	669.1	664.5	652.8	641.2	619.6	591.7	585.9	
Primary metal industries	1,144.1	1,128.2	1,137.7	1,141.3	1,149.9	1,147.5	1,155.5	1,135.5	1,140.3	1,138.8	1,109.3	1,087.8	1,058.0	1,039.1	1,028.3	
Fabricated metal products	1,609.0	1,583.6	1,578.1	1,585.4	1,593.7	1,596.1	1,606.8	1,584.5	1,590.9	1,607.5	1,584.2	1,563.5	1,532.8	1,502.8	1,495.5	
Machinery, except electrical	2,497.0	2,512.6	2,498.4	2,504.3	2,506.1	2,508.6	2,531.3	2,517.4	2,511.4	2,540.7	2,528.4	2,512.3	2,495.4	2,461.6	2,458.1	
Electric and electronic equipment	2,103.2	2,133.9	2,112.3	2,119.5	2,129.7	2,134.7	2,152.7	2,138.9	2,146.1	2,164.8	2,158.3	2,131.3	2,104.1	2,089.4	2,087.9	
Transportation equipment	1,875.3	1,837.8	1,824.8	1,860.4	1,874.3	1,877.4	1,882.7	1,840.3	1,799.6	1,848.3	1,832.3	1,803.0	1,755.7	1,719.4	1,714.8	
Instruments and related products	708.5	718.0	710.1	712.1	714.4	715.2	723.2	722.1	726.2	723.1	720.0	718.6	718.0	711.7	708.1	
Miscellaneous manufacturing	419.3	415.3	403.3	406.7	411.3	413.4	419.5	422.1	421.8	428.7	429.9	426.2	412.2	395.0	392.3	
Nondurable goods	8,118	8,125	8,023	8,040	8,056	8,107	8,197	8,139	8,285	8,308	8,205	8,123	8,018	7,868	7,854	
Production workers	5,786	5,766	5,692	5,704	5,715	5,757	5,825	5,761	5,907	5,936	5,834	5,751	5,642	5,513	5,522	
Food and kindred products	1,710.8	1,684.1	1,639.2	1,632.5	1,631.0	1,648.1	1,673.4	1,714.8	1,773.2	1,776.1	1,729.0	1,689.2	1,657.3	1,613.1	1,608.6	
Tobacco manufactures	69.2	71.1	70.6	68.3	66.2	65.2	66.4	66.3	75.6	77.7	77.0	74.9	73.3	72.3	69.4	
Textile mill products	852.7	839.3	841.1	840.9	841.6	844.3	851.0	836.5	847.3	850.2	834.3	826.8	816.5	795.4	791.3	
Apparel and other textile products	1,265.8	1,255.8	1,238.7	1,250.2	1,255.2	1,265.9	1,283.9	1,231.1	1,276.8	1,287.3	1,274.1	1,259.5	1,224.4	1,187.8	1,199.9	
Paper and allied products	694.0	692.3	687.7	688.6	690.9	693.1	701.0	696.4	700.3	702.0	691.4	686.4	681.7	674.2	671.1	
Printing and publishing	1,258.3	1,298.0	1,273.6	1,278.2	1,280.4	1,281.8	1,286.2	1,286.5	1,289.4	1,294.1	1,299.7	1,305.1	1,312.5	1,299.7	1,306.3	
Chemicals and allied products	1,107.4	1,107.3	1,102.9	1,106.8	1,106.2	1,110.3	1,121.1	1,116.6	1,112.0	1,110.5	1,104.4	1,100.2	1,096.3	1,087.9	1,087.6	
Petroleum and coal products	196.6	210.8	205.7	207.0	209.5	212.9	215.4	216.1	215.4	212.7	211.4	210.4	206.8	199.9	195.9	
Rubber and miscellaneous plastics products	730.7	744.4	734.2	737.2	743.5	749.2	759.0	747.0	756.8	760.8	748.2	738.6	726.4	718.8	707.9	
Leather and leather products	232.6	232.3	229.5	230.4	231.7	235.9	239.1	227.5	238.6	237.0	235.7	232.1	223.1	218.5	216.0	
TRANSPORTATION AND PUBLIC UTILITIES	5,143	5,151	5,076	5,095	5,120	5,148	5,195	5,177	5,175	5,222	5,204	5,183	5,153	5,059	5,058	
WHOLESALE AND RETAIL TRADE	20,386	20,738	20,196	20,290	20,513	20,672	20,795	20,735	20,811	20,919	20,999	21,148	21,413	20,676	20,510	
WHOLESALE TRADE	5,281	5,343	5,273	5,293	5,317	5,335	5,381	5,376	5,386	5,370	5,381	5,379	5,352	5,297	5,287	
RETAIL TRADE	15,104	15,395	14,923	14,997	15,196	15,337	15,414	15,359	15,425	15,549	15,618	15,769	16,061	15,379	15,223	
FINANCE, INSURANCE, AND REAL ESTATE	5,168	5,331	5,245	5,263	5,295	5,326	5,384	5,408	5,408	5,361	5,349	5,344	5,350	5,329	5,324	
SERVICES	17,901	18,598	18,126	18,287	18,512	18,633	18,764	18,847	18,835	18,812	18,826	18,800	18,762	18,510	18,675	
GOVERNMENT	16,249	16,054	16,458	16,493	16,457	16,414	16,203	15,387	15,148	15,560	16,021	16,157	16,129	15,890	16,084	
Federal	2,866	2,772	2,774	2,769	2,773	2,782	2,825	2,833	2,803	2,735	2,737	2,729	2,729	2,713	2,715	
State and local	13,383	13,282	13,684	13,724	13,684	13,632	13,378	12,554	12,345	12,825	13,284	13,428	13,400	13,177	13,369	

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1981											1982	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. P	Feb. P
TOTAL	91,258	91,347	91,458	91,564	91,615	91,880	91,901	92,033	91,832	91,522	91,113	90,839	90,936
MINING	1,091	1,098	950	957	1,110	1,132	1,151	1,162	1,162	1,172	1,175	1,168	1,161
CONSTRUCTION	4,389	4,416	4,418	4,334	4,284	4,272	4,275	4,272	4,259	4,229	4,193	4,068	4,146
MANUFACTURING	20,177	20,191	20,332	20,414	20,424	20,535	20,505	20,496	20,241	20,017	19,736	19,528	19,482
Production workers	14,053	14,074	14,187	14,247	14,245	14,327	14,294	14,281	14,030	13,797	13,514	13,334	13,332
Durable goods	12,074	12,099	12,207	12,254	12,278	12,333	12,332	12,311	12,115	11,932	11,714	11,578	11,555
Production workers	8,297	8,325	8,412	8,442	8,455	8,491	8,485	8,465	8,267	8,083	7,868	7,749	7,749
Lumber and wood products	691	692	702	710	699	702	686	677	652	634	619	612	618
Furniture and fixtures	466	467	478	484	486	488	487	485	480	470	464	457	451
Stone, clay, and glass products	654	651	656	658	658	658	660	655	644	634	622	609	607
Primary metal industries	1,140	1,141	1,145	1,142	1,144	1,140	1,148	1,139	1,114	1,090	1,058	1,039	1,030
Fabricated metal products	1,577	1,581	1,595	1,604	1,604	1,614	1,610	1,606	1,575	1,546	1,516	1,501	1,494
Machinery, except electrical	2,481	2,480	2,491	2,511	2,521	2,533	2,542	2,551	2,549	2,522	2,488	2,452	2,441
Electric and electronic equipment	2,110	2,117	2,134	2,143	2,148	2,163	2,166	2,163	2,150	2,119	2,089	2,083	2,084
Transportation equipment	1,833	1,849	1,878	1,872	1,886	1,886	1,889	1,889	1,811	1,783	1,725	1,706	1,722
Instruments and related products	711	712	714	716	717	723	727	727	723	719	717	712	709
Miscellaneous manufacturing	411	409	414	414	415	426	417	419	417	415	416	407	399
Nondurable goods	8,103	8,092	8,125	8,160	8,146	8,202	8,173	8,185	8,126	8,085	8,022	7,950	7,927
Production workers	5,756	5,749	5,775	5,805	5,790	5,836	5,809	5,816	5,763	5,714	5,646	5,585	5,583
Food and kindred products	1,705	1,691	1,697	1,703	1,673	1,691	1,668	1,669	1,675	1,676	1,669	1,663	1,672
Tobacco manufactures	72	72	72	71	71	71	73	71	70	70	70	71	70
Textile mill products	839	838	842	843	846	856	849	849	833	823	812	795	789
Apparel and other textile products	1,243	1,243	1,250	1,258	1,264	1,278	1,272	1,273	1,259	1,251	1,233	1,208	1,204
Paper and allied products	691	689	691	694	695	696	698	703	691	686	682	677	673
Printing and publishing	1,272	1,276	1,280	1,283	1,284	1,290	1,295	1,301	1,302	1,302	1,302	1,300	1,305
Chemicals and allied products	1,109	1,108	1,107	1,109	1,111	1,110	1,106	1,112	1,108	1,104	1,100	1,093	1,093
Petroleum and coal products	210	210	211	213	212	212	211	210	210	210	208	204	199
Rubber and miscellaneous plastics products	731	734	744	753	757	760	764	760	744	733	722	717	704
Leather and leather products	231	231	231	233	232	238	236	236	234	230	224	222	218
TRANSPORTATION AND PUBLIC UTILITIES	5,135	5,139	5,161	5,148	5,149	5,167	5,170	5,186	5,168	5,147	5,122	5,120	5,114
WHOLESALE AND RETAIL TRADE	20,600	20,635	20,636	20,714	20,717	20,796	20,862	20,872	20,916	20,838	20,735	20,843	20,905
WHOLESALE TRADE	5,313	5,316	5,333	5,346	5,349	5,360	5,375	5,370	5,360	5,363	5,336	5,324	5,324
RETAIL TRADE	15,287	15,319	15,303	15,368	15,368	15,436	15,487	15,502	15,556	15,475	15,399	15,519	15,581
FINANCE, INSURANCE, AND REAL ESTATE	5,283	5,293	5,316	5,326	5,331	5,344	5,354	5,366	5,360	5,355	5,366	5,361	5,362
SERVICES	18,343	18,371	18,475	18,540	18,560	18,642	18,667	18,774	18,788	18,838	18,856	18,849	18,902
GOVERNMENT	16,240	16,204	16,170	16,131	16,040	15,992	15,917	15,905	15,938	15,926	15,930	15,902	15,864
Federal	2,795	2,781	2,767	2,779	2,781	2,777	2,770	2,765	2,759	2,748	2,741	2,738	2,731
State and local	13,445	13,423	13,403	13,352	13,259	13,215	13,147	13,140	13,179	13,178	13,189	13,164	13,133

12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total accessions													
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	4.0	4.0	3.4	3.8	3.9	4.7	4.8	4.3	5.0	4.5	4.1	3.0	2.2
1980	3.5	3.8	3.3	3.5	3.1	3.4	3.9	3.8	4.5	4.3	3.6	2.7	2.2
1981	3.2	3.4	3.0	3.4	3.3	3.5	4.0	3.6	4.0	3.5	2.8	2.4	1.7
New hires													
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	2.1	2.4	2.2	2.3	2.0	2.1	2.4	2.1	2.5	2.6	2.2	1.6	1.2
1981	2.0	1.8	1.8	2.0	2.0	2.3	2.8	2.4	2.7	2.3	1.8	1.3	.9
Recalls													
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.8	.7	.6	.5	.5
1980	1.1	1.1	.9	.9	.8	1.0	1.2	1.5	1.7	1.4	1.1	.9	.8
1981	1.0	1.3	1.0	1.1	1.1	1.0	.9	1.0	1.0	.9	.8	.9	.7
Total separations													
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.9	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.7	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	4.0	4.1	3.5	3.7	4.7	4.8	4.4	4.2	4.8	4.1	3.8	3.0	3.1
1981	3.6	3.6	3.1	3.2	3.1	3.1	3.2	3.6	4.4	4.1	4.2	4.1	4.1
Quits													
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	1.5	1.6	1.5	1.6	1.5	1.5	1.4	1.4	2.2	1.9	1.4	1.1	.9
1981	1.3	1.2	1.1	1.2	1.3	1.3	1.4	1.5	2.1	1.8	1.3	.9	.7
Layoffs													
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.1	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.9	1.4	1.3	1.1	1.2	1.5	1.7
1980	1.7	1.6	1.2	1.3	2.3	2.5	2.2	2.0	1.7	1.4	1.5	1.4	1.6
1981	1.6	1.6	1.2	1.2	1.0	1.0	1.1	1.3	1.3	1.5	2.2	2.6	2.8

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Dec. 1980	Nov. 1981	Dec. 1981	Dec. 1980	Nov. 1981	Dec. 1981	Dec. 1980	Nov. 1981	Dec. 1981	Dec. 1980	Nov. 1981	Dec. 1981	Dec. 1980	Nov. 1981	Dec. 1981	Dec. 1980	Nov. 1981	Dec. 1981
MANUFACTURING	2.2	2.4	1.7	1.2	1.3	0.9	0.8	0.9	0.7	3.1	4.1	4.1	0.9	0.9	0.7	1.6	2.6	2.8
Seasonally adjusted	3.5	3.1	2.7	2.1	1.6	1.6	1.1	1.2	1.0	3.5	4.1	4.0	1.5	1.1	1.1	1.2	2.3	2.2
Durable goods	2.0	2.1	1.5	1.0	1.0	.7	.7	.9	.6	2.6	4.2	4.2	.7	.7	.6	1.4	2.8	3.1
Lumber and wood products	2.8	2.8	2.7	1.6	1.3	.9	1.0	1.4	1.6	4.9	7.6	6.3	1.4	1.3	1.0	2.8	5.5	4.5
Furniture and fixtures	2.8	2.3	1.8	1.7	1.5	.9	1.0	.7	.8	3.3	4.5	4.0	1.3	1.2	.9	1.3	2.7	2.5
Stone, clay, and glass products	2.0	2.0	1.5	1.1	.9	.6	.8	1.0	.7	4.7	4.8	6.5	.8	.7	.6	3.1	3.5	5.3
Primary metal industries	2.3	2.7	1.8	.6	.4	.3	1.5	2.1	1.4	2.5	5.4	5.5	.3	.3	.3	1.6	4.4	4.7
Fabricated metal products	1.9	2.1	1.5	1.1	1.1	.7	.7	.8	.6	2.9	4.7	4.4	.8	.7	.6	1.6	3.2	3.2
Machinery, except electrical	1.7	1.7	1.3	1.0	1.1	.7	.5	.4	.4	1.7	2.7	2.5	.6	.6	.5	.6	1.6	1.5
Electric and electronic equipment	1.8	2.1	1.5	1.0	1.2	.7	.5	.5	.4	2.0	3.4	3.3	.7	.7	.5	.7	2.0	2.0
Transportation equipment	1.8	2.3	1.4	.6	.8	.5	.6	1.2	.7	2.5	4.9	5.8	.4	.5	.4	1.4	3.7	5.0
Instruments and related products	1.5	1.6	1.2	1.2	1.2	.9	.2	.2	.1	1.4	1.9	2.1	.7	.7	.9	.3	.7	.7
Miscellaneous manufacturing	2.5	3.0	2.0	1.5	2.0	1.2	.8	.8	.7	5.9	6.1	6.6	1.1	1.3	.9	4.0	3.9	5.0
Nondurable goods	2.5	2.7	2.0	1.5	1.6	1.1	.9	.9	.8	3.8	4.0	4.0	1.1	1.2	.9	2.1	2.2	2.5
Food and kindred products	3.4	3.7	2.9	1.8	2.0	1.6	1.4	1.5	1.1	6.3	5.9	5.4	1.5	1.4	1.2	4.1	3.8	3.5
Tobacco manufacturers	4.8	4.4	3.0	1.5	1.1	1.0	2.7	2.7	1.5	3.7	6.5	3.5	.3	.4	.5	2.8	5.3	2.5
Textile mill products	2.0	2.4	1.5	1.4	1.4	.8	.4	.8	.7	2.6	3.7	3.6	1.1	1.1	.8	.9	1.9	2.2
Apparel and other products	3.0	3.9	2.6	1.5	2.3	1.3	1.4	1.3	1.2	5.3	5.6	5.9	1.6	1.8	1.3	3.2	3.1	3.9
Paper and allied products	1.7	1.7	1.2	.9	.8	.5	.7	.7	.6	2.5	2.6	2.9	.5	.5	.4	1.4	1.7	1.9
Printing and publishing	2.5	2.7	2.2	1.9	2.1	1.6	.5	.5	.4	3.0	2.8	2.6	1.5	1.5	1.3	.9	.8	.8
Chemicals and allied products	1.1	1.0	.8	.8	.7	.5	.2	.2	.2	1.4	1.5	1.5	.4	.4	.3	.5	.7	.7
Petroleum and coal products	1.4	1.1	1.2	1.1	.8	.9	.2	.2	.2	2.0	1.7	3.1	.4	.4	.4	1.1	.8	2.1
Rubber and miscellaneous plastics products	2.6	2.2	1.7	1.4	1.2	.8	1.0	.7	.7	3.3	4.8	4.3	1.0	.9	.7	1.7	3.1	3.0
Leather and leather products	3.4	3.4	2.6	2.2	2.1	1.2	1.0	1.0	1.2	6.0	5.5	9.1	1.8	2.0	1.4	3.5	2.7	6.9

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 Note: In preparation of the final December 1981 data in this issue, the Bureau of Labor Statistics is discontinuing the labor turnover series shown in tables 12 and 13, because of budgetary constraints.
 Federal Reserve Bank of St. Louis

14. Hours and earnings, by industry division, selected years, 1950-81

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1950	\$53.13	39.8	\$1.335	\$67.16	37.9	\$1.772	\$69.68	37.4	\$1.863	\$58.32	40.5	\$1.440
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1960 ¹	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.88	43.4	7.67	318.69	36.8	8.66	249.27	40.4	6.17
1979	219.91	35.7	6.16	365.07	43.0	8.49	342.99	37.0	9.27	269.34	40.2	6.70
1980	235.10	35.3	6.66	396.14	43.2	9.17	367.04	37.0	9.92	288.62	39.7	7.27
1981	255.20	35.2	7.25	438.62	43.6	10.06	395.60	36.8	10.75	317.60	39.8	7.98
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1950				\$44.55	40.5	\$1.100	\$50.52	37.7	\$1.340			
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 ¹				64.41	38.8	1.66	72.74	37.3	1.95			
1960				66.01	38.6	1.71	75.14	37.2	2.02			
1961				67.41	38.3	1.76	77.12	36.9	2.09			
1962				69.91	38.2	1.83	80.94	37.3	2.17			
1963				72.01	38.1	1.89	84.38	37.5	2.25			
1964	\$118.78	41.1	\$2.89	74.66	37.9	1.97	85.79	37.3	2.30	\$70.03	36.1	\$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.00	36.4	4.89	163.67	32.8	4.99
1979	325.58	39.9	8.16	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36
1980	351.25	39.6	8.87	176.46	32.2	5.48	209.24	36.2	5.78	190.71	32.6	5.85
1981	382.97	39.4	9.72	190.35	32.1	5.93	228.69	36.3	6.30	208.97	32.6	6.41

¹ Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1981												1982	
	1980	1981	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ^P	Feb. ^P	
TOTAL PRIVATE	35.3	35.2	35.0	35.2	35.2	35.2	35.4	35.6	35.6	35.0	35.1	35.1	35.2	33.8	34.6	
MINING	43.2	43.6	42.8	42.3	43.6	43.8	42.1	43.5	44.1	43.8	44.5	44.3	44.7	42.8	43.2	
CONSTRUCTION	37.0	36.8	35.0	37.2	36.9	36.9	37.2	37.7	37.3	35.7	37.5	37.0	37.0	33.2	35.3	
MANUFACTURING	39.7	39.8	39.5	39.9	39.7	40.1	40.2	39.6	39.8	39.5	39.7	39.6	39.9	37.1	38.9	
Overtime hours	2.8	2.8	2.8	2.8	2.6	2.9	3.0	2.8	3.0	2.9	2.8	2.6	2.6	2.2	2.3	
Durable goods	40.1	40.2	39.9	40.5	40.3	40.6	40.6	39.9	40.2	39.8	40.1	40.0	40.4	37.7	39.3	
Overtime hours	2.8	2.8	2.8	2.9	2.7	3.0	3.0	2.8	2.9	2.8	2.7	2.5	2.6	2.1	2.2	
Lumber and wood products	38.6	38.7	38.5	39.0	39.1	39.6	39.5	38.7	39.0	37.9	38.2	37.6	38.1	33.8	37.6	
Furniture and fixtures	38.1	38.4	38.3	38.8	38.2	38.5	38.9	37.8	38.6	37.7	38.6	38.1	38.9	32.6	37.4	
Stone, clay, and glass products	40.8	40.6	39.6	40.6	40.9	41.1	41.2	40.8	41.0	40.6	40.5	40.5	40.1	37.3	38.9	
Primary metal industries	40.1	40.5	40.7	41.1	41.2	40.9	40.9	40.3	40.3	40.8	39.6	39.7	39.6	38.4	39.1	
Fabricated metal products	40.4	40.3	40.0	40.6	40.2	40.7	40.8	39.9	40.3	39.6	40.1	40.0	40.4	37.8	39.1	
Machinery except electrical	41.0	40.9	40.8	41.2	40.8	41.2	41.1	40.4	40.7	40.4	40.6	40.9	41.5	39.1	40.4	
Electric and electronic equipment	39.8	39.9	39.6	40.2	39.8	40.1	40.2	39.7	40.0	39.7	39.9	39.8	40.3	38.1	39.4	
Transportation equipment	40.6	40.9	40.1	41.1	41.0	41.6	41.3	40.7	40.5	39.9	40.9	40.8	41.4	38.5	39.9	
Instruments and related products	40.5	40.4	40.5	40.6	39.9	40.3	40.4	39.9	40.4	40.4	40.4	40.8	40.7	38.5	39.8	
Miscellaneous manufacturing	38.7	38.9	38.4	38.9	38.6	38.9	39.0	38.5	39.0	38.7	39.3	39.5	39.1	36.4	38.1	
Nondurable goods	39.0	39.2	38.9	39.1	38.9	39.4	39.5	39.1	39.4	39.1	39.1	39.1	39.2	36.2	38.2	
Overtime hours	2.8	2.8	2.8	2.7	2.6	2.9	2.9	2.8	3.0	3.1	2.9	2.8	2.6	2.4	2.4	
Food and kindred products	39.7	39.7	39.3	39.2	39.3	39.8	39.8	39.6	40.0	39.8	39.6	39.9	40.4	38.7	38.9	
Tobacco manufactures	38.1	38.8	38.5	37.2	37.2	38.6	38.5	38.6	40.7	40.2	39.4	38.6	38.1	36.1	38.3	
Textile mill products	40.1	39.7	39.9	40.1	39.4	40.3	40.4	39.7	40.0	38.9	39.4	39.2	38.6	31.1	37.5	
Apparel and other textile products	35.4	35.7	35.3	35.8	35.2	36.0	36.4	36.0	36.3	35.2	35.8	35.8	35.5	30.2	34.6	
Paper and allied products	42.3	42.5	42.2	42.4	42.3	42.5	42.7	42.4	42.5	43.2	42.4	42.3	42.7	41.2	41.9	
Printing and publishing	37.1	37.3	36.9	37.1	37.0	37.3	37.2	37.2	37.5	37.4	37.2	37.3	37.9	36.3	37.0	
Chemicals and allied products	41.5	41.6	41.5	41.6	41.6	41.6	41.6	41.5	41.4	42.2	41.5	41.7	41.8	40.8	41.2	
Petroleum and coal products	41.8	43.2	42.5	42.6	43.9	43.6	43.5	43.7	43.0	44.4	43.1	43.0	42.6	43.1	42.4	
Rubber and miscellaneous plastics products	40.1	40.4	40.2	40.7	40.4	40.9	40.9	40.0	40.4	39.8	40.2	39.9	40.1	37.8	39.3	
Leather and leather products	36.7	36.8	36.7	36.8	36.3	37.4	38.1	36.6	36.9	36.0	36.7	36.6	36.4	33.5	34.6	
TRANSPORTATION AND PUBLIC UTILITIES	39.6	39.6	39.5	39.4	39.3	39.3	39.8	39.8	39.5	39.2	39.1	39.3	39.3	38.6	39.4	
WHOLESALE AND RETAIL TRADE	32.2	32.2	31.7	31.9	32.1	32.0	32.3	32.8	32.8	32.2	31.9	31.9	32.2	31.1	31.5	
WHOLESALE TRADE	38.5	38.5	38.3	38.5	38.5	38.5	38.6	38.8	38.7	38.5	38.7	38.6	38.7	37.9	38.1	
RETAIL TRADE	30.2	30.2	29.6	29.8	30.0	29.9	30.4	30.9	30.9	30.2	29.8	29.8	30.3	28.9	29.4	
FINANCE, INSURANCE, AND REAL ESTATE	36.2	36.2	36.4	36.4	36.3	36.1	36.1	36.3	36.3	36.0	36.2	36.2	36.2	36.2	36.3	
SERVICES	32.6	32.6	32.6	32.6	32.6	32.5	32.7	33.0	32.9	32.4	32.5	32.5	32.6	32.1	32.4	

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1981											1982	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. P	Feb. P
TOTAL PRIVATE	35.2	35.3	35.4	35.3	35.2	35.3	35.2	34.9	35.0	35.0	34.9	34.2	34.9
MANUFACTURING	39.8	39.9	40.2	40.3	40.1	40.0	40.0	39.3	39.5	39.3	39.0	37.3	39.1
Overtime hours	2.8	2.8	2.9	3.2	3.0	3.0	3.0	2.7	2.7	2.5	2.4	2.3	2.3
Durable goods	40.1	40.4	40.8	40.8	40.5	40.5	40.5	39.7	39.9	39.7	39.3	37.9	39.5
Overtime hours	2.8	2.8	3.0	3.2	3.0	3.0	3.0	2.6	2.6	2.4	2.4	2.2	2.2
Lumber and wood products	39.1	39.1	39.6	39.8	39.0	38.8	38.6	37.3	37.6	37.5	37.6	34.7	38.2
Furniture and fixtures	38.6	38.6	38.8	39.0	38.9	38.5	38.6	37.5	38.1	37.7	37.7	32.9	37.6
Stone, clay, and glass products	40.6	40.7	41.2	41.0	40.8	40.9	40.8	40.3	40.0	40.0	39.5	38.2	39.9
Primary metal industries	40.7	41.0	41.2	41.0	40.8	40.5	40.7	40.6	39.8	39.7	39.2	38.4	39.1
Fabricated metal products	40.2	40.4	40.9	40.9	40.7	40.5	40.5	39.5	40.0	39.6	39.2	37.9	39.3
Machinery, except electrical	40.8	40.9	41.3	41.4	41.1	41.1	41.2	40.3	40.7	40.6	40.3	39.0	40.4
Electric and electronic equipment	39.6	40.0	40.2	40.4	40.2	40.5	40.4	39.6	39.9	39.3	39.2	38.1	39.4
Transportation equipment	40.5	40.9	42.0	41.8	41.4	41.2	41.3	39.9	40.5	40.3	39.4	38.8	40.3
Instruments and related products	40.5	40.5	40.1	40.4	40.4	40.5	40.8	40.5	40.4	40.3	39.9	38.5	39.8
Miscellaneous manufacturing	38.6	38.7	38.9	39.2	39.1	39.2	39.1	38.4	39.0	39.0	38.4	36.6	38.3
Nondurable goods	39.2	39.2	39.3	39.6	39.4	39.3	39.3	38.9	39.0	38.8	38.6	36.4	38.5
Overtime hours	2.9	2.8	2.9	3.1	3.0	2.9	2.9	2.8	2.8	2.7	2.4	2.4	2.5
Food and kindred products	39.9	39.7	40.1	40.0	39.8	39.4	39.4	39.2	39.5	39.6	39.8	39.0	39.5
Textile mill products	40.0	39.9	39.8	40.5	40.2	40.4	40.3	38.9	39.3	38.8	37.8	31.2	37.5
Apparel and other textile products	35.6	35.7	35.5	36.0	36.1	35.9	36.1	35.2	35.7	35.6	35.1	30.9	34.8
Paper and allied products	42.4	42.4	42.6	42.8	42.7	42.7	42.7	43.1	42.4	41.9	41.8	41.1	42.1
Printing and publishing	37.3	37.1	37.3	37.6	37.4	37.3	37.3	37.1	37.1	36.9	37.2	36.6	37.4
Chemicals and allied products	41.6	41.5	41.5	41.7	41.7	41.8	41.7	42.3	41.5	41.3	41.3	40.8	41.3
Petroleum and coal products	43.8	43.5	44.1	43.8	43.4	43.1	42.8	43.3	42.1	42.3	42.6	44.3	43.7
Rubber and miscellaneous plastics products	40.3	40.5	40.7	41.3	41.0	40.5	40.6	39.6	40.0	39.6	39.4	37.7	39.4
Leather and leather products	37.0	37.1	36.6	37.1	37.1	36.5	36.9	36.1	36.8	36.7	36.1	33.8	34.8
WHOLESALE AND RETAIL TRADE	32.2	32.2	32.3	32.1	32.1	32.2	32.1	32.1	31.9	32.0	31.9	31.5	31.9
WHOLESALE TRADE	38.6	38.6	38.6	38.5	38.5	38.7	38.6	38.5	38.5	38.6	38.4	38.1	38.4
RETAIL TRADE	30.2	30.2	30.3	30.1	30.1	30.1	30.1	30.1	29.9	29.9	29.9	29.5	29.9
SERVICES	32.8	32.8	32.8	32.7	32.5	32.5	32.4	32.4	32.5	32.6	32.7	32.3	32.6

NOTE: The industry divisions of mining; construction; tobacco manufactures (a major manufacturing group, nondurable goods); transportation and public utilities; and finance, insurance, and real estate are no longer shown. This is because the seasonal component in these is

small relative to the trend-cycle, or irregular components, or both, and consequently cannot be precisely separated.

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1981												1982	
	1980	1981	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ^P	Feb. ^P	
	TOTAL PRIVATE	\$6.66	\$7.25	\$7.06	\$7.10	\$7.13	\$7.17	\$7.20	\$7.24	\$7.30	\$7.40	\$7.42	\$7.46	\$7.45	\$7.55	\$7.54
MINING	9.17	10.06	9.86	9.85	9.70	9.68	9.94	10.11	10.15	10.29	10.28	10.42	10.43	10.67	10.72	
CONSTRUCTION	9.92	10.75	10.41	10.44	10.43	10.53	10.60	10.74	10.87	11.02	11.10	11.12	11.19	11.55	11.17	
MANUFACTURING	7.27	7.98	7.75	7.80	7.88	7.92	7.97	8.02	8.02	8.15	8.15	8.20	8.26	8.41	8.35	
Durable goods	7.75	8.52	8.26	8.32	8.40	8.45	8.52	8.55	8.57	8.68	8.71	8.75	8.81	8.90	8.90	
Lumber and wood products	6.53	7.00	6.81	6.79	6.83	6.92	7.10	7.16	7.13	7.15	7.09	7.15	7.17	7.38	7.41	
Furniture and fixtures	5.49	5.90	5.74	5.76	5.78	5.83	5.89	5.91	5.98	6.00	6.05	6.04	6.11	6.26	6.17	
Stone, clay, and glass products	7.50	8.27	7.89	7.94	8.11	8.20	8.31	8.39	8.41	8.53	8.50	8.54	8.56	8.70	8.67	
Primary metal industries	9.77	10.81	10.56	10.52	10.76	10.68	10.76	10.79	10.99	11.22	10.97	11.10	11.09	11.21	11.16	
Fabricated metal products	7.45	8.20	7.91	8.01	8.05	8.17	8.23	8.22	8.27	8.34	8.39	8.43	8.53	8.55	8.61	
Nondurable goods	6.56	7.19	6.98	7.01	7.08	7.11	7.14	7.23	7.24	7.37	7.34	7.39	7.45	7.68	7.57	
Food and kindred products	6.86	7.24	7.29	7.37	7.43	7.43	7.47	7.50	7.58	7.53	7.63	7.69	7.82	7.82	7.82	
Tobacco manufactures	7.73	7.45	8.56	8.61	8.90	9.03	9.33	9.43	8.61	8.66	8.58	8.96	8.90	9.13	7.73	
Textile mill products	5.08	8.82	5.35	5.36	5.36	5.40	5.42	5.51	5.66	5.69	5.72	5.74	5.72	5.76	9.39	
Apparel and other textile products	4.57	5.52	4.87	4.94	4.96	4.98	5.00	4.94	4.98	5.06	5.07	5.06	5.05	5.19	5.78	
Paper and allied products	7.84	4.98	8.28	8.30	8.37	8.42	8.55	8.73	8.67	8.95	8.82	8.89	8.96	9.06	5.19	
Printing and publishing	7.53	8.60	7.96	8.02	8.04	8.10	8.13	8.22	8.27	8.40	8.42	8.44	8.50	8.59	8.98	
Chemicals and allied products	8.30	8.20	8.80	8.84	8.94	8.99	9.07	9.16	9.19	9.38	9.37	9.42	9.52	9.67	8.60	
Petroleum and coal products	10.09	9.12	11.33	11.23	11.40	11.28	11.29	11.41	11.31	11.53	11.46	11.57	11.58	12.03	9.66	
Rubber and miscellaneous plastics products	6.56	11.37	7.04	7.07	7.15	7.22	7.23	7.28	7.32	7.38	7.39	7.41	7.48	7.62	12.14	
Leather and leather products	4.58	7.25	4.88	4.90	4.93	4.95	4.98	4.96	4.97	5.08	5.09	5.10	5.14	5.21	7.61	
Miscellaneous manufacturing	4.99														5.25	
TRANSPORTATION AND PUBLIC UTILITIES	8.87		9.45	9.42	9.54	9.59	9.63	9.69	9.89	9.97	9.96	10.07	10.08	10.13		
WHOLESALE AND RETAIL TRADE	5.48	9.72													10.17	
WHOLESALE TRADE	6.96	5.93	5.84	5.85	5.87	5.89	5.89	5.91	5.94	6.04	6.00	6.03	6.01	6.17	6.15	
RETAIL TRADE	4.88	7.58	7.38	7.42	7.47	7.51	7.51	7.59	7.67	7.71	7.74	7.81	7.83	7.94	7.95	
FINANCE, INSURANCE, AND REAL ESTATE	5.78	5.26	5.20	5.20	5.22	5.23	5.23	5.24	5.26	5.37	5.29	5.32	5.32	5.44	5.41	
SERVICES	5.85	6.41	6.27	6.29	6.30	6.33	6.33	6.34	6.41	6.51	6.57	6.67	6.66	6.77	6.78	

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1977=100]

Industry	1981												1982		Jan. 1982 to Feb. 1982	Feb. 1981 to Feb. 1982 ¹
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ^P	Feb. ^P			
TOTAL PRIVATE (in current dollars)	135.0	135.8	136.7	137.7	138.4	139.0	140.7	141.5	141.9	143.2	143.5	145.0	145.1	.1	7.5	
Mining ²	143.2	144.0	145.7	145.6	147.2	148.9	149.4	151.5	151.3	153.3	153.2	155.9	156.4	.3	9.2	
Construction	128.0	128.6	129.0	129.4	130.4	131.8	132.5	132.9	134.3	135.4	136.2	140.7	136.9	-2.6	7.0	
Manufacturing	137.5	138.5	139.9	140.7	141.6	142.5	143.6	144.8	145.5	146.4	147.0	148.8	149.3	.3	8.6	
Transportation and public utilities	135.4	136.1	137.3	138.9	139.8	139.3	141.8	141.7	142.0	144.0	144.4	145.5	146.2	.5	7.9	
Wholesale and retail trade	135.0	135.8	136.4	137.4	137.8	138.4	140.0	141.2	140.5	141.5	141.9	142.2	142.7	.3	5.7	
Finance, insurance, and real estate	135.0	136.0	135.4	136.8	137.1	137.4	140.4	140.3	140.9	143.2	141.8	144.0	143.7	-2	6.5	
Services	133.2	134.0	134.8	136.0	136.6	136.9	139.4	139.8	140.7	142.6	142.7	143.5	144.0	.3	8.1	
TOTAL PRIVATE (in constant dollars)	92.7	92.8	93.0	93.1	92.9	92.2	92.7	92.1	92.0	92.5	92.3	93.0	—	—	—	

¹ Over-the-year percent change before seasonal adjustment.

² The unadjusted data are shown because the seasonal component is small relative to the trend-cycle.

irregular components, or both, and consequently cannot be separated with sufficient precision.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1981												1982	
	1980	1981	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. P	Feb. P	
TOTAL PRIVATE	\$235.10	\$255.20	\$247.10	\$249.92	\$250.98	\$252.38	\$254.88	\$257.74	\$259.88	\$259.00	\$260.44	\$261.85	\$262.24	\$255.19	\$260.88	
MINING	396.14	438.62	422.01	416.66	422.92	423.98	418.47	439.79	447.62	450.70	457.46	461.61	466.22	456.68	463.10	
CONSTRUCTION	367.04	395.60	364.35	388.37	384.87	388.56	394.32	404.90	405.45	393.41	416.25	411.44	414.03	383.46	394.30	
MANUFACTURING	288.62	317.60	306.13	311.22	312.84	317.59	320.39	317.59	319.20	321.93	323.56	324.72	329.57	312.01	324.82	
Durable goods	310.78	423.46	329.57	336.96	338.52	343.07	345.91	341.15	344.51	345.46	349.27	420.34	425.52	401.56	418.04	
Lumber and wood products	252.06	342.50	262.19	264.81	267.05	274.03	280.45	277.09	278.07	270.99	270.84	350.00	355.92	335.53	349.77	
Furniture and fixtures	209.17	270.90	219.84	223.49	220.80	224.46	229.12	223.40	230.83	226.20	233.53	268.84	273.18	249.44	278.62	
Stone, clay, and glass products	306.00	226.56	312.44	322.36	331.70	337.02	342.37	342.31	344.81	346.32	344.25	230.12	237.68	204.08	230.76	
Primary metal industries	391.78	335.76	429.79	432.37	443.31	436.81	440.08	434.84	442.90	457.78	434.41	345.87	343.26	324.51	337.26	
Fabricated metal products	300.98	437.81	316.40	325.21	323.61	332.52	335.78	327.98	333.28	330.26	336.44	440.67	439.16	430.46	436.36	
Machinery except electrical	328.00	330.46	349.25	355.14	353.74	360.50	362.09	357.54	360.60	362.79	367.43	337.20	344.61	323.19	336.65	
Electric and electronic equipment	276.61	361.15	294.23	300.29	298.90	302.76	305.52	305.29	310.40	309.26	312.82	372.19	381.80	360.11	373.30	
Transportation equipment	378.39	305.24	398.19	414.29	415.74	426.40	427.87	421.25	417.15	415.36	435.59	312.83	319.58	304.80	316.38	
Instruments and related products	275.40	421.68	291.60	293.54	289.28	294.59	296.54	296.86	305.42	307.04	307.44	434.93	442.57	411.57	427.73	
Miscellaneous manufacturing	211.69	300.58	223.87	227.57	228.13	230.68	231.27	230.23	232.83	234.91	238.16	314.16	318.68	305.69	318.00	
Nondurable goods	255.84	232.62	271.52	274.09	275.41	280.13	282.03	282.69	285.26	288.17	286.99	241.74	242.42	230.05	241.17	
Food and kindred products	272.34	281.85	284.53	285.77	289.64	295.71	295.81	300.00	301.68	298.19	288.95	292.04	278.02	289.17	289.17	
Tobacco manufactures	294.51	295.77	329.56	320.29	331.08	348.56	359.21	364.00	350.43	348.13	338.05	304.44	310.68	302.63	300.70	
Textile mill products	203.71	342.22	213.47	214.94	211.18	217.62	218.97	218.75	226.40	221.34	225.37	347.65	339.09	329.59	359.64	
Apparel and other textile products	161.78	219.14	171.91	176.85	174.59	179.28	182.00	177.84	180.77	178.11	181.51	225.01	220.79	179.14	216.75	
Paper and allied products	331.63	177.79	349.42	351.92	354.05	357.85	365.09	370.15	368.48	386.64	373.97	181.15	179.28	156.74	179.57	
Printing and publishing	279.36	365.50	293.72	297.54	297.48	302.13	302.44	305.78	310.13	314.16	313.22	376.05	382.59	373.27	376.26	
Chemicals and allied products	344.45	305.86	365.20	367.74	371.90	373.98	377.31	380.14	380.47	395.84	388.86	314.81	322.15	311.82	318.20	
Petroleum and coal products	421.76	379.39	481.53	478.40	500.46	491.81	491.12	498.62	486.33	511.93	493.93	392.81	397.94	394.54	397.99	
Rubber and miscellaneous plastics products	263.06	491.18	283.01	287.75	288.86	295.30	295.71	291.20	295.73	293.72	297.08	497.51	493.31	518.49	514.74	
Leather and leather products	168.09	292.90	179.10	180.32	178.96	185.13	189.74	181.54	183.39	182.88	186.80	295.66	299.95	288.04	299.07	
TRANSPORTATION AND PUBLIC UTILITIES	351.25	183.63	373.28	371.15	374.92	376.89	383.27	385.66	390.66	390.82	389.44	186.66	187.10	174.54	181.65	
WHOLESALE AND RETAIL TRADE	176.46	382.97	185.13	186.62	188.43	188.48	190.25	193.85	194.83	194.49	191.40	395.75	396.14	391.02	400.70	
WHOLESALE TRADE	267.96	190.35	282.65	285.67	287.60	289.14	289.89	294.49	296.83	296.84	299.54	192.36	193.52	191.89	193.73	
RETAIL TRADE	147.38	292.59	153.92	154.96	156.60	156.38	158.99	161.92	162.53	162.17	157.64	301.47	303.02	300.93	302.90	
FINANCE, INSURANCE, AND REAL ESTATE	209.24	158.33	226.04	225.32	225.06	225.26	225.26	227.60	231.23	229.68	232.40	158.54	161.20	157.22	159.05	
SERVICES	190.71	228.69	204.40	205.05	205.38	206.73	206.99	209.22	210.89	210.92	213.53	235.66	233.85	238.92	240.31	

20. Gross and spendable weekly earnings, in current and 1977 dollars, 1961 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1977 dollars	Current dollars	1977 dollars	Current dollars	1977 dollars	Current dollars	1977 dollars	Current dollars	1977 dollars	Current dollars	1977 dollars
1961	\$82.60	\$167.21	\$67.08	\$135.79	\$74.48	\$150.77	\$92.34	\$186.92	\$74.60	\$151.01	\$82.18	\$166.36
1962	85.91	172.16	69.56	139.40	76.99	154.29	96.56	193.51	77.86	156.03	85.53	171.40
1963	88.46	175.17	71.05	140.69	78.56	155.56	99.23	196.50	79.51	157.45	87.25	172.77
1964	91.33	178.38	75.04	146.56	82.57	161.27	102.97	201.11	84.40	164.84	92.18	180.04
1965	95.45	183.21	79.32	152.25	86.63	166.28	107.53	206.39	89.08	170.98	96.78	185.76
1966	98.82	184.37	81.29	151.66	88.66	165.41	112.19	209.31	91.45	170.62	99.33	185.32
1967	101.84	184.83	83.38	151.32	90.86	164.90	114.49	207.79	92.97	168.73	100.93	183.18
1968	107.73	187.68	86.71	151.06	95.28	165.99	122.51	312.43	97.70	170.21	106.75	185.98
1969	114.61	189.44	90.96	150.35	99.99	165.27	129.51	214.07	101.90	168.43	111.44	184.20
1970	119.83	186.94	96.21	150.09	104.90	163.65	133.33	208.00	106.32	165.87	115.58	180.31
1971	127.31	190.58	103.80	155.39	112.43	168.31	142.44	213.23	114.97	172.11	124.24	185.99
1972	136.90	198.41	112.19	162.59	121.68	176.35	154.71	224.22	125.34	181.65	135.57	196.48
1973	145.39	198.35	117.51	160.31	127.38	173.78	166.46	227.09	132.57	180.86	143.50	195.77
1974	154.76	190.12	124.37	152.79	134.61	165.37	176.80	217.20	140.19	172.22	151.56	186.19
1975	163.53	184.16	132.49	149.20	145.65	164.02	190.79	214.85	151.61	170.73	166.29	187.26
1976	175.45	186.85	143.30	152.61	155.87	166.00	209.32	222.92	167.83	178.73	181.32	193.10
1977	189.00	189.00	155.19	155.19	169.93	169.93	228.90	228.90	183.80	183.80	200.06	200.06
1978	203.70	189.31	165.39	153.71	180.71	167.95	249.27	231.66	197.40	183.46	214.87	199.69
1979	219.91	183.41	178.00	148.46	194.82	162.49	269.34	224.64	212.70	177.40	232.38	193.81
1980	235.10	172.74	188.82	138.74	206.06	151.65	288.62	212.06	225.79	165.90	247.01	181.49
1981	255.20	170.13	202.00	134.67	220.57	147.05	317.60	211.73	244.09	162.73	267.36	178.24
1981: February	247.10	170.18	195.92	134.93	214.22	147.53	306.13	210.83	236.08	162.59	258.70	178.17
March	249.92	171.06	197.88	135.44	216.34	148.08	311.22	213.02	239.37	163.84	262.38	179.59
April	250.98	170.73	198.61	135.11	217.14	147.71	312.84	212.82	240.39	163.53	263.55	179.29
May	252.38	170.18	199.59	134.59	218.20	147.13	317.59	214.15	243.40	164.13	266.99	180.03
June	254.88	170.49	201.32	134.66	220.08	147.21	320.39	214.31	245.18	164.00	269.01	179.94
July	257.74	170.35	203.30	134.37	222.24	146.89	317.59	209.91	243.40	160.87	266.99	176.46
August	259.88	170.64	204.79	134.46	223.85	146.98	319.20	209.59	244.42	160.49	268.15	176.07
September	259.00	168.40	204.18	132.76	223.19	145.12	321.93	209.32	246.15	160.05	270.13	175.64
October	260.44	169.01	207.07	134.37	225.23	146.16	323.56	209.97	249.93	162.19	272.84	177.05
November	261.85	169.48	208.07	134.67	226.30	146.47	324.72	210.17	250.68	162.25	273.69	177.15
December	262.24	169.30	208.34	134.50	226.60	146.29	329.57	212.76	253.83	163.87	277.25	178.99
1982: January ^p	255.19	164.21	(¹)	(¹)	(¹)	(¹)	312.01	200.78	(¹)	(¹)	(¹)	(¹)
February ^p	260.88	(¹)	(¹)	(¹)	(¹)	(¹)	324.82	(¹)	(¹)	(¹)	(¹)	(¹)

¹ Not available.
 NOTE: The earnings expressed in 1977 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers. These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," *Employment and Earnings and Monthly Report on the Labor Force*, February 1969,

pp. 6-13. See also "Spendable Earnings Formulas, 1979-81," *Employment and Earnings*, November 1981, pp. 7-8.
 NOTICE: With publication of the final December 1981 data in this issue, the Bureau of Labor Statistics is discontinuing the spendable earnings series shown in this table, because of budgetary constraints. The real earnings series published here will appear with the data in the preceding table.

UNEMPLOYMENT INSURANCE DATA

NATIONAL UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from monthly reports of unemployment insurance activity prepared by State agencies. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for all programs represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unem-

ployed. Persons not covered by unemployment insurance (about 10 percent of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1981												1982
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ^P
All programs:													
Insured unemployment	4,621	4,264	3,948	3,453	3,111	2,949	3,012	2,874	2,680	2,753	†3,228	3,935	4,679
State unemployment insurance program:¹													
Initial claims ²	2,653	1,806	1,684	1,647	1,417	1,741	2,114	1,610	1,681	1,996	2,266	†3,272	3,388
Insured unemployment (average weekly volume)	3,844	3,669	3,382	2,988	2,691	2,596	2,743	2,656	2,488	2,592	†3,061	3,778	4,468
Rate of insured unemployment	4.4	4.2	3.9	3.4	3.1	3.0	3.1	3.0	2.9	3.0	†3.5	4.3	5.1
Weeks of unemployment compensated	14,228	12,882	13,504	11,871	9,790	9,928	10,486	9,594	9,565	9,424	†10,052	†14,592	15,878
Average weekly benefit amount for total unemployment	\$102.34	\$101.89	\$105.63	\$105.96	\$105.49	\$99.02	\$103.47	\$105.94	\$107.39	\$108.92	†\$110.52	†\$112.83	\$114.97
Total benefits paid	\$1,416,513	\$1,313,507	\$1,393,612	\$1,226,815	\$1,006,341	\$1,012,764	\$1,061,899	\$1,004,864	\$1,001,020	\$997,757	†\$1,080,810	\$1,592,546	\$1,754,029
Unemployment compensation for ex-servicemen:³													
Initial claims ¹	19	17	18	16	15	19	22	19	15	11	9	11	8
Insured unemployment (average weekly volume)	57	54	51	46	43	42	44	44	34	26	22	19	16
Weeks of unemployment compensated	257	221	234	214	183	192	203	190	153	116	91	93	68
Total benefits paid	\$26,646	\$22,517	\$24,668	\$23,048	\$19,965	\$21,145	\$22,785	\$21,425	\$17,144	\$12,952	†\$10,043	\$10,155	\$7,645
Unemployment compensation for Federal civilian employees:⁴													
Initial claims	22	13	12	12	11	13	15	17	18	20	16	17	17
Insured unemployment (average weekly volume)	41	40	36	31	27	25	25	25	29	32	36	39	40
Weeks of unemployment compensated	160	148	156	135	107	105	105	102	100	112	127	174	161
Total benefits paid	\$15,432	\$14,573	\$15,561	\$13,701	\$11,023	\$10,705	\$10,805	\$9,543	\$10,495	\$11,719	†\$13,491	\$18,891	\$18,014
Railroad unemployment insurance:													
Applications	13	5	5	6	6	26	41	13	15	21	13	19	22
Insured unemployment (average weekly volume)	53	50	44	41	35	30	28	29	34	40	44	54	75
Number of payments	118	104	115	94	79	86	32	63	74	86	83	117	153
Average amount of benefit payment	\$209.38	\$214.56	\$214.93	\$201.12	\$199.43	\$201.06	\$199.63	\$202.53	\$207.98	\$197.26	\$207.08	\$212.33	\$213.39
Total benefits paid	\$20,303	\$22,049	\$23,233	\$19,239	\$15,428	\$16,206	\$11,541	\$7,071	15,046	15,994	\$16,377	\$25,292	\$30,544
Employment service:⁵													
New applications and renewals	.....	.....	8,778	.....	.....	12,868	.....	.....	16,502	.....	.....	.....	.....
Nonfarm placements	.....	.....	1,595	.....	.....	2,446	.....	.....	3,509	.....	.....	.....	.....

¹ Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

² Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

³ Excludes data on claims and payments made jointly with other programs.

⁴ Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

⁵ Cumulative total for fiscal year (October 1-September 30). Data computed quarterly.

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

† = revised.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972-73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

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

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

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire.

Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

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

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

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*, Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122-133. Additional data and analysis on price changes are provided in the *CPI Detailed Report and Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13-15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7-15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974-82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967-80

[1967=100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2
1980	247.0	13.5	248.7	8.7	263.2	15.7	177.4	6.6	250.5	17.7	267.2	11.3	203.7	8.5	213.6	8.8

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967=100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981						1982							
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All items	260.5	276.5	297.3	279.9	280.7	281.5	282.5	260.7	276.5	279.1	279.7	280.4	281.1	282.1
Food and beverages	261.4	270.1	270.7	270.3	269.9	270.5	273.6	262.1	270.6	271.0	270.7	270.3	270.8	273.9
Housing	279.1	299.7	303.7	303.5	304.2	305.2	306.1	279.1	299.6	303.6	303.3	303.8	304.7	305.6
Apparel and upkeep	181.1	187.4	190.7	191.5	191.3	190.5	187.3	180.8	187.9	190.5	190.6	190.5	189.4	186.5
Transportation	264.7	283.7	285.2	287.2	289.1	289.8	289.9	265.7	285.1	286.6	288.9	290.8	291.5	291.6
Medical care	279.5	299.3	301.7	304.8	308.2	310.2	313.4	281.4	298.6	300.9	304.0	307.1	309.1	312.0
Entertainment	214.4	222.3	224.0	225.5	226.8	227.3	229.2	212.2	219.9	221.5	223.4	224.3	224.4	226.1
Other goods and services	226.2	235.6	243.0	245.2	245.9	246.7	248.4	224.4	233.5	239.3	241.4	242.5	243.5	245.0
Commodities	245.4	256.2	257.7	257.9	258.0	258.4	258.8	245.8	256.9	258.2	258.4	258.5	258.8	259.3
Commodities less food and beverages	234.3	245.8	247.6	248.0	248.3	248.7	248.0	234.7	246.7	248.4	248.7	249.1	249.3	248.7
Nondurables less food and beverages	250.2	263.9	265.8	266.4	266.7	266.7	265.6	252.6	266.8	268.5	268.6	269.0	268.9	267.8
Durables	221.0	230.9	232.6	232.9	233.2	233.7	233.4	219.5	229.9	231.5	232.0	232.3	232.7	232.4
Services	287.7	312.2	317.3	318.6	320.6	321.8	323.9	288.4	312.7	317.7	319.2	321.1	322.4	324.3
Rent, residential	200.9	210.3	211.9	213.6	215.0	216.5	217.8	200.6	209.9	211.5	213.2	214.5	216.0	217.4
Household services less rent	342.3	379.9	387.4	387.2	389.2	390.4	392.4	345.5	384.2	392.2	391.8	393.6	394.8	396.5
Transportation services	258.7	275.7	277.7	281.0	283.2	284.2	286.6	257.7	274.3	276.3	279.9	282.3	283.6	285.9
Medical care services	302.1	323.4	326.1	329.7	333.7	335.7	339.4	304.3	322.1	324.7	328.3	332.0	334.0	337.5
Other services	230.4	239.1	245.8	247.8	248.7	249.5	251.7	230.2	238.3	243.6	246.6	247.2	248.0	250.0
Special indexes:														
All items less food	257.6	274.9	278.2	279.0	280.1	280.8	281.4	257.9	275.2	278.2	279.1	280.1	280.7	281.3
All items less mortgage interest costs	247.8	260.9	262.9	263.6	264.2	264.9	266.1	248.5	261.5	263.3	264.0	264.6	265.2	266.4
Commodities less food	232.4	243.8	245.5	245.9	246.2	246.5	245.9	232.7	244.7	246.3	246.6	247.0	247.2	246.6
Nondurables less food	245.3	258.4	260.3	260.7	261.1	261.1	260.2	247.5	261.2	262.9	263.0	263.4	263.3	262.4
Nondurables less food and apparel	281.1	298.0	299.1	299.5	300.1	300.7	301.0	283.0	300.0	301.3	301.5	302.0	302.5	302.6
Nondurables	256.9	268.1	269.5	269.5	269.5	269.8	270.8	258.3	269.7	270.7	270.7	270.7	270.9	271.9
Services less rent	304.2	331.7	337.5	338.7	340.8	342.0	344.2	305.2	332.6	338.3	339.7	341.6	342.9	345.0
Services less medical care	284.2	308.8	314.1	315.1	316.9	318.1	320.0	284.7	309.4	314.6	315.8	317.5	318.7	320.5
Domestically produced farm foods	252.4	260.6	260.8	259.5	258.3	259.1	262.4	252.1	259.9	259.9	258.6	257.8	258.2	261.4
Selected beef cuts	276.2	276.7	277.9	275.5	271.9	270.7	269.6	277.9	277.2	279.7	276.5	273.2	271.9	271.1
Energy	381.7	416.1	417.1	414.9	414.1	414.6	416.4	385.2	418.9	420.1	417.9	417.3	417.6	419.0
All items less energy	251.2	265.6	268.6	269.4	270.4	271.1	272.1	250.6	264.7	267.5	268.3	269.2	269.9	270.9
All items less food and energy	245.7	261.3	264.8	265.9	267.2	267.9	268.5	244.8	260.3	263.6	264.8	265.9	266.6	267.1
Commodities less food and energy	211.5	220.9	222.9	223.4	223.8	224.2	223.7	210.4	220.2	222.1	222.6	223.0	223.3	222.8
Energy commodities	420.4	449.9	449.3	448.2	448.2	448.0	446.4	421.3	450.6	450.0	448.9	449.0	448.7	447.0
Services less energy	285.4	308.3	313.6	315.3	317.7	318.9	320.5	286.2	308.9	314.0	316.0	318.2	319.5	321.0
Purchasing power of the consumer dollar, 1967 = \$1	\$0.384	\$0.362	\$0.358	\$0.357	\$0.356	\$0.355	\$0.354	\$0.384	\$0.362	\$0.358	\$0.358	\$0.357	\$0.356	\$0.354

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23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981						1982	1981						1982
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
FOOD AND BEVERAGES	261.4	270.1	270.7	270.3	269.9	270.5	273.6	262.1	270.6	271.0	270.7	270.3	270.8	273.9
Food	268.6	277.4	278.0	277.6	277.1	277.8	281.0	269.2	277.7	278.1	277.8	277.4	277.9	281.1
Food at home	265.6	272.8	273.2	272.1	271.0	271.7	275.3	265.1	272.2	272.3	271.3	270.4	270.8	274.4
Cereals and bakery products	262.9	272.6	274.3	275.0	276.3	277.7	279.8	263.0	272.0	273.2	274.0	275.5	276.6	278.6
Cereals and cereal products (12/77 = 100)	143.2	149.5	150.1	150.0	149.9	151.5	153.0	144.5	151.3	151.2	151.5	152.1	152.5	153.9
Flour and prepared flour mixes (12/77 = 100)	135.9	139.6	139.5	139.3	138.4	137.8	139.1	136.8	142.0	141.1	140.9	140.2	138.4	139.6
Cereal (12/77 = 100)	145.8	154.6	155.7	156.1	157.4	160.2	163.1	147.2	156.4	157.2	157.9	158.9	162.1	165.1
Rice, pasta, and cornmeal (12/77 = 100)	146.0	151.4	151.6	151.1	149.6	151.7	151.1	147.8	153.1	152.6	152.7	153.9	152.9	152.4
Bakery products (12/77 = 100)	137.7	142.4	143.5	144.0	144.9	145.4	146.4	137.5	141.5	142.4	142.8	143.7	144.3	145.3
White bread	229.5	235.6	238.2	238.4	241.3	241.5	243.3	229.4	233.0	235.9	235.5	237.6	237.4	239.4
Other breads (12/77 = 100)	137.1	140.8	141.5	141.6	142.8	143.4	143.9	139.4	143.4	143.4	143.6	144.9	145.3	145.7
Fresh biscuits, rolls, and muffins (12/77 = 100)	137.6	143.4	143.3	144.8	145.2	145.9	146.5	136.4	141.0	140.1	141.7	141.9	141.9	142.5
Fresh cakes and cupcakes (12/77 = 100)	138.5	142.7	144.4	143.9	145.0	144.9	147.2	136.8	141.2	142.3	141.7	143.2	143.7	145.8
Cookies (12/77 = 100)	138.0	143.1	143.9	145.7	146.3	147.6	148.1	139.0	144.1	144.6	146.4	146.8	148.4	148.9
Crackers, bread, and cracker products (12/77 = 100)	127.0	130.6	132.0	133.2	133.1	134.2	133.4	126.8	130.9	132.2	133.0	133.4	135.6	134.7
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	138.0	143.9	144.3	144.4	144.8	145.4	146.2	138.5	143.4	144.8	144.9	145.8	147.8	148.9
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	139.7	147.1	148.0	148.9	149.2	149.3	151.2	135.2	141.5	142.1	142.8	143.1	143.0	144.7
Meats, poultry, fish, and eggs	255.1	255.8	257.7	256.4	254.2	253.7	253.7	254.1	255.5	257.5	256.0	254.0	253.1	253.3
Meats, poultry, and fish	260.6	262.2	263.4	262.2	259.2	258.4	259.1	259.4	261.8	263.2	261.7	258.8	257.7	258.6
Meats	259.7	262.0	263.4	262.5	259.6	258.7	257.8	259.2	261.3	263.3	262.1	259.3	257.9	257.3
Beef and veal	275.3	275.9	277.1	274.9	271.5	270.5	269.4	276.4	275.9	278.3	275.3	272.2	270.9	270.1
Ground beef other than canned	276.3	267.4	270.3	267.4	266.1	264.5	262.2	279.3	269.4	273.8	268.6	268.0	265.8	263.7
Chuck roast	285.3	285.3	289.4	287.8	282.6	282.2	279.6	295.2	295.5	299.9	297.2	296.2	291.5	288.5
Round roast	250.0	247.2	244.1	245.1	245.0	242.6	241.6	249.6	247.3	249.1	250.1	248.2	245.9	244.7
Round steak	262.4	256.0	255.9	259.0	256.7	254.6	257.5	255.5	251.5	252.5	254.9	254.8	252.2	256.1
Sirloin steak	264.9	282.2	281.9	273.3	262.0	260.1	258.2	266.3	279.2	281.9	275.1	260.7	260.7	258.9
Other beef and veal (12/77 = 100)	160.3	164.3	164.9	163.4	161.1	161.0	160.9	159.5	162.6	162.8	161.3	159.2	159.1	159.3
Pork	228.2	235.3	238.1	238.6	235.6	234.3	234.7	228.5	236.5	239.4	239.3	235.9	233.8	234.4
Bacon	228.1	231.1	237.1	240.1	238.1	237.2	235.5	232.5	234.5	241.1	245.1	242.9	240.5	239.3
Chops	211.6	224.1	225.1	223.1	217.0	212.4	219.2	210.2	224.4	224.7	221.3	216.2	211.0	217.6
Ham other than canned (12/77 = 100)	104.1	105.3	106.8	109.4	108.9	109.1	107.3	102.2	103.7	105.6	107.5	106.6	106.3	104.8
Sausage	287.8	297.2	300.7	298.7	298.1	299.1	297.6	288.5	298.6	302.3	302.1	299.2	300.0	298.8
Canned ham	241.1	234.9	239.5	241.9	243.1	244.3	245.4	243.3	238.0	242.9	244.7	247.0	247.7	249.0
Other pork (12/77 = 100)	127.4	135.0	135.4	134.1	131.1	130.0	129.5	127.9	136.3	136.7	134.5	130.9	129.2	128.8
Other meats	262.9	261.4	260.7	261.6	260.5	260.6	258.1	260.4	259.6	258.7	260.5	259.9	259.7	257.3
Frankfurters	262.5	258.8	256.4	261.2	259.9	261.0	256.7	262.6	260.4	259.1	262.4	260.9	260.0	256.1
Bologna, liverwurst, and salami (12/77 = 100)	151.2	147.0	147.5	147.6	146.7	146.4	145.4	148.0	145.7	144.8	146.9	145.9	146.3	145.4
Other luncheon meats (12/77 = 100)	130.3	130.6	131.8	131.8	132.1	132.6	132.2	128.1	128.8	129.5	130.2	130.6	130.6	130.2
Lamb and organ meats (12/77 = 100)	145.0	146.8	144.4	143.4	141.7	140.7	138.6	147.8	148.3	146.0	145.0	144.6	143.9	141.4
Poultry	202.4	202.0	199.7	196.6	192.3	191.7	194.2	199.2	201.2	198.1	194.7	190.6	189.5	192.4
Fresh whole chicken	202.5	201.4	197.3	194.0	190.9	190.1	193.1	197.2	199.6	194.0	189.9	188.5	187.8	190.9
Fresh and frozen chicken parts (12/77 = 100)	132.7	131.8	130.5	129.2	127.3	128.1	128.5	131.3	131.6	130.1	129.7	126.5	126.3	126.9
Other poultry (12/77 = 100)	128.7	129.7	129.9	127.2	122.2	120.7	123.2	127.9	129.9	129.6	126.1	121.5	119.8	123.0
Fish and seafood	358.0	356.8	362.6	360.8	358.9	359.6	373.3	350.0	356.4	358.6	358.2	356.6	358.6	372.4
Canned fish and seafood (12/77 = 100)	137.4	139.8	140.9	140.5	141.5	140.7	140.6	135.3	138.5	139.4	140.3	141.0	140.2	140.0
Fresh and frozen fish and seafood (12/77 = 100)	135.7	133.6	136.5	135.6	133.9	134.7	143.2	132.0	134.1	134.9	134.0	132.7	134.4	143.0
Eggs	190.2	177.6	188.8	185.9	194.7	198.0	189.4	190.1	177.7	189.5	187.2	196.7	198.8	190.6
Dairy products	240.1	243.8	244.3	244.6	245.0	245.5	245.8	240.7	243.9	244.1	244.2	244.7	244.9	245.2
Fresh milk and cream (12/77 = 100)	133.0	134.5	134.7	134.7	134.9	135.2	135.1	133.4	134.3	134.3	134.4	134.6	134.6	134.6
Fresh whole milk	218.2	220.2	220.0	220.2	220.8	221.2	221.2	218.5	219.8	219.4	219.5	220.1	220.2	220.2
Other fresh milk and cream (12/77 = 100)	132.1	134.2	135.4	135.2	134.9	135.3	135.1	132.9	134.4	135.3	135.2	134.9	134.9	134.7
Processed dairy products (12/77 = 100)	139.6	142.5	143.0	143.3	143.5	143.9	144.4	140.1	143.3	143.4	143.6	144.0	144.2	144.7
Butter	242.7	246.2	247.1	247.2	248.0	248.7	249.3	246.5	248.5	249.9	249.7	250.2	251.3	252.0
Cheese (12/77 = 100)	138.2	140.8	140.8	140.9	141.1	141.0	142.0	138.3	141.5	140.9	140.7	141.1	141.3	142.3
Ice cream and related products (12/77 = 100)	143.6	147.9	148.7	149.9	149.3	150.3	150.8	144.3	147.9	149.1	149.9	149.4	149.4	149.9
Other dairy products (12/77 = 100)	133.3	135.6	137.3	137.0	138.7	139.7	138.4	132.9	137.2	137.6	138.1	140.2	140.5	139.1
Fruits and vegetables	257.6	286.1	281.6	275.2	272.0	276.4	294.7	255.1	282.5	276.3	270.8	268.1	272.6	291.3
Fresh fruits and vegetables	263.9	295.8	286.9	273.5	267.8	274.9	308.0	260.3	290.4	278.2	267.2	261.9	269.4	303.1
Fresh fruits	245.6	306.9	306.4	291.4	276.1	269.6	276.7	241.1	298.4	293.7	279.5	266.0	260.5	267.0
Apples	220.8	282.1	262.9	237.0	248.7	261.2	273.0	216.8	284.6	261.8	236.5	249.1	261.2	272.6
Bananas	237.8	245.2	250.7	254.9	249.4	254.9	253.5	228.9	239.9	251.3	253.3	248.3	252.8	251.1
Oranges	272.9	353.7	346.2	328.5	314.0	280.6	283.1	258.9	325.1	314.6	299.9	286.0	252.8	255.1
Other fresh fruits (12/77 = 100)	127.8	163.5	168.4	160.9	144.7	141.0	145.9	128.4	160.5	161.5	154.7	139.7	136.7	141.0
Fresh vegetables	281.1	285.5	268.6	256.8	260.1	279.8	337.3	277.8	283.2	264.4	256.1	258.2	277.6	335.8
Potatoes	326.1	375.1	329.1	290.4	286.3	286.8	288.8	322.9	362.8	316.8	287.7	281.5	280.0	282.7
Lettuce	234.2	290.6	293.5	258.3	257.1	343.1	514.4	229.9	290.0	292.9	257.2	247.4	342.7	515.8
Tomatoes	247.2	209.9	193.9	207.3	206.9	204.6	245.6	239.						

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981						1982							
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	
FOOD AND BEVERAGES—Continued														
Food—Continued														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77=100)	126.0	137.4	136.8	137.7	138.3	138.9	139.9	124.5	135.4	135.1	135.5	136.0	136.5	137.5
Other canned and dried vegetables (12/77=100)	123.4	135.4	135.6	134.6	133.1	134.8	135.0	122.1	133.7	133.8	133.3	131.8	133.2	133.5
Other foods at home	320.5	325.1	325.7	326.4	326.0	325.6	328.7	320.8	326.1	327.1	327.0	327.0	326.4	329.6
Sugar and sweets	385.4	361.3	361.4	359.9	359.1	359.3	361.6	387.3	362.7	363.1	360.2	359.0	359.3	361.6
Candy and chewing gum (12/77=100)	138.6	146.1	146.8	148.8	149.3	149.9	150.1	139.4	147.4	147.6	148.7	148.9	149.9	150.0
Sugar and artificial sweeteners (12/77=100)	222.8	164.3	163.0	157.1	155.2	153.4	155.6	223.4	165.3	164.9	158.4	157.0	154.6	157.0
Other sweets (12/77=100)	137.1	145.0	145.3	145.2	144.9	146.1	147.1	135.5	142.9	143.8	144.0	143.1	144.2	145.2
Fats and oils (12/77=100)	260.4	269.2	268.5	268.5	262.2	261.1	261.6	261.8	268.7	267.4	268.1	263.1	261.0	261.5
Margarine	256.9	258.2	256.7	256.6	255.2	255.7	257.8	257.4	255.7	254.5	255.9	254.9	254.9	257.2
Nondairy substitutes and peanut butter (12/77=100)	156.0	179.8	178.5	176.5	163.0	160.1	157.7	156.4	178.8	177.2	175.2	163.0	158.5	156.0
Other fats, oils, and salad dressings (12/77=100)	130.3	129.4	129.6	130.5	129.8	129.7	130.5	131.0	129.6	129.2	130.3	130.4	130.1	131.0
Nonalcoholic beverages	409.7	413.1	413.7	414.8	413.4	412.5	418.7	410.7	415.2	414.7	416.0	415.2	414.2	420.5
Cola drinks, excluding diet cola	290.8	298.2	298.9	301.1	298.8	298.1	302.4	288.2	296.6	295.6	297.7	296.1	295.7	300.0
Carbonated drinks, including diet cola (12/77=100)	137.5	141.5	142.4	142.3	141.4	139.3	141.9	135.0	138.9	140.3	139.6	139.3	137.2	139.7
Roasted coffee	380.7	346.0	345.1	343.1	341.0	344.4	353.3	376.4	342.8	340.5	338.9	337.3	340.1	348.8
Freeze dried and instant coffee	354.6	333.3	330.8	329.9	330.8	332.0	336.9	355.8	333.8	331.4	332.7	333.2	331.6	336.5
Other noncarbonated drinks (12/77=100)	129.1	134.9	134.9	135.6	136.4	137.0	138.0	129.6	135.0	134.6	135.5	136.4	137.1	138.2
Other prepared foods	244.9	257.9	258.0	260.5	262.7	262.8	264.6	245.1	259.7	260.5	262.3	264.5	264.4	266.3
Canned and packaged soup (12/77=100)	128.1	133.6	134.9	133.1	133.4	133.7	134.3	127.9	134.8	136.4	135.6	136.1	135.7	136.4
Frozen prepared foods (12/77=100)	138.6	143.5	144.8	144.1	146.5	145.9	147.8	136.9	142.5	142.7	142.8	145.1	145.3	147.4
Snacks (12/77=100)	141.1	148.8	149.6	152.0	152.5	152.2	152.6	141.7	151.5	152.6	155.3	155.6	154.2	154.6
Seasonings, olives, pickles, and relish (12/77=100)	135.2	144.4	144.4	146.2	148.9	148.8	149.7	134.5	142.8	142.7	144.8	147.4	147.7	148.6
Other condiments (12/77=100)	134.4	142.9	143.3	143.5	145.0	144.6	146.4	136.3	145.6	145.3	145.5	146.5	146.2	148.0
Miscellaneous prepared foods (12/77=100)	135.4	142.0	142.3	144.5	144.8	145.8	146.9	135.2	142.1	142.8	143.9	145.2	145.8	147.0
Other canned and packaged prepared foods (12/77=100)	131.6	139.5	139.9	140.5	141.8	142.5	142.5	132.1	140.8	141.1	141.9	143.0	143.9	143.9
Food away from home	280.9	293.7	294.8	296.2	297.2	297.7	299.8	284.2	296.4	297.6	299.0	299.6	300.7	302.8
Lunch (12/77=100)	137.2	143.2	143.6	143.9	144.4	144.6	146.1	138.5	144.2	144.6	145.3	145.6	146.3	147.7
Dinner (12/77=100)	136.2	141.9	142.4	143.2	143.6	144.0	144.8	138.2	143.7	144.3	144.8	145.1	145.6	146.4
Other meals and snacks (12/77=100)	134.7	142.1	143.1	143.9	144.6	144.7	145.4	136.4	143.1	143.9	144.8	145.1	145.4	146.2
Alcoholic beverages	193.7	201.4	202.5	201.4	202.3	202.7	204.0	195.5	203.8	204.6	204.3	204.6	204.9	206.0
Alcoholic beverages at home (12/77=100)	126.1	130.6	131.4	130.5	131.2	131.4	132.2	127.6	132.4	132.8	132.5	132.8	132.8	133.4
Beer and ale	194.5	202.6	203.6	202.5	204.0	204.1	205.0	194.5	203.2	203.5	203.1	203.6	203.5	204.3
Whiskey	140.0	144.7	145.4	144.0	144.8	145.0	145.9	141.5	145.6	146.2	146.4	146.2	145.9	146.8
Wine	221.7	227.4	229.7	228.2	227.5	230.0	232.2	229.4	235.5	237.6	238.1	237.4	238.0	239.8
Other alcoholic beverages (12/77=100)	113.7	117.0	117.5	116.3	117.3	117.3	117.5	113.2	117.0	117.1	115.7	116.8	117.4	117.5
Alcoholic beverages away from home (12/77=100)	127.6	134.7	135.4	135.5	135.7	135.8	137.0	127.4	135.4	136.2	136.4	136.6	137.3	138.6
HOUSING	279.1	299.7	303.7	303.5	304.2	305.2	306.1	279.1	299.6	303.6	303.3	303.8	304.7	305.6
Shelter	300.1	322.0	326.9	326.6	327.2	328.0	328.3	301.7	323.6	328.6	328.1	328.5	329.3	329.4
Rent, residential	200.9	210.3	211.9	213.6	215.0	216.5	217.8	200.6	209.9	211.5	213.2	214.5	216.0	217.4
Other rental costs	273.9	298.5	308.1	308.7	305.3	306.3	313.6	273.6	299.0	308.0	308.4	305.0	305.3	312.3
Lodging while out of town	291.5	325.7	326.3	324.2	318.6	319.9	331.1	289.9	324.4	325.3	323.3	317.9	318.0	328.4
Tenants' insurance (12/77=100)	127.6	133.9	135.9	140.0	140.4	140.7	141.8	128.0	134.5	136.4	140.1	140.3	140.6	142.0
Homeownership	335.8	361.8	367.8	366.7	367.2	367.8	367.5	338.6	364.8	371.0	369.7	369.8	370.4	369.9
Home purchase	266.2	272.6	274.5	272.5	270.2	270.5	269.3	266.4	272.3	273.8	271.4	268.6	268.7	267.4
Financing, taxes, and insurance	435.2	488.3	501.8	501.8	505.6	506.3	506.0	441.3	495.3	509.0	508.3	511.9	512.9	512.2
Property insurance	369.8	389.0	389.7	392.5	393.3	394.1	393.0	373.2	390.5	391.9	394.7	395.5	396.5	395.6
Property taxes	196.0	205.2	206.2	207.4	208.0	210.7	212.9	197.9	207.1	208.0	209.2	210.0	212.5	214.5
Contracted mortgage interest cost	563.5	641.3	662.0	661.3	666.8	666.6	665.2	565.9	643.8	664.4	662.5	667.7	668.1	666.3
Mortgage interest rates	209.0	232.4	238.2	239.5	244.1	243.9	244.4	209.4	233.3	239.2	240.5	245.3	245.3	245.7
Maintenance and repairs	296.8	320.5	321.6	320.8	322.8	324.1	326.7	294.1	315.8	318.1	319.2	319.8	321.0	323.3
Maintenance and repair services	321.3	350.6	352.5	351.1	353.8	355.4	358.2	319.8	349.5	352.5	354.2	354.9	356.5	359.2
Maintenance and repair commodities	239.7	249.5	248.7	249.3	249.7	250.3	252.5	236.7	243.1	244.1	244.0	244.5	244.9	246.4
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	139.5	146.9	146.2	146.7	146.5	147.3	149.4	135.1	139.2	139.1	139.9	140.0	140.5	142.3
Lumber, awnings, glass, and masonry (12/77=100)	123.4	124.2	125.0	124.4	124.1	124.3	124.6	122.7	122.0	123.2	122.3	121.8	121.6	121.9
Plumbing, electrical, heating, and cooling supplies (12/77=100)	125.2	132.0	131.2	132.4	133.1	131.5	131.9	124.5	130.6	131.7	132.1	132.4	131.6	131.8
Miscellaneous supplies and equipment (12/77=100)	124.7	130.5	131.2	131.7	131.6	132.5	133.6	127.9	133.3	134.3	133.7	134.2	134.7	135.7
Fuel and other utilities	296.7	327.8	331.1	330.1	329.8	331.8	336.2	297.5	328.7	332.3	330.9	330.9	332.7	337.0
Fuels	375.4	419.5	422.4	419.0	417.6	420.0	426.9	375.0	418.7	422.2	418.4	417.4	419.6	426.2
Fuel oil, coal, and bottled gas	625.9	674.6	673.4	672.7	676.1	682.5	686.0	627.9	677.9	677.0	675.9	679.3	685.5	688.9
Fuel oil	656.0	707.3	705.3	704.3	706.8	713.5	716.8	657.1	710.2	709.0	707.1	709.6	716.0	719.3
Other fuels (6/78=100)	152.3	163.6	163.8	165.0	167.7	169.4	170.9	154.1	165.1	165.3	166.4	169.1	170.8	172.1
Gas (piped) and electricity	318.5	360.8	364.5	360.6	358.3	359.9	367.4	317.7	359.4	363.6	359.3	357.5	358.8	366.0
Electricity	266.9	311.9	309.8	303.0	298.6	300.3	306.6	266.5	312.1	309.9	302.7	297.7	299.3	305.3
Utility (piped) gas	385.3	416.2	431.7	434.5	437.0	438.2	447.2	383.3	411.2					

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981			1982			1981			1982				
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	171.9	183.7	187.4	189.4	190.7	191.9	192.7	172.0	184.3	187.8	189.8	191.0	192.2	193.1
Telephone services	141.1	149.2	152.5	154.3	155.6	156.8	157.2	141.1	149.5	152.7	154.5	155.8	156.9	157.3
Local charges (12/77 = 100)	111.6	117.3	120.5	121.5	123.5	124.4	124.0	111.7	117.6	120.7	121.8	123.8	124.6	124.2
Interstate toll calls (12/77 = 100)	101.8	113.4	114.9	116.6	116.7	116.7	116.8	101.9	113.8	115.1	116.6	116.8	116.8	116.9
Intrastate toll calls (12/77 = 100)	101.0	101.8	103.9	105.5	105.3	107.1	109.2	100.8	101.6	103.7	105.3	105.0	106.9	109.0
Water and sewerage maintenance	271.4	299.2	304.1	305.2	306.1	307.4	309.8	272.5	301.4	306.0	307.3	307.9	309.4	312.2
Household furnishings and operations	212.6	222.9	224.5	225.6	227.2	227.7	228.4	209.7	219.8	221.2	222.2	223.6	224.2	224.9
Housefurnishings	178.7	186.2	187.9	188.7	189.4	189.2	189.8	176.9	184.5	185.7	186.6	187.3	187.1	187.7
Textile housefurnishings	191.9	203.4	207.7	210.4	211.7	211.2	210.1	193.4	207.3	213.0	214.1	214.7	213.9	212.5
Household linens (12/77 = 100)	114.6	124.6	127.7	130.1	130.8	128.8	127.3	117.0	126.8	129.7	132.0	131.9	129.9	128.6
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	124.9	129.1	131.4	132.2	133.1	134.7	134.8	124.6	132.1	136.3	135.2	136.1	137.4	137.0
Furniture and bedding	196.6	205.4	207.7	207.9	209.2	209.7	209.5	193.6	201.4	202.7	203.8	205.3	206.0	205.9
Bedroom furniture (12/77 = 100)	128.3	135.9	137.6	137.4	139.6	138.6	139.7	125.1	132.2	132.9	132.3	135.2	135.2	136.5
Sofas (12/77 = 100)	114.2	116.0	118.6	119.3	118.7	119.4	117.3	113.2	115.0	117.4	119.0	118.8	119.5	117.6
Living room chairs and tables (12/77 = 100)	113.1	116.7	116.8	117.0	118.8	119.0	118.9	114.3	116.9	117.2	118.5	118.9	119.1	119.0
Other furniture (12/77 = 100)	128.7	135.9	137.3	137.3	137.1	138.4	138.5	125.6	132.2	132.3	133.0	133.1	134.0	133.9
Appliances including TV and sound equipment	143.1	147.3	147.7	147.8	148.2	147.9	148.8	142.7	146.6	146.7	147.2	147.7	147.5	148.5
Television and sound equipment (12/77 = 100)	107.4	108.6	108.7	109.1	109.0	108.9	108.8	106.5	107.8	107.8	108.1	108.3	108.0	107.9
Television	105.6	105.0	104.6	105.0	104.8	104.7	104.4	104.2	104.2	103.6	103.8	103.6	103.3	103.1
Sound equipment (12/77 = 100)	110.2	112.8	113.4	113.8	113.9	113.7	113.8	109.4	111.9	112.4	112.8	113.4	112.9	113.0
Household appliances	167.2	174.9	175.7	175.3	176.1	175.9	178.0	167.6	174.1	174.4	175.1	175.9	176.0	178.1
Refrigerators and home freezers	168.0	175.8	177.5	177.0	178.7	179.9	180.8	171.7	178.9	180.6	181.6	182.7	185.3	186.1
Laundry equipment (12/77 = 100)	123.6	129.2	129.7	130.5	130.7	130.5	132.2	121.9	129.1	128.8	129.8	130.8	130.3	132.4
Other household appliances (12/77 = 100)	114.2	119.5	119.7	118.9	119.4	118.7	120.6	114.0	117.0	117.1	117.1	117.4	116.8	118.5
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	114.8	118.5	118.8	118.2	118.7	117.9	119.4	115.7	116.4	116.0	115.9	116.8	116.2	117.4
Office machines, small electric appliances, and air conditioners (12/77 = 100)	113.6	120.6	120.8	119.8	120.1	119.6	121.9	112.0	117.7	118.3	118.4	118.1	117.3	119.7
Other household equipment (12/77 = 100)	125.6	131.7	133.1	134.2	134.4	134.0	134.9	123.8	131.0	131.6	132.4	132.4	131.9	132.9
Floor and window coverings, infants' laundry, cleaning, and outdoor equipment (12/77 = 100)	125.7	133.4	134.8	135.4	136.1	135.9	136.3	118.9	129.3	129.6	129.6	129.7	128.3	128.6
Clocks, lamps, and decor items (12/77 = 100)	122.3	125.8	128.2	128.7	129.5	128.4	128.6	119.2	122.5	123.8	124.5	125.2	124.7	124.8
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	131.9	138.9	140.4	141.1	141.2	141.0	142.3	128.0	137.0	137.8	137.9	137.5	137.1	138.2
Lawn equipment, power tools, and other hardware (12/77 = 100)	118.7	124.0	124.5	127.2	126.9	126.3	127.8	123.8	128.8	129.2	131.2	131.6	131.5	133.2
Housekeeping supplies	259.5	272.0	273.3	274.3	275.4	277.4	279.1	257.5	268.6	270.4	271.2	271.9	274.1	275.7
Soaps and detergents	255.6	267.0	268.9	269.3	269.7	271.6	275.5	253.4	263.6	265.6	265.3	265.2	268.0	272.0
Other laundry and cleaning products (12/77 = 100)	128.8	134.8	135.7	136.7	137.3	138.8	139.6	129.0	134.7	135.8	136.6	137.0	137.5	138.4
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	137.3	138.4	139.9	141.8	143.6	144.5	145.1	139.2	138.7	140.4	142.4	143.9	144.4	145.1
Stationery, stationery supplies, and gift wrap (12/77 = 100)	119.9	126.6	127.2	128.1	128.5	128.8	128.8	120.7	128.2	128.7	130.8	131.3	131.6	131.7
Miscellaneous household products (12/77 = 100)	132.3	141.7	142.8	142.8	143.0	145.4	146.2	129.3	136.9	138.1	137.8	137.4	140.4	141.2
Lawn and garden supplies (12/77 = 100)	130.0	139.2	137.8	136.6	136.8	136.7	137.1	122.7	131.8	131.1	129.0	129.6	129.4	129.2
Housekeeping services	279.6	296.9	298.3	300.5	305.2	306.9	307.4	276.4	295.1	296.9	298.9	303.9	305.4	305.9
Postage	257.3	308.0	308.0	308.0	337.5	337.5	337.5	257.3	308.1	308.1	308.1	337.5	337.5	337.5
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	137.0	143.9	144.7	145.5	147.0	147.8	148.4	134.3	143.8	144.9	145.2	146.7	147.6	148.0
Appliance and furniture repair (12/77 = 100)	122.4	128.5	129.0	131.3	132.2	133.0	133.6	121.5	127.2	128.3	130.5	131.2	131.6	132.2
APPAREL AND UPKEEP	181.1	187.4	190.7	191.5	191.3	190.5	187.3	180.8	187.9	190.5	190.6	190.5	189.4	186.5
Apparel commodities	172.6	178.0	181.4	182.1	181.8	180.7	177.0	172.6	179.0	181.6	181.5	181.5	180.1	176.7
Apparel commodities less footwear	168.9	174.3	178.0	178.4	177.9	176.6	172.8	168.7	175.2	178.1	177.7	177.3	175.6	172.2
Men's and boys'	171.1	177.6	181.1	183.6	183.6	181.6	178.7	171.7	178.4	181.4	182.9	183.2	181.7	178.6
Men's (12/77 = 100)	107.5	111.7	114.3	115.9	115.9	114.5	112.9	107.9	112.8	115.0	115.8	115.9	115.0	113.3
Suits, sport coats, and jackets (12/77 = 100)	99.9	105.6	108.8	109.8	109.9	106.4	104.3	95.1	99.7	102.1	102.0	102.0	99.5	97.8
Coats and jackets (12/77 = 100)	95.2	97.7	101.0	102.4	102.8	101.4	96.4	97.4	102.4	106.1	104.9	105.1	104.1	97.6
Furnishings and special clothing (12/77 = 100)	123.9	129.3	132.7	134.3	133.6	134.2	133.6	119.9	125.3	128.5	130.0	129.8	130.6	129.8
Shirts (12/77 = 100)	115.4	117.9	120.6	123.0	123.0	122.7	120.7	116.7	122.1	123.9	125.5	125.4	125.3	123.3
Dungarees, jeans, and trousers (12/77 = 100)	103.4	106.6	107.8	109.2	109.8	108.5	108.2	108.2	112.5	113.5	114.7	115.5	114.1	113.6
Boys' (12/77 = 100)	112.0	115.8	116.4	118.1	118.0	117.2	114.6	111.6	113.8	114.8	116.4	116.5	115.4	112.9
Coats, jackets, sweaters, and shirts (12/77 = 100)	104.8	109.2	111.3	111.9	111.6	109.9	104.7	107.9	109.5	112.3	113.5	112.8	110.9	105.3
Furnishings (12/77 = 100)	119.1	124.3	125.0	125.6	127.0	127.5	127.3	115.8	120.3	120.9	121.8	123.3	123.5	123.3
Suits, trousers, sport coats, and jackets (12/77 = 100)	114.8	117.5	117.0	119.9	119.3	118.8	117.2	112.9	114.7	114.4	116.6	116.9	115.9	114.7
Women's and girls'	152.1	157.8	162.9	161.2	160.6	159.6	154.3	153.9	161.2	164.9	162.7	162.1	160.7	156.4
Women's (12/77 = 100)	100.8	104.4	108.1	106.8	106.3	105.8	102.3	102.3	107.1	109.8	108.1	107.6	107.1	103.9
Coats and jackets	150.4	162.1	170.8	167.3	164.0	161.8	158.4	162.1	168.7	177.8	171.4	166.3	167.3	161.6
Dresses	155.5	166.2	170.8	166.9	165.0	164.0	153.1	147.3	153.4	155.5	151.5	151.9	149.5	140.7
Separates and sportswear (12/77 = 100)	98.2	97.4	101.1	100.4	101.1	100.7	96.7	100.1	101.1	103.3	102.3	101.9	101.3	97.3
Underwear, nightwear, and hosiery (12/77 = 100)	116.0	121.2	122.8	123.0	124.1	124.8	124.0	115.6	121.0	122.7	123.4	124.0	124.5	123.7
Suits (12/77 = 100)	87.8	87.0	95.4	92.4	89.5	87.7	84.2	95.5	109.8	115.0	110.2	108.5	106.0	104.0
Girls' (12/77 = 100)	102.9	107.9	109.7	109.2	109.2	107.7	104.4	102.5	107.6	108.8	108.4	108.4	106.0	104.2
Coats, jackets, dresses, and suits (12/77 = 100)	96.0	101.6	103.3	99.8	100.3	98.4	93.4	94.4	101.5	103.3	99.8	99.9	96.1	91.2
Separates and sportswear (12/77 = 100)	103.6	108.7	111.0	112.0	111.3	108.9	106.3	104.4	108.9	110.0	110.6	110.2	107.5	108.2
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	113.1	117.0	117.9	119.6	120.0	120.7	119.2	112.2	115.1	115.5	118.5	119.0	119.5	118.2

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981						1982							
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	249.7	263.6	266.4	268.5	264.9	259.4	259.6	256.9	279.3	279.8	281.6	274.1	270.6	270.1
Other apparel commodities	214.2	214.0	213.3	216.2	214.8	214.5	212.9	205.3	206.1	206.0	206.2	206.1	203.2	201.4
Sewing materials and notions (12/77 = 100)	111.9	117.5	118.3	118.1	118.6	118.3	116.2	110.8	115.3	116.4	116.3	116.4	116.2	114.3
Jewelry and luggage (12/77 = 100)	149.7	147.2	146.2	149.0	147.5	147.4	146.7	142.8	141.4	140.9	141.1	141.0	138.4	137.5
Footwear	194.9	200.0	202.4	204.2	205.4	205.7	202.8	195.5	200.8	202.3	204.1	206.2	205.9	203.1
Men's (12/77 = 100)	124.4	128.3	128.8	129.3	130.3	130.7	130.3	126.1	129.8	129.7	130.3	132.3	132.5	132.2
Boys' and girls' (12/77 = 100)	125.7	129.1	129.7	131.1	132.1	132.1	130.1	127.0	130.4	130.7	132.2	134.0	134.8	132.5
Women's (12/77 = 100)	118.1	120.6	123.5	124.9	125.2	125.4	122.6	115.9	118.9	121.2	122.5	122.9	121.6	118.9
Apparel services	246.3	260.2	262.0	263.2	264.6	266.4	267.6	245.5	258.2	260.0	262.1	262.3	264.4	265.5
Laundry and drycleaning other than coin operated (12/77 = 100)	145.3	154.7	155.7	157.1	158.2	159.2	160.0	145.5	153.9	155.0	156.4	156.3	157.8	158.5
Other apparel services (12/77 = 100)	131.7	137.2	138.2	137.5	137.9	139.1	139.4	131.1	136.5	137.4	138.3	138.6	139.6	139.9
TRANSPORTATION														
Private														
New cars	185.3	191.9	191.3	192.5	195.3	197.0	197.4	185.7	192.1	191.4	192.7	195.2	196.9	197.3
Used cars	234.0	266.9	272.8	278.2	281.4	281.9	280.5	234.0	266.9	272.8	278.2	281.4	281.9	280.5
Gasoline	385.2	411.7	411.2	409.9	409.5	408.4	406.0	386.6	412.9	412.4	411.3	410.9	409.8	407.5
Automobile maintenance and repair	282.7	295.5	298.7	301.3	302.8	304.1	305.5	283.2	296.1	299.3	301.8	303.4	304.8	306.2
Body work (12/77 = 100)	137.3	145.8	147.4	148.7	149.9	150.6	151.5	137.3	145.4	146.1	147.2	148.3	148.9	149.8
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	135.8	140.9	143.1	144.0	144.2	144.7	145.7	137.5	142.6	145.5	146.5	147.3	148.5	149.5
Maintenance and servicing (12/77 = 100)	132.5	137.8	138.9	140.3	140.9	141.5	142.0	132.7	138.2	139.2	140.3	140.5	141.0	141.5
Power plant repair (12/77 = 100)	134.4	141.2	142.6	144.0	144.9	145.6	146.2	133.5	140.5	141.9	143.5	144.7	145.1	145.7
Other private transportation	232.4	243.0	244.2	247.5	249.5	250.6	253.3	235.0	245.6	246.9	250.6	253.0	254.2	256.9
Other private transportation commodities	203.7	212.1	212.6	212.7	213.4	214.5	215.5	206.2	213.4	215.5	216.1	216.8	216.9	218.0
Motor oil, coolant, and other products (12/77 = 100)	139.1	146.8	147.7	148.0	148.5	148.7	148.2	139.2	144.1	145.3	144.8	146.7	147.2	146.9
Automobile parts and equipment (12/77 = 100)	130.6	135.7	136.0	136.0	136.4	137.2	138.1	132.4	137.0	138.4	138.9	139.2	139.2	140.0
Tires	181.5	189.3	189.7	189.4	189.7	191.5	192.8	184.8	191.5	194.1	194.6	195.1	195.2	196.5
Other parts and equipment (12/77 = 100)	128.6	132.4	132.8	133.4	134.1	133.9	134.3	128.9	132.9	133.2	134.3	134.1	133.9	134.5
Other private transportation services	242.4	253.6	255.0	259.1	261.5	262.6	265.8	244.9	256.6	257.7	262.2	265.1	266.6	269.7
Automobile insurance	252.3	260.3	262.0	264.6	265.4	266.0	266.8	251.8	260.1	261.8	264.3	265.0	265.6	266.6
Automobile finance charges (12/77 = 100)	163.4	177.3	178.0	184.4	188.7	190.5	190.9	161.7	176.3	176.5	183.1	187.6	189.9	190.3
Automobile rental, registration, and other fees (12/77 = 100)	116.2	119.5	120.1	120.2	120.7	120.8	127.6	118.2	119.5	119.8	120.0	121.1	121.4	128.4
State registration	146.9	147.9	147.9	147.9	149.0	149.0	166.9	146.9	148.0	148.0	148.0	149.0	149.0	166.2
Drivers' licenses (12/77 = 100)	105.3	106.2	109.6	109.9	110.4	111.9	117.3	105.1	105.9	105.9	109.8	110.3	111.9	117.1
Vehicle inspection (12/77 = 100)	124.8	(¹)	(¹)	(¹)	(¹)	128.3	129.2	125.6	(¹)	(¹)	(¹)	(¹)	129.0	130.5
Other vehicle-related fees (12/77 = 100)	133.7	140.0	140.9	141.2	141.3	141.6	142.5	144.1	145.8	145.9	146.5	148.6	149.2	150.4
Public	286.4	326.5	329.1	330.8	333.2	333.8	334.9	279.0	320.9	324.5	326.6	328.2	328.6	329.4
Airline fare	331.9	371.4	372.5	372.0	374.5	374.7	375.5	330.2	370.0	371.8	372.9	373.1	372.8	372.7
Intercity bus fare	310.7	347.5	351.4	361.3	362.2	365.2	367.3	310.6	347.3	351.7	362.1	362.9	366.1	368.9
Intracity mass transit	247.1	294.0	298.6	301.7	304.4	304.6	305.9	246.5	293.9	299.2	301.3	303.6	303.9	305.1
Taxi fare	271.0	288.1	288.6	289.3	291.3	294.7	296.3	277.5	296.7	297.1	298.1	300.4	304.1	305.6
Intercity train fare	276.4	304.6	305.0	315.0	319.2	319.2	318.1	276.8	305.0	305.2	314.9	318.9	318.9	317.9
MEDICAL CARE														
Medical care commodities														
Prescription drugs	162.7	175.4	176.5	178.6	179.6	181.0	181.9	163.4	176.5	178.0	179.4	180.3	181.9	182.8
Anti-infective drugs (12/77 = 100)	127.7	134.8	136.5	136.8	136.3	137.8	138.2	128.6	137.0	139.2	139.6	138.9	139.7	140.1
Tranquilizers and sedatives (12/77 = 100)	130.7	139.6	140.0	141.9	143.6	144.8	145.4	129.4	138.8	139.7	141.3	143.3	144.4	144.9
Circulatories and diuretics (12/77 = 100)	120.6	127.6	127.8	129.5	130.4	131.9	132.2	121.3	128.6	129.0	130.5	131.0	131.8	132.1
Hormones, diabetic drugs, biologicals, and prescription medical supplies (12/77 = 100)	143.9	160.4	160.6	161.9	163.3	164.6	165.6	143.8	160.3	161.4	162.8	164.1	165.9	166.9
Pain and symptom control drugs (12/77 = 100)	128.7	140.2	141.7	144.1	144.9	145.9	147.3	131.4	142.7	143.8	144.2	145.4	147.3	148.7
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	123.2	133.1	134.1	136.8	137.5	138.1	138.8	123.8	133.9	134.6	136.1	136.8	138.0	138.8
Nonprescription drugs and medical supplies (12/77 = 100)	127.1	135.6	136.7	137.0	137.8	139.2	139.9	127.9	136.7	137.4	137.9	138.5	139.7	140.4
Eyeglasses (12/77 = 100)	121.5	126.3	126.9	127.4	127.8	128.4	128.3	121.1	125.3	126.0	126.0	126.7	127.1	127.1
Internal and respiratory over-the-counter drugs	199.3	215.5	217.8	217.3	218.6	221.6	222.8	200.4	217.5	218.9	219.5	220.2	222.8	223.9
Nonprescription medical equipment and supplies (12/77 = 100)	123.6	130.4	131.4	132.7	133.7	134.6	135.9	125.1	132.3	132.6	133.8	134.7	135.2	136.6
Medical care services														
Professional services	264.7	282.9	284.3	286.4	288.4	290.0	292.0	268.7	282.7	284.5	286.2	288.2	290.3	292.2
Physicians' services	283.9	302.7	304.9	307.9	311.3	313.0	315.5	290.0	306.7	308.6	310.9	314.1	316.0	318.1
Dental services	251.4	269.9	270.8	271.6	272.3	273.9	275.8	254.9	266.6	268.4	269.5	270.1	272.3	274.6
Other professional services (12/77 = 100)	129.3	137.3	137.7	138.9	139.5	140.3	140.3	127.6	133.6	134.3	134.9	136.2	137.2	137.2
Other medical care services	347.3	372.5	376.5	382.1	388.4	390.9	396.8	347.8	370.6	374.1	380.3	386.2	388.1	393.8
Hospital and other medical services (12/77 = 100)	144.5	154.7	156.6	159.0	161.9	162.7	165.6	143.7	153.1	154.8	157.9	160.6	161.1	164.0
Hospital room	453.8	489.4	494.6	503.0	515.4	519.3	529.4	451.9	482.6	488.5	498.9	509.6	516.2	522.0
Other hospital and medical care services (12/77 = 100)	143.7	152.9	155.0	157.2	159.2	159.6	162.2	142.7	151.8	153.4	156.1	158.3	158.4	161.2

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981						1982	1981					1982	
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
ENTERTAINMENT	214.4	222.3	224.0	225.5	226.8	227.3	229.2	212.2	219.9	221.5	223.4	224.3	224.4	226.1
Entertainment commodities	217.1	226.5	227.9	228.9	230.3	230.6	232.0	213.0	222.2	224.0	224.2	225.5	225.4	226.7
Reading materials (12/77 = 100)	130.0	136.0	138.1	138.7	139.8	139.6	142.9	129.6	135.9	137.8	138.3	139.3	139.1	142.1
Newspapers	249.7	265.5	266.3	267.1	267.6	267.7	270.5	249.4	265.4	266.2	266.9	267.5	267.6	270.1
Magazines, periodicals, and books (12/77 = 100)	133.4	137.2	141.1	141.9	143.9	143.5	149.0	133.5	137.1	141.2	141.9	143.7	143.4	148.8
Sporting goods and equipment (12/77 = 100)	123.5	127.2	127.3	128.3	130.2	130.0	129.5	118.5	120.8	121.3	121.4	122.8	122.4	122.4
Sport vehicles (12/77 = 100)	124.8	128.6	128.4	129.4	(¹)	132.1	131.4	117.3	118.3	118.7	118.6	(¹)	120.2	120.1
Indoor and warm weather sport equipment (12/77 = 100)	115.7	118.2	119.1	119.2	119.6	119.9	120.1	114.5	116.7	117.2	117.3	118.2	117.9	118.2
Bicycles	185.9	192.2	193.2	194.4	194.3	193.9	194.8	186.7	193.5	193.9	195.9	196.3	195.2	196.2
Other sporting goods and equipment (12/77 = 100)	120.9	124.1	125.0	126.6	126.7	126.2	125.3	119.2	124.9	125.8	126.2	126.9	126.3	125.2
Toys, hobbies, and other entertainment (12/77 = 100)	124.4	130.5	131.0	131.3	131.3	132.0	132.2	122.9	129.6	130.6	130.5	130.8	130.9	131.2
Toys, hobbies, and music equipment (12/77 = 100)	122.4	129.3	129.4	129.6	129.7	130.1	130.8	119.4	126.6	127.1	126.2	126.7	126.9	127.7
Photographic supplies and equipment (12/77 = 100)	121.5	126.0	126.4	126.0	125.5	125.2	125.2	122.3	127.1	127.7	127.8	127.5	126.3	126.3
Pet supplies and expenses (12/77 = 100)	130.1	136.2	137.2	138.3	138.3	140.2	139.7	129.7	136.6	138.8	139.9	140.1	140.9	140.5
Entertainment services	210.9	216.7	218.9	221.0	222.3	223.0	225.5	212.0	217.0	218.3	223.3	223.4	223.9	226.1
Fees for participant sports (12/77 = 100)	128.1	132.0	134.3	136.4	137.3	137.6	139.6	127.8	132.4	134.0	138.9	139.1	139.3	141.2
Admissions (12/77 = 100)	124.7	128.1	128.0	128.3	128.9	129.7	131.2	125.2	126.9	127.3	128.2	128.3	128.7	130.1
Other entertainment services (12/77 = 100)	120.1	121.7	122.5	123.1	123.4	123.7	124.2	122.0	123.1	122.7	124.2	124.1	124.3	124.7
OTHER GOODS AND SERVICES	226.2	235.6	243.0	245.2	245.9	246.7	248.4	224.4	233.5	239.3	241.4	242.5	243.5	245.0
Tobacco products	211.9	219.9	221.7	225.3	226.2	226.8	227.1	211.7	219.1	220.9	224.5	225.4	225.9	226.2
Cigarettes	214.6	222.2	224.2	228.1	228.9	229.7	230.0	214.5	221.4	223.4	227.2	228.1	228.7	229.1
Other tobacco products and smoking accessories (12/77 = 100)	125.4	132.9	133.1	134.0	134.7	134.4	134.7	125.4	133.9	134.4	134.7	135.0	134.7	135.0
Personal care	222.5	235.1	236.3	236.9	237.7	239.1	240.9	221.1	232.4	233.6	234.1	235.5	237.1	238.8
Toilet goods and personal care appliances	216.9	230.1	231.2	231.6	232.5	234.7	236.4	216.1	229.4	231.1	231.4	233.1	235.4	236.9
Products for the hair, hairpieces, and wigs (12/77 = 100)	126.3	134.1	134.1	134.9	135.4	136.5	137.2	126.2	132.5	133.3	131.8	133.3	135.8	136.4
Dental and shaving products (12/77 = 100)	130.8	140.0	140.0	139.8	140.5	141.2	144.0	128.3	137.6	138.0	138.0	139.3	139.8	142.6
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	122.9	128.9	130.7	131.2	131.8	133.2	134.1	122.2	128.9	130.4	131.6	132.2	133.7	134.5
Other toilet goods and small personal care appliances (12/77 = 100)	125.5	133.9	134.2	133.7	134.3	136.0	135.9	126.6	136.4	137.4	138.2	139.1	139.1	138.9
Personal care services	228.3	240.3	241.5	242.3	243.1	243.9	245.7	226.3	235.7	236.3	237.1	238.1	239.2	241.0
Beauty parlor services for women	230.1	241.9	243.0	243.9	244.8	245.2	246.9	227.6	235.7	236.1	236.7	237.8	238.8	240.5
Haircuts and other barber shop services for men (12/77 = 100)	127.3	134.4	135.3	135.6	135.9	136.8	138.0	126.7	133.3	133.9	134.5	134.9	135.7	136.8
Personal and educational expenses	253.6	260.4	281.5	284.6	284.9	285.1	288.1	254.0	261.7	281.8	284.8	285.6	285.9	288.9
Schoolbooks and supplies	228.6	231.4	252.1	254.5	254.6	254.5	260.7	232.4	235.2	255.9	258.3	258.3	258.5	264.8
Personal and educational services	259.7	267.2	288.5	291.7	292.1	292.3	294.8	259.6	268.4	288.5	291.6	292.5	292.8	295.2
Tuition and other school fees	132.6	134.2	147.4	149.0	149.1	149.1	150.5	132.8	134.7	147.7	149.3	149.4	149.4	150.7
College tuition (12/77 = 100)	132.0	133.2	146.3	148.2	148.3	148.3	149.9	132.0	133.1	146.1	148.1	148.1	148.1	149.6
Elementary and high school tuition (12/77 = 100)	134.4	137.8	151.5	151.6	152.0	152.0	152.1	134.3	138.7	152.1	152.2	152.7	152.7	152.8
Personal expenses (12/77 = 100)	135.7	148.7	150.0	152.3	152.8	153.4	154.3	134.4	147.6	148.5	150.4	152.1	152.7	153.7
Special indexes:														
Gasoline, motor oil, coolant, and other products	379.9	405.9	405.4	404.3	403.9	402.8	400.5	381.2	406.9	406.5	405.4	405.1	404.0	401.8
Insurance and finance	368.9	408.1	417.6	419.0	422.2	423.1	423.9	368.8	407.3	416.4	417.6	420.9	422.1	422.8
Utilities and public transportation	259.4	289.7	293.3	292.7	292.6	293.9	297.7	258.0	288.5	292.4	291.6	291.5	292.6	296.4
Housekeeping and home maintenance services	309.5	334.0	335.7	335.9	339.6	341.3	343.0	307.4	333.0	335.5	337.3	339.9	341.5	343.3

¹ Not available.

c=corrected.

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000-1.250 million)			Size class C (75,000-385,000)			Size class D (75,000 or less)		
	1981			1981			1981			1981		
	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.
Northeast												
EXPENDITURE CATEGORY												
All items	142.1	143.8	144.2	150.5	152.3	152.9	155.3	156.2	159.2	147.7	149.2	150.7
Food and beverages	139.4	139.7	139.6	139.9	139.9	139.6	142.3	142.6	142.8	137.6	137.4	137.0
Housing	146.2	147.8	148.0	160.4	161.4	161.9	170.4	170.1	176.3	155.2	156.6	159.3
Apparel and upkeep	117.6	118.9	117.5	118.3	124.8	123.1	123.5	124.8	125.9	125.7	126.5	125.4
Transportation	154.5	156.3	157.9	161.3	164.0	165.4	160.5	162.0	162.7	158.3	159.7	161.8
Medical care	137.6	140.0	142.0	139.2	143.6	146.6	140.8	146.5	146.3	138.9	142.3	143.0
Entertainment	129.3	131.8	131.9	129.1	129.6	131.0	127.8	129.5	133.7	131.7	133.2	134.3
Other goods and services	127.2	134.6	135.4	132.2	138.0	138.7	135.8	141.5	142.0	129.5	137.5	138.5
COMMODITY AND SERVICE GROUP												
Commodities	141.0	142.1	141.8	148.6	149.6	149.6	149.1	149.8	151.1	146.0	146.4	147.2
Commodities less food and beverages	142.0	143.7	143.2	152.7	154.3	154.5	152.3	153.1	154.9	150.0	150.7	152.1
Services	143.5	146.0	147.3	153.6	156.5	158.0	165.4	166.7	172.5	150.5	153.5	156.1
North Central region												
EXPENDITURE CATEGORY												
All items	152.3	152.6	152.6	148.1	148.8	149.2	145.4	145.9	147.4	145.3	146.7	147.6
Food and beverages	139.4	139.7	139.8	139.2	139.3	139.3	140.8	140.3	140.7	142.4	143.3	143.4
Housing	165.9	164.4	163.3	154.7	153.6	153.8	148.5	147.5	150.0	147.0	148.3	149.1
Apparel and upkeep	112.9	115.5	113.7	120.2	127.2	128.0	116.9	123.4	122.4	121.6	123.1	123.6
Transportation	158.9	161.2	162.9	158.4	159.5	160.8	159.3	161.2	162.3	157.6	158.6	160.1
Medical care	141.3	142.8	144.6	144.5	145.6	146.8	143.9	145.3	147.7	146.9	147.7	151.2
Entertainment	130.9	132.2	134.1	188.4	123.8	124.4	129.8	131.3	132.6	128.1	128.4	129.2
Other goods and services	131.2	136.0	137.0	136.5	142.4	142.9	131.5	135.1	135.6	133.6	140.4	141.7
COMMODITY AND SERVICE GROUP												
Commodities	145.7	145.7	145.1	142.9	142.9	142.9	141.7	141.4	142.2	139.4	140.7	140.7
Commodities less food and beverages	148.7	148.5	147.6	144.5	144.4	144.4	142.1	141.9	142.8	138.1	139.6	139.5
Services	162.1	162.9	163.7	156.4	158.3	159.5	151.6	153.3	156.1	154.8	156.2	158.7
South												
EXPENDITURE CATEGORY												
All items	148.2	150.9	152.0	151.6	153.4	155.9	148.5	149.2	152.3	147.2	149.4	150.8
Food and beverages	140.2	141.2	141.4	141.7	141.1	141.3	141.6	141.2	141.9	143.9	144.0	143.4
Housing	154.9	158.6	160.3	160.5	162.5	166.7	155.3	154.7	159.7	150.9	153.5	156.2
Apparel and upkeep	121.9	124.4	123.5	120.6	122.6	123.7	115.1	118.3	118.2	108.6	111.8	110.4
Transportation	158.9	160.6	161.9	160.3	162.3	164.1	158.6	160.2	162.3	159.1	160.6	161.6
Medical care	138.3	141.6	143.2	141.6	145.9	147.6	145.6	148.8	153.0	149.9	156.3	160.1
Entertainment	125.3	127.1	127.4	132.2	133.4	137.1	132.1	134.8	136.4	138.6	138.8	138.4
Other goods and services	135.3	139.2	139.7	134.6	139.5	139.5	132.7	138.5	139.9	134.8	139.5	140.5
COMMODITY AND SERVICE GROUP												
Commodities	143.5	145.0	145.9	144.7	145.7	147.5	143.1	143.6	145.3	143.2	144.1	145.1
Commodities less food and beverages	144.9	146.6	147.9	146.0	147.7	150.1	143.8	144.6	146.7	143.0	144.2	145.8
Services	154.9	159.3	160.5	161.9	164.9	168.6	156.9	157.9	163.1	153.1	157.4	159.5
West												
EXPENDITURE CATEGORY												
All items	152.4	156.3	156.1	151.2	155.0	155.1	146.4	149.2	149.4	147.7	152.1	149.1
Food and beverages	140.3	140.3	140.8	144.6	144.9	145.4	141.2	141.4	140.1	145.2	145.5	145.8
Housing	160.6	167.1	165.5	156.6	162.6	161.6	148.9	153.5	153.8	145.6	153.9	146.1
Apparel and upkeep	121.2	121.8	121.9	124.5	127.6	127.1	114.6	116.5	117.1	134.4	135.9	135.6
Transportation	159.3	161.8	162.9	161.1	163.5	165.0	160.8	162.1	162.8	161.0	162.5	164.6
Medical care	149.2	150.5	155.7	146.1	148.1	151.3	147.0	149.4	151.1	149.9	150.4	152.8
Entertainment	130.2	133.0	133.6	130.1	132.5	133.9	130.8	131.4	129.4	145.4	144.4	145.6
Other goods and services	136.4	140.1	141.0	137.3	141.4	142.8	131.3	136.1	136.8	141.0	145.5	148.0
COMMODITY AND SERVICE GROUP												
Commodities	143.4	145.1	144.9	145.2	147.0	147.2	142.6	144.4	143.7	144.5	146.2	145.5
Commodities less food and beverages	144.7	147.1	146.6	145.5	147.8	148.0	143.2	145.6	145.1	144.2	146.5	145.4
Services	164.3	171.2	170.9	159.4	166.0	166.0	151.7	156.1	157.5	152.5	160.9	154.6

25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area ¹	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)								
	1981						1982	1981							1982
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	
U.S. city average ²	260.5	276.5	279.3	279.9	280.7	281.5	282.5	260.7	276.5	279.1	279.7	280.4	281.1	282.1	
Anchorage, Alaska (10/67=100)	240.1	...	250.5	...	253.7	...	253.0	260.7	...	245.9	...	249.3	...	248.6	
Atlanta, Ga.	...	276.1	...	281.5	...	282.2	...	...	278.1	...	283.0	...	284.1	...
Baltimore, Md.	264.3	...	279.9	...	280.7	...	282.1	262.6	...	281.6	...	280.9	...	282.3	
Boston, Mass.	256.4	...	272.8	...	274.2	...	274.0	255.7	...	273.6	...	274.3	...	273.4	
Buffalo, N.Y.	...	260.3	...	262.5	...	264.3	...	...	259.4	...	261.2	...	262.7	...
Chicago, Ill.-Northwestern Ind.	258.9	275.8	276.9	276.1	277.0	273.9	275.4	258.1	274.6	275.8	276.3	277.3	274.4	275.9	
Cincinnati, Ohio-Ky.-Ind.	264.5	...	275.2	...	276.6	...	285.7	266.3	...	277.1	...	279.0	...	288.4	
Cleveland, Ohio	...	284.4	...	282.8	...	281.6	...	...	283.0	...	282.3	...	281.2	...
Dallas-Ft. Worth, Tex.	...	288.2	...	292.5	...	295.1	...	...	285.1	...	288.8	...	291.0	...
Denver-Boulder, Colo.	277.3	...	298.9	...	297.8	...	305.4	282.2	...	304.2	...	302.8	...	310.5	
Detroit, Mich.	268.5	283.5	284.2	281.5	279.6	278.3	280.8	264.4	279.1	280.2	278.2	276.4	275.1	277.8	
Honolulu, Hawaii	...	256.6	...	259.3	...	258.3	...	...	256.6	...	259.1	...	259.3	...
Houston, Tex.	...	294.7	...	300.0	...	302.7	...	...	291.8	...	295.9	...	298.8	...
Kansas City, Mo.-Kansas	...	271.3	...	272.6	...	273.5	...	...	270.2	...	271.3	...	272.0	...
Los Angeles-Long Beach, Anaheim, Calif.	259.4	274.8	279.3	281.3	281.8	282.3	285.8	262.7	278.6	282.9	284.9	285.5	286.1	289.8	
Miami, Fla. (11/77=100)	137.3	...	150.2	...	153.6	...	155.2	138.8	...	151.0	...	154.7	...	156.4	
Milwaukee, Wis.	266.2	...	286.9	...	287.5	...	291.3	271.9	...	292.1	...	291.5	...	295.3	
Minneapolis-St. Paul, Minn.-Wis.	...	286.6	...	291.6	...	298.7	...	...	287.0	...	291.6	...	298.3	...
New York, N.Y.-Northeastern N.J.	249.4	264.8	268.8	268.0	267.8	267.9	268.5	249.1	264.0	267.8	267.0	266.9	266.9	267.5	
Northeast, Pa. (Scranton)	252.4	...	271.5	...	272.2	...	272.5	255.1	...	275.0	...	275.2	...	274.5	
Philadelphia, Pa.-N.J.	253.2	270.5	274.4	274.7	274.1	274.9	275.7	255.5	271.6	274.5	275.2	274.5	274.1	275.1	
Pittsburgh, Pa.	...	277.7	...	277.7	...	281.8	...	...	278.1	...	278.4	...	282.6	...
Portland, Oreg.-Wash.	266.4	...	291.1	...	278.7	...	288.4	265.0	...	288.8	...	276.3	...	285.5	
St. Louis, Mo.-Ill.	255.7	...	273.4	...	273.8	...	278.4	255.9	...	273.0	...	273.0	...	277.1	
San Diego, Calif.	287.7	...	313.9	...	321.3	...	323.1	282.9	...	308.0	...	315.1	...	317.4	
San Francisco-Oakland, Calif.	...	287.9	...	297.0	...	294.0	...	...	287.2	...	295.6	...	292.7	...
Seattle-Everett, Wash.	264.9	...	288.6	...	289.2	...	295.9	262.3	...	284.3	...	285.7	...	291.9	
Washington, D.C.-Md.-Va.	257.2	...	271.8	...	275.5	...	278.0	259.4	...	275.7	...	279.3	...	281.8	

¹The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated

Area is used for New York and Chicago.

²Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967=100]

Commodity grouping	Annual average 1981	1981										1982		
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. ¹	Nov.	Dec.	Jan.	Feb.
FINISHED GOODS														
Finished goods	269.8	263.3	266.0	268.5	269.6	270.5	271.8	271.5	271.5	274.3	274.5	275.3	277.4	277.4
Finished consumer goods	271.2	265.0	268.2	270.6	271.5	272.3	273.5	273.0	273.1	274.9	275.6	277.4	278.1	
Finished consumer foods	253.5	251.3	252.6	251.9	252.8	253.8	257.6	256.3	256.2	254.0	252.7	253.0	256.4	
Crude	263.6	265.6	279.7	279.3	263.1	258.9	262.7	256.9	253.5	253.8	259.5	273.4	280.1	
Processed	250.6	247.9	248.1	247.4	249.8	251.3	255.0	254.2	254.4	252.0	249.1	252.2	253.9	
Nondurable goods less foods	319.4	308.4	316.0	320.4	321.0	322.0	322.5	322.1	324.2	324.3	325.0	325.9	328.1	
Durable goods	218.5	215.1	214.0	216.6	218.1	218.2	218.1	218.3	215.8	224.5	224.3	225.0	225.8	
Consumer nondurable goods less food and energy	208.6	203.5	204.8	207.3	207.7	208.4	209.5	210.4	211.8	212.6	213.3	213.4	216.2	
Capital equipment	264.3	256.7	258.1	260.8	262.5	263.8	265.4	265.8	265.3	271.5	272.9	274.1	274.8	
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	306.0	298.3	302.0	305.8	306.7	307.2	308.5	310.1	309.7	309.4	309.0	309.6	311.3	311.3
Materials and components for manufacturing	286.2	280.3	281.6	284.1	285.1	285.8	287.9	289.8	290.2	290.2	289.6	289.7	290.8	
Materials for food manufacturing	260.9	273.2	267.5	263.1	259.0	262.4	260.5	261.0	254.6	250.9	249.2	247.3	252.9	
Materials for nondurable manufacturing	285.9	276.5	279.4	284.3	287.0	287.7	289.2	291.0	291.2	290.9	289.7	289.5	289.4	
Materials for durable manufacturing	312.2	305.4	306.9	310.6	311.2	310.7	314.4	316.0	317.1	316.7	315.1	314.4	314.2	
Components for manufacturing	259.2	253.0	254.2	255.4	256.3	257.3	259.5	261.8	263.8	265.1	266.3	267.7	271.1	
Materials and components for construction	287.5	280.3	282.7	288.0	288.5	289.6	290.4	290.7	290.0	290.1	289.9	290.8	291.9	
Processed fuels and lubricants	595.0	569.8	598.3	608.5	608.7	605.7	602.0	607.8	601.4	596.9	594.2	597.7	605.7	
Manufacturing industries	498.2	482.8	503.9	509.0	510.7	505.4	500.3	508.3	500.5	497.5	495.4	498.6	507.7	
Nonmanufacturing industries	680.5	646.7	681.6	696.2	695.2	694.3	692.0	695.6	690.5	684.7	681.5	685.3	692.0	
Containers	276.2	268.2	270.9	274.3	276.4	277.2	278.8	280.3	280.6	280.9	280.7	280.6	282.2	
Supplies	263.9	257.8	258.9	262.4	264.0	264.6	266.0	266.1	266.1	266.6	267.4	268.7	269.8	
Manufacturing industries	253.2	244.8	246.8	250.6	252.3	253.4	255.0	256.0	256.8	258.2	259.5	261.5	262.5	
Nonmanufacturing industries	269.6	264.6	265.2	268.7	270.2	270.5	272.0	271.6	271.1	271.2	271.7	272.7	273.9	
Feeds	230.4	237.5	231.7	239.2	242.9	235.4	232.8	229.1	221.3	215.9	212.0	214.7	215.2	
Other supplies	276.4	268.3	270.6	272.9	273.8	276.3	278.7	279.3	280.7	282.3	283.9	284.4	285.8	
CRUDE MATERIALS														
Crude materials for further processing	329.1	336.5	334.2	336.3	334.4	335.4	337.3	333.0	327.4	319.9	314.1	311.6	318.2	
Foodstuffs and feedstuffs	257.4	267.1	262.1	263.5	260.6	264.3	267.2	261.8	253.4	245.7	238.3	233.7	242.5	
Nonfood materials	481.6	484.9	488.4	492.1	492.4	487.4	487.2	485.3	486.0	479.2	476.9	479.1	481.1	
Nonfood materials except fuel	413.9	427.9	430.9	432.5	428.3	418.1	413.1	413.9	410.2	404.1	398.5	396.4	399.7	
Manufacturing industries	429.6	445.5	448.6	450.2	445.5	434.2	428.7	429.6	425.4	418.6	412.2	409.9	413.2	
Construction	262.4	257.2	259.2	261.5	261.7	262.6	262.6	263.1	263.6	264.7	266.7	267.1	269.6	
Crude fuel	676.5	697.7	703.6	716.6	738.4	759.2	781.2	766.7	788.7	779.0	792.6	814.7	810.0	
Manufacturing industries	865.4	798.1	805.8	821.9	850.6	877.2	902.6	883.0	911.4	898.4	915.8	944.5	936.3	
Nonmanufacturing industries	674.3	630.6	635.0	645.8	662.2	678.5	698.1	687.8	704.8	697.8	708.4	725.3	723.6	
SPECIAL GROUPINGS														
Finished goods excluding foods	273.2	265.5	268.7	272.1	273.3	274.1	274.7	274.6	274.7	279.1	279.7	280.6	282.3	
Finished consumer goods excluding foods	276.3	268.5	272.5	276.1	277.0	277.7	277.9	277.7	277.9	281.6	282.0	282.8	284.4	
Finished consumer goods less energy	233.9	229.6	230.2	231.8	232.8	233.4	235.0	235.0	234.9	237.2	237.0	237.3	239.8	
Intermediate materials less foods and feeds	310.1	301.0	305.4	309.5	310.7	311.2	312.7	314.5	314.6	314.6	314.3	315.1	316.6	
Intermediate materials less energy	285.2	279.1	280.5	283.7	284.7	285.5	287.2	288.5	288.7	288.8	288.6	289.0	290.1	
Intermediate foods and feeds	250.7	261.3	255.6	254.9	253.1	253.2	251.1	250.2	243.5	239.3	236.9	236.4	240.4	
Crude materials less agricultural products	545.8	547.6	551.8	556.0	557.5	551.3	550.6	549.1	551.4	543.4	540.9	544.1	545.7	
Crude materials less energy	254.0	262.6	259.6	261.1	257.9	259.7	261.8	258.0	250.4	243.2	235.9	231.6	239.2	

¹ Data for October 1981 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r= revised.

27. Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1981	1981										1982		
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. 1	Nov.	Dec.	Jan.	Feb.
	All commodities	293.4	287.6	290.3	293.4	294.1	294.8	296.2	296.4	295.7	*296.1	295.5	295.9	298.2	298.5
	All commodities (1957-59 = 100)	311.3	305.1	308.0	311.3	312.0	312.8	314.3	314.5	313.7	*314.2	313.5	313.9	316.4	316.7
	Farm products and processed foods and feeds	251.5	255.1	253.5	253.8	252.9	254.3	256.8	254.2	250.3	*246.0	242.7	241.2	246.2	248.5
	Industrial commodities	304.1	295.7	299.6	303.5	304.7	305.1	306.2	307.2	307.4	*309.0	309.1	310.1	311.7	311.4
FARM PRODUCTS AND PROCESSED FOODS AND FEEDS															
01	Farm products	254.9	262.4	260.7	263.3	259.6	260.7	263.3	257.9	251.1	*243.1	237.4	234.5	242.1	247.1
01-1	Fresh and dried fruits and vegetables	267.0	271.5	292.8	286.1	275.3	263.3	265.6	258.1	252.8	*248.8	253.2	279.8	288.3	289.3
01-2	Grains	248.4	267.5	261.8	264.7	257.7	257.1	257.4	242.7	227.0	227.6	226.5	213.6	225.2	223.2
01-3	Livestock	248.0	244.6	239.3	246.6	251.8	263.0	266.5	262.0	257.3	*244.5	231.1	225.0	236.8	251.2
01-4	Live poultry	201.2	220.8	213.5	195.4	207.2	210.0	215.3	210.3	196.7	*185.7	175.0	171.4	186.8	197.3
01-5	Plant and animal fibers	242.0	268.4	270.1	274.2	258.3	259.6	251.3	232.5	206.5	*211.7	198.5	188.4	198.2	193.6
01-6	Fluid milk	287.4	289.5	289.5	287.2	283.6	285.0	284.3	285.0	287.3	294.3	288.2	286.7	287.6	285.8
01-7	Eggs	187.1	184.8	180.4	196.2	165.0	174.6	185.1	180.7	193.2	193.8	209.7	195.5	187.0	200.6
01-8	Hay, hayseeds, and oilseeds	274.1	295.0	289.5	296.3	299.0	285.3	290.0	284.3	267.2	230.4	221.1	218.8	218.4	216.7
01-9	Other farm products	274.3	295.1	295.9	295.9	259.7	242.7	250.2	263.9	268.9	*263.3	275.8	280.2	280.1	273.7
02	Processed foods and feeds	248.7	250.2	248.5	247.6	248.2	249.9	252.2	251.2	248.9	246.6	244.7	244.0	247.4	248.3
02-1	Cereal and bakery products	255.5	252.1	252.2	253.9	256.3	256.4	258.3	257.7	258.5	*256.9	257.5	255.9	256.6	255.3
02-2	Meats, poultry, and fish	246.2	243.6	242.0	239.1	245.2	248.6	257.1	254.4	253.3	246.6	240.0	236.3	244.2	247.4
02-3	Dairy products	245.7	245.0	245.1	245.4	244.6	245.2	245.1	245.3	245.5	*246.8	246.9	247.2	247.7	248.0
02-4	Processed fruits and vegetables	261.1	243.7	255.2	258.0	259.4	262.5	265.9	267.3	270.0	*271.7	270.1	271.4	272.8	274.7
02-5	Sugar and confectionery	276.8	323.7	302.0	284.5	262.8	274.8	266.0	267.3	246.8	*246.7	249.0	250.9	260.8	260.3
02-6	Beverages and beverage materials	247.5	244.8	245.4	246.0	247.6	248.1	249.0	249.4	249.1	250.0	250.8	251.5	253.5	254.2
02-7	Fats and oils	227.5	228.2	229.8	232.4	228.2	227.3	234.8	229.5	224.3	*223.4	221.7	219.3	217.0	218.1
02-8	Miscellaneous processed foods	250.1	248.0	249.2	249.9	251.1	251.5	252.2	252.1	253.0	*249.9	250.1	250.1	250.5	250.9
02-9	Prepared animal feeds	230.3	235.9	231.1	237.7	241.0	234.3	232.2	228.9	222.9	*218.1	214.6	217.2	217.7	215.4
INDUSTRIAL COMMODITIES															
03	Textile products and apparel	199.6	193.9	195.2	197.6	199.2	200.1	201.3	202.4	202.9	*204.0	203.2	203.1	203.7	204.2
03-1	Synthetic fibers (12/75 = 100)	156.7	147.1	148.9	151.5	156.4	157.9	159.7	161.2	161.0	*162.7	162.5	162.4	163.7	164.1
03-2	Processed yarns and threads (12/75 = 100)	137.8	130.3	134.6	135.0	138.6	139.3	140.3	142.0	142.3	*144.4	140.3	139.8	135.3	134.9
03-3	Gray fabrics (12/75 = 100)	146.7	144.0	144.7	146.6	145.8	147.4	148.2	149.0	149.1	*148.0	147.9	147.7	148.3	147.4
03-4	Finished fabrics (12/75 = 100)	125.2	122.9	123.2	124.9	125.7	125.6	126.0	126.8	126.8	*126.7	126.5	125.8	126.7	126.9
03-81	Apparel	185.5	180.7	181.4	184.3	185.2	186.2	187.2	187.8	188.0	*189.9	188.7	189.1	190.1	191.0
03-82	Textile housefurnishings	228.2	221.3	221.3	222.1	224.0	223.0	227.1	228.8	232.2	*233.0	237.9	238.1	241.9	245.5
04	Hides, skins, leather, and related products	261.5	257.7	261.2	263.5	263.7	261.6	261.1	261.3	261.7	*260.0	261.7	262.7	264.5	263.3
04-2	Leather	319.5	310.0	322.5	337.8	330.0	321.0	319.0	313.7	313.2	*313.7	311.3	311.9	320.3	317.8
04-3	Footwear	241.2	240.7	240.4	241.1	241.4	241.5	242.4	242.5	242.9	*239.6	241.1	241.7	241.4	239.2
04-4	Other leather and related products	243.5	236.9	238.4	238.5	244.2	244.3	242.9	245.1	245.0	*245.0	250.5	250.5	252.7	253.3
05	Fuels and related products and power	694.4	667.5	696.5	707.2	709.0	707.6	704.9	704.3	703.5	*698.1	697.5	702.7	705.8	697.6
05-1	Coal	497.3	480.8	481.1	486.1	487.3	491.7	505.5	507.0	510.2	*510.8	513.1	515.6	526.1	529.1
05-2	Coke	456.5	430.1	430.1	430.1	467.9	469.7	469.7	469.7	469.7	*469.7	470.3	470.3	470.3	470.3
05-3	Gas fuels ²	939.8	881.6	889.9	907.8	933.9	954.6	969.4	949.3	976.6	*965.6	981.4	1007.7	990.2	987.9
05-4	Electric power	366.8	346.2	351.2	355.5	360.4	366.6	374.6	385.8	383.8	*378.4	377.6	383.8	392.5	392.6
05-61	Crude petroleum ³	803.6	842.7	842.8	842.5	839.9	815.9	798.9	796.8	796.8	*788.2	786.0	787.4	787.4	770.4
05-7	Petroleum products, refined ⁴	805.8	768.6	825.5	840.9	835.3	828.1	816.3	813.4	806.1	*802.3	797.9	798.3	802.9	789.4
06	Chemicals and allied products	287.8	277.6	280.4	286.0	288.6	290.5	291.3	293.3	293.3	*292.4	292.5	292.7	293.4	294.5
06-1	Industrial chemicals ⁵	363.8	352.1	354.5	362.4	368.5	369.7	370.4	371.5	371.8	*367.9	365.6	364.6	363.8	362.8
06-21	Prepared paint	249.9	246.6	246.6	248.1	250.0	250.0	250.7	250.7	250.7	*250.7	254.8	256.7	259.3	259.3
06-22	Paint materials	300.2	287.0	290.5	295.4	300.3	300.8	304.5	308.5	308.0	*308.1	307.4	307.9	308.7	308.6
06-3	Drugs and pharmaceuticals	193.4	187.3	189.3	191.0	192.4	193.2	195.5	195.0	197.8	*198.5	198.1	198.7	200.9	203.0
06-4	Fats and oils, inedible	295.6	289.7	295.7	312.7	312.1	303.1	290.9	305.6	285.6	*277.7	282.5	280.4	272.8	274.2
06-5	Agricultural chemicals and chemical products	284.8	271.6	275.8	277.8	279.1	288.9	288.9	293.4	292.6	*293.1	295.4	294.5	295.8	297.9
06-6	Plastic resins and materials	289.2	276.1	279.4	285.1	287.9	290.0	295.9	297.5	296.8	*299.5	290.9	297.0	293.8	295.9
06-7	Other chemicals and allied products	254.4	245.1	248.3	255.3	254.8	256.3	254.8	257.3	257.4	*256.9	260.9	260.2	262.8	265.0
07	Rubber and plastic products	232.8	226.4	228.4	230.8	231.8	233.4	232.1	234.1	235.7	*237.3	238.7	239.0	239.5	241.0
07-1	Rubber and rubber products	256.7	248.5	252.1	253.0	254.4	256.8	254.7	256.9	260.3	*262.9	266.2	266.4	267.3	269.7
07-11	Crude rubber	281.7	281.9	281.2	279.8	283.2	285.2	284.2	284.7	283.1	*279.8	278.9	280.7	281.8	282.1
07-12	Tires and tubes	250.9	243.5	248.6	250.7	251.2	251.2	246.8	249.9	256.5	*257.1	257.5	255.9	256.6	259.6
07-13	Miscellaneous rubber products	252.4	240.4	243.5	243.8	245.7	250.9	251.4	253.1	253.9	*261.1	269.5	271.4	272.6	274.9
07-2	Plastic products (6/78 = 100)	128.4	125.5	126.0	128.2	128.6	129.1	128.7	129.8	129.9	*130.3	130.1	130.3	130.5	130.9
08	Lumber and wood products	292.8	294.7	294.4	299.4	298.4	298.1	296.5	294.5	289.3	*284.3	283.0	285.2	285.7	285.4
08-1	Lumber	325.2	326.9	326.2	333.6	336.3	335.8	332.4	329.9	320.2	*311.7	308.8	309.7	310.6	308.3
08-2	Millwork	273.4	273.8	275.7	276.5	274.8	272.2	273.6	272.3	271.4	*271.3	272.0	273.6	276.8	278.4
08-3	Plywood	245.7	251.2	248.8	256.0	248.3	251.5	247.8	245.6	240.8	*234.3	233.0	239.2	236.8	235.7
08-4	Other wood products	239.2	238.1	236.9	238.3	238.2	239.8	240.7	239.8	240.5	*239.9	239.7	239.5	239.4	239.8

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1980	1981										1982		
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. ¹	Nov.	Dec.	Jan.	Feb.
INDUSTRIAL COMMODITIES—Continued															
09	Pulp, paper, and allied products	273.7	267.2	269.0	271.4	272.1	272.9	274.9	275.9	277.8	'279.2	280.2	280.7	283.9	285.4
09-1	Pulp, paper, and products, excluding building paper and board	271.0	264.5	266.8	268.6	269.9	271.2	272.3	273.7	274.8	'275.7	276.3	276.2	276.1	277.0
09-11	Woodpulp	398.1	390.2	390.2	394.1	394.2	394.2	394.2	394.2	394.2	'402.3	417.0	417.0	412.8	412.8
09-12	Wastepaper	175.7	186.1	185.1	184.2	182.7	182.9	182.1	182.1	178.5	'165.1	144.5	143.4	135.2	128.8
09-13	Paper	280.0	272.9	273.8	275.2	275.9	278.5	279.7	282.1	285.9	'287.8	287.1	287.5	288.8	289.5
09-14	Paperboard	258.2	252.8	255.1	255.7	258.8	259.2	259.4	260.6	261.6	'261.7	261.6	259.3	259.7	261.4
09-15	Converted paper and paperboard products	259.0	252.1	255.3	257.3	258.8	259.9	261.2	262.4	262.8	'263.2	263.9	263.9	263.9	264.9
09-2	Building paper and board	231.3	225.7	227.9	232.5	237.3	237.4	235.5	234.2	234.2	'233.3	231.5	227.7	233.2	231.1
10	Metals and metal products	300.4	294.0	296.4	298.8	299.1	298.4	302.0	304.1	304.9	'305.3	303.9	303.6	305.1	305.0
10-1	Iron and steel	333.8	323.2	328.2	331.0	330.4	330.1	338.8	339.9	339.8	'341.3	339.8	339.7	343.1	343.0
10-13	Steel mill products	337.6	322.9	328.7	331.8	331.8	332.2	344.9	344.9	345.3	'348.7	348.6	348.9	350.8	350.5
10-2	Nonferrous metals	286.0	287.4	286.5	288.4	287.7	284.5	282.8	287.3	289.4	'285.4	281.4	277.5	275.4	274.2
10-3	Metal containers	315.9	313.8	314.1	314.1	314.1	314.1	315.2	318.7	318.8	'318.2	318.2	318.2	323.4	325.4
10-4	Hardware	262.4	258.0	258.6	258.5	259.4	259.7	263.8	265.3	267.8	'269.5	268.9	269.4	271.3	272.5
10-5	Plumbing fixtures and brass fittings	267.4	259.2	259.5	265.3	266.2	268.9	270.9	271.2	271.6	'272.9	273.0	273.9	274.4	276.1
10-6	Heating equipment	223.9	217.6	219.5	219.8	222.3	223.5	226.4	227.9	228.5	'229.0	227.6	229.2	232.2	231.9
10-7	Fabricated structural metal products	295.4	285.4	289.4	293.1	294.0	295.0	297.9	299.3	300.0	'302.6	302.2	302.7	303.1	303.5
10-8	Miscellaneous metal products	270.8	263.1	264.7	267.2	269.7	269.4	272.0	272.9	273.7	'276.1	277.5	281.4	284.3	284.0
11	Machinery and equipment	263.1	255.3	257.5	259.6	260.7	262.1	264.8	266.2	268.1	'269.3	270.0	271.6	273.5	274.9
11-1	Agricultural machinery and equipment	287.7	278.4	279.8	282.5	285.7	286.8	288.1	290.3	292.8	'295.5	298.7	301.3	302.2	303.7
11-2	Construction machinery and equipment	320.8	310.0	312.8	317.0	318.4	320.1	323.8	325.0	326.5	'328.3	329.6	332.0	337.0	338.1
11-3	Metalworking machinery and equipment	301.2	291.6	294.9	298.7	299.9	301.3	302.9	303.5	305.3	'306.6	307.5	312.2	313.7	315.8
11-4	General purpose machinery and equipment	288.5	280.2	282.3	284.4	285.9	287.0	290.6	292.3	293.9	'295.1	295.6	297.2	299.6	300.8
11-6	Special industry machinery and equipment	308.0	299.2	301.0	303.2	307.2	308.8	311.0	310.3	312.8	'314.6	315.2	316.5	319.5	320.3
11-7	Electrical machinery and equipment	220.1	213.7	216.0	217.4	217.5	219.2	221.1	222.8	224.2	'225.3	226.0	226.9	228.3	229.4
11-9	Miscellaneous machinery	252.3	245.2	247.0	248.5	248.8	250.1	254.0	256.0	258.5	'259.0	259.1	258.8	261.3	263.4
12	Furniture and household durables	198.4	195.2	195.8	196.4	197.4	197.3	199.5	199.6	201.0	'201.3	201.6	202.2	202.7	203.9
12-1	Household furniture	219.4	213.8	214.5	216.5	216.4	218.6	220.0	220.7	222.2	'222.8	225.4	227.0	228.2	228.3
12-2	Commercial furniture	257.6	251.6	253.4	254.5	257.7	257.9	258.7	259.1	261.6	'262.1	263.2	264.1	266.6	271.6
12-3	Floor coverings	178.6	171.9	174.1	175.3	179.5	180.7	182.8	181.9	181.7	'180.9	180.8	180.7	179.6	179.8
12-4	Household appliances	186.9	183.5	184.2	185.1	185.5	186.1	188.8	189.1	190.1	'190.8	189.7	190.2	192.0	193.8
12-5	Home electronic equipment	89.1	91.3	91.4	90.9	90.8	86.7	87.4	87.6	87.8	'88.1	88.0	87.8	87.5	87.5
12-6	Other household durable goods	280.8	280.8	278.1	275.3	276.7	276.4	282.1	280.9	285.8	'285.8	284.6	285.5	282.8	283.0
13	Nonmetallic mineral products	309.5	297.9	300.9	310.8	312.0	313.6	314.3	314.1	313.2	'313.3	313.5	313.6	315.1	318.4
13-11	Flat glass	212.9	204.3	204.8	210.2	210.2	210.3	218.3	218.3	218.3	'218.5	218.5	218.5	216.0	216.1
13-2	Concrete ingredients	296.3	291.4	292.6	297.4	297.5	297.7	298.0	298.5	298.5	'298.4	298.3	298.5	305.9	308.1
13-3	Concrete products	291.2	286.6	286.9	289.9	291.2	293.5	293.4	293.4	292.9	'293.3	293.2	293.5	294.8	295.6
13-4	Structural clay products, excluding refractories	249.7	239.8	244.6	246.0	250.1	250.7	250.9	250.9	255.3	'256.2	255.9	257.1	257.1	257.4
13-5	Refractories	302.5	293.5	296.1	296.4	304.0	307.1	307.1	307.1	307.1	'307.8	309.8	309.8	315.4	330.9
13-6	Asphalt roofing	407.0	389.5	390.5	415.9	407.4	428.5	421.9	420.9	401.6	'402.9	408.9	404.2	399.7	398.8
13-7	Gypsum products	256.2	257.3	257.6	256.8	261.1	260.7	259.7	255.3	252.9	'252.4	251.3	249.7	250.4	255.0
13-8	Glass containers	328.5	311.4	311.4	326.7	335.3	335.3	335.5	335.5	335.5	'335.5	334.8	334.8	334.7	349.6
13-9	Other nonmetallic minerals	463.9	424.7	441.7	479.1	477.6	476.8	476.2	475.3	474.3	'473.3	473.5	475.4	474.9	479.0
14	Transportation equipment (12/68 = 100)	235.4	229.1	228.1	231.9	233.6	234.3	235.0	235.9	231.8	'244.5	246.2	246.7	248.3	244.7
14-1	Motor vehicles and equipment	237.5	230.9	229.5	233.9	236.0	236.7	237.4	238.4	232.8	'247.8	248.6	249.2	250.4	246.1
14-4	Railroad equipment	338.2	332.5	333.9	335.7	331.2	331.4	338.1	338.7	338.7	'338.7	347.5	346.3	352.4	352.4
15	Miscellaneous products	265.6	264.9	264.0	266.0	266.9	266.3	263.2	262.6	267.0	'268.5	267.2	267.3	268.4	273.7
15-1	Toys, sporting goods, small arms, ammunition	212.2	210.5	211.1	211.3	211.4	211.2	213.2	212.7	213.6	'213.0	213.4	213.8	219.3	221.0
15-2	Tobacco products	268.3	256.1	256.3	268.7	268.7	268.7	268.8	268.8	274.5	'278.2	278.0	277.9	279.9	306.4
15-3	Notions	259.6	247.3	247.3	248.4	267.8	268.0	267.5	267.7	267.8	'269.7	269.7	269.7	270.5	270.7
15-4	Photographic equipment and supplies	210.1	209.6	211.2	212.4	212.5	212.5	211.4	207.1	208.7	'208.9	209.1	209.5	210.3	210.8
15-5	Mobile homes (12/74 = 100)	(⁶)	153.1	155.0	(⁶)	(⁶)	(⁶)	158.1	158.3	158.7	'159.1	158.8	159.0	159.1	159.6
15-9	Other miscellaneous products	346.9	358.1	351.3	349.0	349.4	346.9	333.1	334.6	345.5	'348.5	343.4	343.2	341.9	340.9

¹ Data for October 1981 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

² Prices for natural gas are lagged 1 month.

³ Includes only domestic production.

⁴ Most prices for refined petroleum products are lagged 1 month.

⁵ Some prices for industrial chemicals are lagged 1 month.

⁶ Not available.

r= revised.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1981	1981											1982	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. ¹	Nov.	Dec.	Jan.	Feb.
All commodities — less farm products	295.7	288.8	291.9	295.0	296.1	296.7	298.0	298.7	298.5	299.5	299.3	300.0	301.9	301.8
All foods	251.9	253.7	253.4	251.4	250.3	252.2	255.2	253.7	251.7	249.1	247.8	248.0	252.0	253.5
Processed foods	252.2	253.9	252.3	250.3	250.5	253.1	256.0	255.0	252.8	250.0	248.2	246.9	251.0	252.2
Industrial commodities less fuels	257.2	258.6	261.8	262.9	263.5	265.0	266.1	266.4	266.7	268.7	268.9	269.4	270.9	271.4
Selected textile mill products (Dec. 1975 = 100)	135.9	132.5	132.2	134.5	135.7	135.9	136.8	137.2	138.1	138.2	138.6	138.3	139.3	140.0
Hosiery	134.3	130.3	130.5	134.2	134.6	135.7	135.8	135.5	135.5	136.5	136.5	136.7	137.0	137.0
Underwear and nightwear	203.5	200.9	202.0	202.1	202.3	203.5	204.7	204.7	204.7	204.7	206.0	206.6	212.4	216.0
Chemicals and allied products, including synthetic rubber and fibers and yarns	278.6	268.3	271.0	276.1	279.0	281.2	282.3	284.0	284.4	283.8	283.8	284.0	284.9	286.0
Pharmaceutical preparations	186.8	179.7	182.1	184.0	185.7	186.6	189.0	188.4	191.6	192.8	192.4	193.0	195.5	198.0
Lumber and wood products, excluding millwork	303.1	306.0	304.8	312.3	311.5	312.2	308.7	306.2	298.0	290.1	287.7	290.4	290.2	288.3
Special metals and metal products	279.4	272.7	273.5	276.8	277.9	277.9	280.2	281.9	280.1	286.7	286.4	286.6	288.0	286.1
Fabricated metal products	280.0	272.5	274.7	277.0	278.5	279.0	281.7	283.1	283.9	286.0	286.2	287.9	290.0	290.4
Copper and copper products	204.0	205.0	204.8	207.7	206.6	203.7	202.5	206.2	205.1	201.9	199.3	195.9	195.1	194.1
Machinery and motive products	256.7	249.4	250.2	253.1	254.4	255.6	257.4	258.6	257.7	264.3	265.5	266.7	268.5	267.6
Machinery and equipment, except electrical	288.3	279.7	281.9	284.3	285.9	287.3	290.4	291.7	293.8	295.0	295.8	297.8	300.1	301.6
Agricultural machinery, including tractors	296.2	287.3	288.3	289.6	293.7	294.8	295.6	298.2	301.6	305.7	309.1	312.4	313.7	314.6
Metalworking machinery	329.4	320.5	323.5	325.9	327.1	328.3	330.1	331.4	333.9	336.7	338.1	339.8	342.1	343.3
Numerically controlled machine tools (Dec. 1971 = 100)	239.4	235.0	235.7	235.7	237.3	241.4	241.7	241.8	241.8	241.8	242.5	242.3	240.5	240.1
Total tractors	324.0	311.1	311.8	316.8	322.0	322.5	325.5	327.8	330.7	338.3	340.4	340.4	346.2	346.2
Agricultural machinery and equipment less parts	289.0	280.2	281.5	283.2	286.7	287.9	288.6	291.1	294.0	297.6	300.6	303.9	305.3	306.3
Farm and garden tractors less parts	298.9	287.2	287.6	289.3	297.7	298.0	298.0	301.4	305.5	313.0	316.5	316.5	318.5	318.5
Agricultural machinery, excluding tractors less parts	294.4	287.7	289.1	290.2	290.8	292.5	293.9	295.8	298.7	299.9	303.3	309.3	310.0	311.6
Industrial valves	314.8	305.5	310.1	314.0	314.3	315.3	317.5	319.8	322.7	322.4	320.0	321.9	325.2	326.8
Industrial fittings	302.1	298.0	298.9	302.7	303.0	303.0	303.0	303.0	304.3	304.1	304.1	304.1	304.1	304.1
Construction materials	283.0	277.2	279.0	283.9	284.2	285.0	285.7	285.5	284.4	284.6	284.1	285.1	286.4	286.9

¹ Data for October 1981 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r = revised.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1981	1981											1982	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. ¹	Nov.	Dec.	Jan.	Feb.
Total durable goods	269.8	263.8	264.9	267.8	268.6	269.1	270.8	271.9	271.8	275.0	275.2	275.9	277.4	277.3
Total nondurable goods	312.4	306.8	310.9	314.2	314.8	315.7	316.8	316.2	315.0	312.8	311.5	311.6	314.7	315.3
Total manufactures	285.9	279.3	282.3	285.3	286.2	286.9	288.0	288.6	288.3	289.8	289.6	290.0	291.8	291.9
Durable	269.6	263.4	264.4	267.2	268.2	268.9	270.6	271.7	271.7	275.1	275.5	276.3	277.8	277.7
Nondurable	303.6	296.4	301.7	304.9	305.7	306.4	306.9	306.9	306.3	305.5	304.6	304.5	306.8	307.2
Total raw or slightly processed goods	330.7	330.3	331.2	334.6	334.2	335.4	337.9	335.8	332.7	326.4	323.2	323.8	329.0	330.6
Durable	271.4	275.5	281.7	286.0	280.4	272.4	271.2	275.9	270.4	263.7	253.8	248.4	254.4	254.4
Nondurable	334.0	333.3	333.8	337.1	337.1	338.9	341.8	339.1	336.3	330.0	327.3	328.3	333.4	335.1

¹ Data for October 1981 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r = revised.

30. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1981	1981											1982	
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. ¹	Nov.	Dec.	Jan.	Feb.
MINING															
1011	Iron ores (12/75 = 100)	167.3	168.1	168.1	168.1	168.1	168.1	168.1	168.1	168.1	168.1	171.3	171.3	171.3	
1092	Mercury ores (12/75 = 100)	346.0	324.5	335.4	354.1	347.9	352.0	358.3	365.4	364.5	354.1	354.1	343.7	313.7	
1211	Bituminous coal and lignite	493.9	478.1	478.5	483.5	484.5	488.4	502.1	503.4	506.0	506.2	508.2	510.7	524.7	
1311	Crude petroleum and natural gas	898.8	897.9	901.7	908.6	919.7	713.7	911.5	900.3	913.6	900.8	907.4	922.6	913.5	
1442	Construction sand and gravel	277.3	272.3	275.2	278.0	278.4	278.4	278.4	278.2	279.2	279.6	280.4	287.0	289.5	
1455	Kaolin and ball clay (6/76 = 100)	138.7	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	143.4	143.4	147.1	149.6	
MANUFACTURING															
2011	Meatpacking plants	243.1	237.2	236.1	237.8	243.6	245.9	252.6	250.9	252.7	244.1	236.9	234.5	236.6	
2013	Sausages and other prepared meats	241.3	232.9	230.4	227.5	230.4	238.1	246.0	254.0	253.9	252.2	248.6	246.7	250.5	
2016	Poultry dressing plants	192.0	208.3	203.9	186.7	196.2	198.3	203.6	201.2	188.8	175.5	172.8	166.7	(²)	
2021	Creamery butter	274.8	273.5	273.6	273.4	273.4	273.5	273.8	273.7	275.0	279.2	279.5	275.0	276.4	

See footnotes at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1981	1981										1982		
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. 1	Nov.	Dec.	Jan.	Feb.
MANUFACTURING—Continued															
2022	Cheese, natural and processed (12/72 = 100)	215.8	215.6	215.7	216.2	216.2	216.1	213.8	214.5	215.0	215.4	215.9	217.1	218.6	217.9
2024	Ice cream and frozen desserts (12/72 = 100)	211.9	210.6	210.6	211.4	212.4	212.4	212.7	212.7	212.7	212.5	212.5	212.8	212.8	212.8
2033	Canned fruits and vegetables	248.5	237.4	241.5	244.0	245.9	248.9	251.6	252.9	254.3	257.0	255.6	258.8	259.6	262.2
2034	Dehydrated food products (12/73 = 100)	177.6	171.3	172.9	174.2	175.3	175.0	180.5	178.7	183.4	182.1	181.6	182.1	184.0	181.8
2041	Flour mills (12/71 = 100)	195.9	198.4	195.1	201.5	199.4	199.3	196.5	191.0	195.3	191.1	191.5	189.3	191.4	187.4
2044	Rice milling	277.2	289.6	298.0	300.9	300.3	300.3	297.4	284.3	268.2	247.3	235.4	215.1	205.9	192.2
2048	Prepared foods, n.e.c. (12/75 = 100)	124.6	129.3	126.6	128.5	129.8	127.5	125.9	124.8	119.6	117.3	116.4	116.4	116.6	116.5
2061	Raw cane sugar	273.5	367.1	318.8	275.7	224.8	263.3	272.2	254.6	212.3	219.9	224.3	230.8	247.6	245.1
2063	Beet sugar	320.6	398.1	370.7	350.5	334.4	339.7	274.1	287.5	270.7	250.3	262.1	272.4	292.5	292.6
2067	Chewing gum	309.8	323.0	323.1	323.1	303.1	303.1	303.1	303.2	303.2	303.2	303.2	303.2	303.3	303.3
2074	Cottonseed oil mills	199.0	193.7	204.4	218.4	216.6	212.3	212.0	206.0	182.3	172.0	167.2	182.3	184.9	170.6
2075	Soybean oil mills	245.8	252.5	253.2	259.1	258.1	248.4	253.7	245.8	234.2	229.7	221.1	221.5	222.6	219.9
2077	Animal and marine fats and oils	288.1	287.2	284.2	301.7	304.3	291.3	288.8	294.1	281.2	274.0	272.3	266.6	260.3	262.6
2083	Malt	282.5	286.1	286.1	286.1	286.1	286.1	286.1	286.1	275.4	275.4	275.4	275.4	267.1	267.1
2085	Distilled liquor, except brandy (12/75 = 100)	134.7	133.9	133.9	133.9	134.3	134.6	134.6	135.5	135.5	135.5	137.9	137.9	140.1	137.9
2091	Canned and cured seafoods (12/73 = 100)	187.8	187.1	187.6	187.7	187.3	187.5	187.4	188.4	188.8	188.2	188.3	188.5	187.2	187.0
2092	Fresh or frozen packaged fish	369.6	366.7	385.2	393.5	378.2	375.5	367.6	347.1	353.5	356.9	362.3	371.1	398.3	390.8
2095	Roasted coffee (12/72 = 100)	238.0	238.3	238.3	238.5	238.6	238.6	236.4	235.7	237.3	238.2	239.4	240.4	245.0	247.1
2098	Macaroni and spaghetti	252.0	243.6	243.6	243.6	246.6	246.6	259.5	259.5	259.5	259.5	259.5	259.5	259.5	259.5
2111	Cigarettes	277.7	264.1	264.2	278.3	278.3	278.3	278.3	278.3	284.2	288.4	288.4	288.4	288.4	319.7
2121	Cigars	169.1	165.3	167.0	168.5	168.5	168.5	169.7	169.7	174.5	174.5	171.6	171.6	171.6	175.6
2131	Chewing and smoking tobacco	320.9	320.7	320.7	320.8	320.8	320.8	321.0	321.3	325.3	326.1	327.6	326.0	326.0	349.4
2211	Weaving mills, cotton (12/72 = 100)	234.1	230.9	232.3	235.3	235.3	234.3	234.7	237.4	236.0	233.2	236.3	235.2	227.5	226.9
2221	Weaving mills, synthetic (12/77 = 100)	136.6	132.3	133.3	134.9	135.7	137.1	138.0	139.3	139.5	139.4	139.2	139.5	139.8	139.8
2251	Women's hosiery, except socks (12/75 = 100)	113.5	109.2	108.9	114.1	114.2	115.6	115.5	115.0	115.0	115.2	115.2	115.3	115.6	115.6
2254	Knit underwear mills	210.2	208.7	209.7	209.8	210.0	210.0	210.7	210.8	210.9	210.9	212.7	212.9	228.7	234.7
2257	Circular knit fabric mills (6/76 = 100)	110.8	109.6	109.1	110.8	110.5	110.4	111.0	112.0	111.9	112.0	112.1	111.7	111.8	112.3
2261	Finishing plants, cotton (6/76 = 100)	144.9	144.5	144.6	146.9	147.0	146.2	146.3	146.2	145.4	144.9	143.4	141.4	140.5	140.3
2262	Finishing plants, synthetics, silk (6/76 = 100)	126.5	123.1	124.3	125.2	126.6	126.6	127.1	127.8	129.0	129.1	129.1	128.6	129.3	129.7
2272	Tufted carpets and rugs	154.3	147.8	150.2	151.5	154.5	155.6	158.3	157.4	157.3	155.7	156.4	156.3	155.1	155.3
2281	Yarn mills, except wool (12/71 = 100)	221.8	218.1	220.7	220.9	224.1	225.28	225.1	225.4	223.8	225.4	220.1	217.9	216.0	215.3
2282	Throwing and winding mills (6/76 = 100)	138.6	123.2	131.3	131.5	139.1	139.3	142.7	146.8	148.0	154.5	145.5	146.0	135.3	135.2
2284	Thread mills (6/76 = 100)	151.4	144.3	148.4	150.8	150.9	151.1	151.1	151.1	154.8	157.0	156.9	156.8	156.8	156.8
2298	Cordage and twine (12/77 = 100)	134.8	129.3	130.9	132.7	134.3	134.3	134.3	134.3	139.3	139.3	139.3	140.7	141.0	141.0
2311	Men's and boys' suits and coats	223.9	219.7	220.1	220.3	220.4	224.6	225.9	226.2	226.5	227.4	227.1	230.7	230.7	232.1
2321	Men's and boys' shirts and nightwear	208.8	207.3	207.1	207.6	207.1	207.5	210.5	210.6	211.5	212.4	210.4	211.2	190.9	191.7
2322	Men's and boys' underwear	230.6	229.1	231.0	231.0	231.0	230.7	230.8	230.8	230.8	230.8	232.9	233.0	237.6	246.9
2323	Men's and boys' neckwear (12/75 = 100)	114.6	115.4	115.4	115.4	115.4	115.4	113.9	113.9	113.9	113.9	113.9	113.9	115.3	117.3
2327	Men's and boys' separate trousers	186.1	185.3	185.3	186.0	186.1	186.1	186.4	186.4	186.4	186.8	186.6	186.8	187.0	187.0
2328	Men's and boys' work clothing	248.4	242.2	242.3	247.0	248.2	248.3	250.8	251.1	251.2	253.1	252.5	252.5	251.9	251.8
2331	Women's and misses' blouses and waists (6/78 = 100)	119.8	116.1	116.4	118.3	118.4	118.5	121.0	121.2	121.3	126.4	123.8	123.9	123.8	123.8
2335	Women's and misses' dresses (12/77 = 100)	121.1	116.9	118.5	118.4	122.3	122.5	123.0	124.3	123.5	123.4	123.6	122.5	122.6	122.9
2341	Women's and children's underwear (12/72 = 100)	169.9	167.5	168.8	169.0	169.2	170.5	170.6	170.6	170.6	170.6	172.2	172.2	175.3	175.4
2342	Brassieres and allied garments (12/75 = 100)	136.8	132.8	134.9	135.0	136.9	138.8	138.8	138.8	138.8	138.8	139.3	140.5	145.5	149.2
2361	Children's dresses and blouses (12/77 = 100)	120.3	118.9	119.2	120.7	120.5	120.5	121.6	121.7	121.7	122.0	121.3	119.6	122.0	122.0
2381	Fabric dress and work gloves	289.3	289.1	289.1	289.1	292.1	292.1	292.1	289.2	289.2	289.2	289.2	289.2	293.8	297.4
2394	Canvas and related products (12/77 = 100)	132.1	126.8	127.8	129.3	130.0	130.1	130.1	133.1	134.6	137.6	138.1	140.3	145.5	145.5
2396	Automotive and apparel trimmings (12/77 = 100)	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0
2421	Sawmills and planing mills (12/71 = 100)	228.2	229.6	228.6	233.3	234.8	234.8	233.5	231.2	225.2	219.5	217.7	218.3	218.5	217.6
2436	Softwood veneer and plywood (12/75 = 100)	142.0	149.3	147.2	152.6	145.7	148.1	143.8	139.6	135.4	129.3	128.6	134.1	132.0	131.1
2439	Structural wood members, n.e.c. (12/75 = 100)	156.6	157.0	157.1	158.3	158.2	158.2	157.6	156.9	156.6	154.8	154.7	153.0	153.2	153.2
2448	Wood pallets and skids (12/75 = 100)	152.5	152.8	152.7	153.1	153.1	153.0	153.0	152.9	152.8	152.0	150.7	150.2	149.8	148.9
2451	Mobile homes (12/74 = 100)	156.8	153.2	155.0	155.8	155.9	156.1	158.1	158.3	158.7	159.2	159.0	160.1	160.2	160.7
2492	Particleboard (12/75 = 100)	172.8	170.3	172.3	180.9	184.5	182.3	179.6	173.6	170.5	168.0	165.7	164.7	171.3	170.2
2511	Wood household furniture (12/71 = 100)	197.4	192.1	193.3	195.4	196.2	197.5	198.6	199.2	200.1	201.0	200.9	201.9	203.3	204.2
2512	Upholstered household furniture (12/71 = 100)	174.9	170.1	170.1	171.8	169.7	173.9	175.1	175.1	175.3	175.6	182.3	184.9	184.1	182.0
2515	Mattresses and bedsprings	193.7	188.3	189.5	190.5	190.4	190.5	191.3	194.6	195.2	195.2	201.8	202.2	207.5	210.0
2521	Wood office furniture	254.6	250.4	253.5	254.5	255.4	254.6	254.7	254.7	257.1	257.1	258.0	258.6	262.9	271.8
2611	Pulp mills (12/73 = 100)	253.2	246.9	246.9	251.2	251.3	251.3	251.3	251.3	251.3	255.0	265.5	265.5	260.9	260.9
2621	Paper mills, except building (12/74 = 100)	156.3	152.6	153.3	153.9	154.3	155.7	157.0	157.4	158.8	159.8	159.6	159.8	161.8	162.0
2631	Paperboard mills (12/74 = 100)	151.8	149.2	150.8	151.0	152.1	152.3	151.7	152.4	153.7	153.6	153.8	152.7	152.6	153.6
2647	Sanitary paper products	343.8	342.5	343.0	343.2	344.3	344.4	344.2	344.3	344.3	344.0	345.3	345.8	345.6	345.6
2654	Sanitary food containers	245.3	235.2	237.9	239.2	242.2	242.2	240.6	252.9	253.2	253.4	254.7	254.7	255.3	258.3
2655	Fiber cans, drums, and similar products (12/75 = 100)	163.0	160.6	160.7	160.8	160.9	160.9	163.2	163.2	163.2	167.6	167.8			

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30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1981	1981										1982		
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. ¹	Nov.	Dec.	Jan.	Feb.
3021	Rubber and plastic footwear (12/71 = 100)	184.4	183.4	183.6	183.6	184.0	184.1	185.0	185.4	185.3	185.0	185.0	185.2	186.1	186.5
3031	Reclaimed rubber (12/73 = 100)	193.4	190.4	187.6	187.7	187.7	187.7	192.9	200.3	200.3	200.3	198.1	198.1	198.1	198.1
3079	Miscellaneous plastic products (6/78 = 100)	128.8	125.4	126.3	128.7	129.1	129.6	129.2	130.2	130.3	130.8	130.5	130.8	130.9	131.3
3111	Leather tanning and finishing (12/77 = 100)	150.6	145.5	151.4	158.6	154.7	150.7	151.3	148.5	148.3	148.2	146.9	147.3	150.7	149.2
3143	Men's footwear, except athletic (12/75 = 100)	169.1	166.5	167.6	168.7	168.9	169.6	170.7	171.4	170.9	170.5	170.6	171.5	172.6	171.6
3144	Women's footwear, except athletic	217.8	220.2	218.7	218.7	219.3	218.5	218.9	217.8	218.2	212.5	214.5	214.6	213.8	211.3
3171	Women's handbags and purses (12/75 = 100)	155.5	149.5	149.7	149.7	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4
3211	Flat glass (12/71 = 100)	175.6	167.5	168.1	174.5	174.5	174.6	180.0	180.0	180.0	180.1	180.1	180.1	177.3	177.4
3221	Glass containers	328.4	311.4	311.4	326.6	335.2	335.2	335.4	335.4	335.4	335.4	334.7	334.8	334.7	349.5
3241	Cement, hydraulic	328.5	324.3	324.4	332.4	332.3	331.0	331.6	331.6	332.0	330.3	327.2	327.2	336.4	338.2
3251	Brick and structural clay tile	296.9	286.1	295.3	296.0	297.4	298.5	298.9	298.9	299.9	299.9	301.4	301.8	291.4	291.8
3253	Ceramic wall and floor tile (12/75 = 100)	132.5	127.1	127.1	129.6	132.1	132.1	132.1	132.1	140.4	140.4	137.7	137.8	136.8	136.8
3255	Clay refractories	310.4	305.2	308.1	308.6	311.0	312.2	312.3	312.3	312.5	313.9	317.0	317.1	327.0	346.5
3259	Structural clay products, n.e.c.	222.7	212.8	213.0	212.7	223.9	223.9	223.9	223.9	227.5	231.7	232.2	237.0	196.4	196.7
3261	Vitreous plumbing fixtures	254.9	248.9	249.4	252.0	252.5	255.8	258.7	259.6	259.0	259.0	259.3	260.1	261.1	260.6
3262	Vitreous china food utensils	335.0	327.4	328.0	328.2	336.6	336.6	336.6	336.6	336.6	336.8	336.8	344.7	344.7	347.7
3263	Fine earthenware food utensils	308.9	298.6	307.9	308.2	309.6	309.6	309.6	309.6	313.8	313.8	314.4	314.4	314.5	314.5
3269	Pottery products, n.e.c. (12/75 = 100)	160.1	155.5	158.5	158.6	160.6	160.7	160.7	160.7	161.8	161.8	163.6	163.6	164.2	164.2
3271	Concrete block and brick	270.4	265.0	263.2	267.4	271.2	271.2	271.2	274.0	274.2	274.3	274.5	275.3	274.8	276.0
3273	Ready-mixed concrete	298.7	295.4	296.0	298.5	299.4	301.7	300.7	300.0	299.2	299.5	299.2	299.5	301.1	301.4
3274	Lime (12/75 = 100)	172.5	171.7	172.6	172.4	172.6	173.0	173.1	173.9	173.7	173.7	173.8	174.0	179.1	184.0
3275	Gypsum products	257.3	257.6	257.9	257.1	261.4	260.9	261.8	258.9	252.9	251.5	252.5	250.0	250.9	253.9
3291	Abrasive products (12/71 = 100)	232.5	221.7	223.1	232.7	233.2	234.1	235.0	235.1	237.3	237.6	239.6	240.0	239.9	245.0
3297	Nonclay refractories (12/74 = 100)	185.3	177.5	178.9	178.9	186.6	189.7	189.7	189.7	189.7	189.7	190.2	190.2	191.1	198.1
3312	Blast furnaces and steel mills	342.8	328.9	334.0	336.7	337.3	338.2	350.1	350.0	350.3	353.1	352.9	353.2	354.9	354.6
3313	Electrometallurgical products (12/75 = 100)	121.8	120.0	120.0	120.8	120.6	120.7	121.2	121.5	121.4	125.4	125.4	125.3	125.3	123.4
3316	Cold finishing of steel shapes	316.2	303.1	306.1	308.2	308.2	309.5	325.0	325.7	326.2	326.4	326.4	326.7	327.0	327.0
3317	Steel pipes and tubes	341.5	316.3	326.1	333.1	334.1	336.3	348.2	350.6	350.5	362.0	362.3	363.1	363.8	364.2
3321	Gray iron foundries (12/68 = 100)	299.5	296.1	295.6	297.0	298.4	298.4	298.8	299.9	302.0	303.3	303.9	304.7	308.0	310.4
3333	Primary zinc	326.5	300.0	299.7	311.9	332.7	335.1	335.4	353.8	355.9	337.0	337.5	327.3	308.0	308.9
3334	Primary aluminum	333.5	332.3	332.2	332.8	334.2	332.5	334.2	334.3	336.6	333.5	332.5	332.8	332.4	327.9
3351	Copper rolling and drawing	212.4	215.3	211.8	213.1	212.6	210.6	209.4	212.9	214.1	212.3	209.4	208.6	205.6	204.1
3353	Aluminum sheet, plate, and foil (12/75 = 100)	175.9	170.7	172.1	173.8	174.4	176.1	177.3	177.4	178.0	179.9	179.9	180.9	181.5	186.1
3354	Aluminum extruded products (12/75 = 100)	180.1	177.1	177.3	180.6	180.7	180.8	181.2	181.3	181.2	181.3	181.4	181.1	180.7	180.8
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	159.1	157.1	157.2	157.3	157.4	157.3	157.2	157.2	157.7	163.0	166.2	166.1	166.1	166.6
3411	Metal cans	305.3	303.0	304.7	304.7	304.7	304.7	305.5	306.7	306.8	307.0	306.6	306.6	310.3	314.4
3425	Hand saws and saw blades (12/72 = 100)	201.3	196.3	198.0	198.1	200.2	200.2	204.1	204.2	204.6	204.8	204.6	205.6	211.0	214.2
3431	Metal sanitary ware	265.0	256.4	258.5	262.8	264.8	265.2	269.2	269.7	270.2	270.3	270.6	272.0	270.9	271.8
3465	Automotive stampings (12/75 = 100)	146.4	143.9	144.2	145.0	145.0	145.2	146.2	146.4	146.9	147.4	149.7	153.7	154.6	152.5
3482	Small arms ammunition (12/75 = 100)	160.5	157.8	157.2	157.8	157.8	157.8	157.8	159.9	159.9	159.9	165.3	165.3	173.2	173.2
3483	Steel springs, except wire	245.1	239.2	239.5	241.2	241.7	241.9	243.7	248.9	252.4	253.9	253.8	254.3	256.4	257.2
3494	Valves and pipe fittings (12/71 = 100)	248.4	242.1	244.8	247.6	247.9	248.5	250.0	251.0	252.7	252.9	251.9	253.8	255.8	257.1
3498	Fabricated pipe and fittings	361.4	335.7	338.5	358.8	359.9	361.6	364.6	370.0	375.1	377.7	378.8	379.4	378.6	377.7
3519	Internal combustion engines, n.e.c.	311.0	299.4	302.6	306.0	306.2	307.2	312.0	314.2	322.1	323.2	324.3	321.5	327.3	330.0
3531	Construction machinery (12/76 = 100)	157.0	151.4	152.6	154.4	155.3	156.9	159.0	159.5	160.1	161.0	161.6	162.1	164.8	163.1
3532	Mining machinery (12/72 = 100)	282.3	273.5	276.2	279.5	280.0	280.8	282.7	285.3	286.9	288.5	290.3	291.8	293.9	297.5
3533	Oilfield machinery and equipment	395.4	374.2	378.2	382.2	384.6	390.3	401.3	406.5	411.3	415.6	418.3	420.1	427.1	429.1
3534	Elevators and moving stairways	253.5	250.3	250.3	251.2	251.2	251.2	252.1	252.8	254.6	257.0	259.9	261.4	268.0	268.9
3542	Machine tools, metal forming types (12/71 = 100)	306.4	298.0	301.9	303.0	304.5	305.7	307.6	309.5	312.0	311.7	312.3	313.0	313.5	316.9
3546	Power driven hand tools (12/76 = 100)	147.1	144.9	145.2	146.4	147.0	147.1	148.2	148.4	148.6	149.5	148.7	149.3	153.3	153.4
3552	Textile machinery (12/69 = 100)	243.4	235.0	240.0	240.4	241.2	244.4	246.2	245.4	248.2	248.0	249.9	250.0	249.8	250.7
3553	Woodworking machinery (12/72 = 100)	224.5	223.1	224.7	225.5	219.1	219.7	224.0	225.4	228.9	228.9	229.0	229.0	229.4	229.2
3576	Scales and balances, excluding laboratory	226.2	221.1	224.2	230.2	230.2	230.3	226.6	226.6	226.1	226.2	226.1	226.4	228.2	228.9
3582	Carburetors, pistons, rings, valves (6/76 = 100)	177.9	170.9	171.5	172.0	172.0	176.5	180.8	181.3	182.1	185.4	187.0	187.1	185.0	189.4
3612	Transformers	209.7	197.1	204.3	206.0	207.8	209.6	210.7	212.8	214.5	217.3	221.5	219.8	220.3	221.9
3623	Welding apparatus, electric (12/72 = 100)	227.2	220.9	222.1	224.3	225.9	227.2	228.3	229.6	231.6	232.5	232.4	234.7	235.9	236.0
3631	Household cooking equipment (12/75 = 100)	141.1	141.0	141.1	140.5	140.7	141.0	140.5	141.5	141.6	141.6	142.0	142.6	144.6	146.3
3632	Household refrigerators, freezers (6/76 = 100)	132.3	127.5	127.6	129.4	129.5	130.8	135.5	135.5	136.4	137.8	136.4	136.4	138.6	139.6
3633	Household laundry equipment (12/73 = 100)	174.2	170.2	170.9	173.5	173.9	173.6	174.1	174.6	177.2	177.0	178.5	178.8	179.8	180.4
3635	Household vacuum cleaners	156.8	156.3	158.5	158.4	158.5	158.6	158.6	158.8	158.8	161.3	154.2	154.0	157.8	158.3
3636	Sewing machines (12/75 = 100)	146.6	130.3	131.9	131.8	153.8	153.8	153.8	153.8	153.8	156.0	155.4	155.4	155.4	155.2
3641	Electric lamps	277.5	271.2	272.6	275.5	275.1	276.5	275.2	280.0	283.1	285.9	286.6	287.2	282.0	286.2
3644	Noncurrent-carrying wiring devices (12/72 = 100)	264.4	236.3	240.6	242.6	242.8	251.5	253.3	253.8	258.5	258.7	264.6	264.6	261.5	261.5
3646	Commercial lighting fixtures (12/75 = 100)	154.4	148.0	151.4	156.1	156.2	156.2	154.4	155.5	157.6	158.9	157.3	158.4	159.9	161.1
3648	Lighting equipment, n.e.c. (12/75 = 100)	155.7	146.8	152.7	153.2	153.3	153.7	153.8	161.3	161.7	162.0	162.0	162.7	162.7	167.8
3671	Electron tubes receiving type	309.7	284.4	285.0	285.0	285.1	312.5	327.4	327.5	327.5	327.5	327.8	342.3	371.8	374.9
3674	Semiconductors and related devices	90.4	90.8	91.3	91.2	90.6	90.3	89.2	89.2	91.4	91.6	91.0	91.9	90.9	90.8
3675	Electronic capacitors (12/75 = 100)	170.3	171.1	173.2	168.7	168.5	171.2	171.4	178.8	172.4	171.5	169.2	168.0	166.4	169.3
3676	Electronic resistors (12/75 = 100)	141.3	139.9	139.9	140.0	140.8	141.2	142.1	142.5	142.7	142.7	142.8	142.5	142.9	143.9
3678	Electronic connectors (12/75 = 100)	154.8	153.5	154.5	154.4	153.7	154.3	155.0	155.8	156.5	156.8	155.8	156.6	157.2	156.9
3692	Primary batteries, dry and wet	182.2	183.3	184.2	182.6	181.0	181.0	181.6	182.7	182.7	182.7	182.7			

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input**, or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review*, tables 31-34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40-42.

31. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years, 1950-81

[1977=100]

Item	1950	1955	1960	1965	1970	1974	1975	1976	1977	1978	1979	1980	1981
Private business sector:													
Output per hour of all persons	50.3	58.2	65.1	78.2	86.1	92.7	94.8	97.9	100.0	99.8	99.5	99.3	100.4
Compensation per hour	20.0	26.3	33.9	41.7	58.2	78.0	85.5	92.9	100.0	108.4	119.3	131.5	144.6
Real compensation per hour	50.4	59.6	69.4	80.0	90.8	95.9	96.3	98.8	100.0	100.7	99.6	96.7	96.4
Unit labor cost	39.8	45.2	52.1	53.3	67.6	84.2	90.2	94.8	100.0	108.6	119.9	132.4	^r 144.0
Unit nonlabor payments	43.5	47.8	50.8	57.8	63.4	78.9	90.7	94.4	100.0	105.1	110.9	118.3	^r 130.5
Implicit price deflator	41.0	46.1	51.7	54.8	66.2	82.4	90.4	94.7	100.0	107.4	116.9	127.6	^r 139.4
Nonfarm business sector:													
Output per hour of all persons	56.2	62.7	68.2	80.4	86.7	93.1	95.0	98.1	100.0	99.8	99.1	98.8	99.7
Compensation per hour	21.8	28.3	35.6	42.8	58.6	78.4	86.0	93.0	100.0	108.5	119.0	130.8	143.9
Real compensation per hour	55.0	63.9	73.0	82.2	91.5	96.4	96.8	99.0	100.0	100.7	99.3	96.2	95.9
Unit labor cost	38.8	45.1	52.3	53.2	67.6	84.3	90.5	94.8	100.0	108.7	120.0	132.4	^r 144.3
Unit nonlabor payments	42.8	47.9	50.5	58.2	64.0	76.1	88.9	94.0	100.0	103.6	108.5	117.6	^r 130.3
Implicit price deflator	40.2	46.0	51.7	54.9	66.4	81.6	89.9	94.5	100.0	107.0	116.2	127.4	139.6
Nonfinancial corporations:													
Output per hour of all employees	(¹)	(¹)	66.3	79.9	85.4	91.3	94.4	97.4	100.0	100.4	100.4	101.0	P103.5
Compensation per hour	(¹)	(¹)	36.3	43.0	58.3	77.6	85.5	92.5	100.0	108.2	118.7	130.7	P143.9
Real compensation per hour	(¹)	(¹)	74.2	82.6	91.0	95.4	96.3	98.5	100.0	100.5	99.1	96.2	P95.9
Unit labor cost	(¹)	(¹)	54.7	53.8	68.3	85.1	90.6	95.0	100.0	107.8	118.2	129.4	P139.1
Unit nonlabor payments	(¹)	(¹)	54.6	60.8	63.1	75.7	90.9	95.0	100.0	103.8	108.3	117.3	P132.3
Implicit price deflator	(¹)	(¹)	54.7	56.2	66.5	81.8	90.7	95.0	100.0	106.4	114.8	125.2	P136.7
Manufacturing:													
Output per hour of all persons	49.5	56.5	60.1	74.6	79.2	90.9	93.5	97.7	100.0	100.9	102.0	101.7	^r 104.5
Compensation per hour	21.5	28.8	36.7	42.9	57.6	76.4	85.5	92.4	100.0	108.2	118.8	131.6	146.2
Real compensation per hour	54.1	65.2	75.1	82.3	89.9	93.9	96.3	98.3	100.0	100.5	99.2	96.8	97.4
Unit labor cost	43.4	51.0	61.1	57.4	72.7	84.1	91.4	94.6	100.0	107.3	116.5	129.4	140.0
Unit nonlabor payments	55.1	59.4	62.0	70.3	66.0	70.4	88.5	95.1	100.0	104.7	105.7	108.7	(¹)
Implicit price deflator	46.8	53.4	61.3	61.2	70.7	80.1	90.6	94.7	100.0	106.5	113.4	123.4	(¹)

¹ Not available.

^r = revised.

32. Annual changes in productivity, hourly compensation, unit costs, and prices, 1971-81

Item	Year											Annual rate of change	
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1950-81	1960-81
Private business sector:													
Output per hour of all persons	3.6	3.5	2.7	-2.3	2.3	3.3	2.1	-0.2	-0.3	-0.2	1.1	2.4	2.1
Compensation per hour	6.6	6.5	8.0	9.4	9.6	8.6	7.7	8.4	10.1	10.2	10.0	6.2	7.2
Real compensation per hour	2.2	3.1	1.7	-1.4	0.4	2.7	1.2	0.7	-1.1	-2.9	-0.3	2.3	1.7
Unit labor cost	2.9	2.9	5.2	11.9	7.2	5.1	5.5	8.6	10.4	10.4	8.8	3.6	5.0
Unit nonlabor payments	7.6	4.5	5.9	4.4	15.0	4.1	5.9	5.1	5.5	6.6	10.3	3.3	4.5
Implicit price deflator	4.4	3.4	5.4	9.4	9.7	4.7	5.6	7.4	8.8	9.2	9.3	3.5	4.9
Nonfarm business sector:													
Output per hour of all persons	3.3	3.7	2.5	-2.4	2.1	3.2	2.0	-0.2	-0.7	-0.3	0.9	2.1	1.8
Compensation per hour	6.6	6.7	7.6	9.4	9.6	8.1	7.6	8.5	9.7	9.9	10.1	5.9	7.0
Real compensation per hour	2.2	3.3	1.3	-1.4	0.4	2.2	1.0	0.7	-1.4	-3.2	-0.3	2.0	1.5
Unit labor cost	3.1	2.8	4.9	12.1	7.4	4.7	5.5	8.7	10.4	10.3	9.0	3.7	5.0
Unit nonlabor payments	7.4	3.2	1.3	5.9	16.7	5.7	6.4	3.6	4.8	8.4	10.8	3.3	4.4
Implicit price deflator	4.5	3.0	3.7	10.1	10.3	5.1	5.8	7.0	8.6	9.7	9.6	3.6	4.8
Nonfinancial corporations:													
Output per hour of all employees	4.8	3.0	2.6	-3.4	3.4	3.2	2.7	0.4	0.0	0.6	P2.5	(1)	r2.0
Compensation per hour	6.5	5.8	7.7	9.7	10.1	8.2	8.1	8.2	9.7	10.1	P10.1	(1)	r6.9
Real compensation per hour	2.1	2.5	1.4	-1.1	0.9	2.3	1.5	0.5	-1.4	-3.0	P-0.3	(1)	r1.4
Unit labor cost	1.6	2.8	4.9	13.6	6.5	4.9	5.3	7.8	9.7	9.5	P7.4	(1)	r4.8
Unit nonlabor payments	7.4	2.7	1.5	7.1	20.1	4.6	5.2	3.8	4.4	8.3	P12.8	(1)	r4.0
Implicit price deflator	3.5	2.8	3.8	11.4	10.9	4.8	5.2	6.4	7.9	9.1	P9.2	(1)	r4.5
Manufacturing:													
Output per hour of all persons	6.1	5.0	5.3	-2.4	2.9	4.4	2.4	0.9	1.1	-0.3	2.7	2.6	2.6
Compensation per hour	6.1	5.4	7.2	10.6	11.9	8.0	8.3	8.2	9.8	10.7	11.1	5.8	6.9
Real compensation per hour	1.8	2.0	0.9	-0.3	2.5	2.1	1.7	0.5	-1.3	-2.5	0.7	2.0	1.4
Unit labor cost	0.0	0.3	1.7	13.3	8.8	3.4	5.7	7.3	8.6	11.0	8.2	3.1	4.1
Unit nonlabor payments	11.2	0.8	-3.3	-1.8	25.9	7.4	5.2	4.7	0.9	2.9	(1)	(1)	(1)
Implicit price deflator	3.1	0.5	0.3	9.0	13.1	4.6	5.6	6.5	6.4	8.8	(1)	(1)	(1)

¹ Not available.

r = revised.

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

[1977 = 100]

Item	Annual average		Quarterly indexes										
			1979			1980				1981			
	1980	1981	II	III	IV	I	II	III	IV	I	II	III	IV
Private business sector:													
Output per hour of all persons	99.3	100.4	99.7	99.4	99.1	99.5	99.1	99.4	99.1	100.3	101.2	100.9	r99.2
Compensation per hour	131.5	144.6	118.1	120.7	123.2	126.4	130.1	133.1	135.9	139.8	143.3	146.5	148.5
Real compensation per hour	96.7	96.4	100.3	99.2	98.0	96.7	96.6	96.9	96.0	96.1	96.9	96.3	95.8
Unit labor cost	132.4	r144.0	118.5	121.4	124.3	127.0	131.3	133.9	137.1	139.4	141.6	145.2	r149.7
Unit nonlabor payments	118.3	r130.5	110.4	111.5	112.2	115.2	116.0	119.7	122.7	127.6	129.3	132.4	r132.5
Implicit price deflator	127.6	r139.4	115.8	118.1	120.2	123.0	126.1	129.1	132.2	135.4	137.5	140.9	r143.9
Nonfarm business sector:													
Output per hour of all persons	98.8	99.7	99.1	98.9	98.8	98.9	98.2	99.0	99.0	100.0	100.4	99.9	r98.2
Compensation per hour	130.8	143.9	117.7	120.2	123.0	126.0	129.4	132.3	135.4	139.2	142.4	145.7	r147.9
Real compensation per hour	96.2	95.9	100.0	98.8	97.8	96.4	96.0	96.3	95.7	95.7	96.3	95.8	r95.4
Unit labor cost	132.4	r144.3	118.7	121.5	124.4	127.4	131.8	133.6	136.8	139.1	141.9	145.8	r150.6
Unit nonlabor payments	117.6	r130.3	107.7	109.2	110.1	113.9	115.1	119.2	122.0	127.8	128.7	132.2	r132.7
Implicit price deflator	127.4	139.6	115.1	117.4	119.7	122.9	126.3	128.8	131.9	135.3	137.5	141.2	r144.6
Nonfinancial corporations:													
Output per hour of all employees	101.0	P103.5	100.7	100.5	99.9	100.2	100.1	101.8	101.8	103.3	103.9	103.8	(1)
Compensation per hour	130.7	P143.9	117.6	120.1	122.7	125.7	129.3	132.5	135.5	139.2	142.3	145.5	(1)
Real compensation per hour	96.2	P95.9	99.9	98.7	97.5	96.2	95.9	96.5	95.7	95.7	96.2	95.6	(1)
Total unit costs	129.7	P140.9	115.3	118.2	121.3	124.2	129.2	131.1	134.1	136.0	138.7	142.2	(1)
Unit labor cost	129.4	P139.1	116.8	119.5	122.8	125.4	129.1	130.2	133.1	134.7	137.0	140.2	(1)
Unit nonlabor costs	130.2	P146.1	111.2	114.6	117.2	120.9	129.3	133.8	136.9	139.5	143.6	147.7	(1)
Unit profits	90.2	P103.4	100.7	97.5	92.2	95.5	83.4	89.1	92.4	106.8	102.8	106.7	(1)
Implicit price deflator	125.2	P136.7	113.7	115.9	118.1	121.0	124.1	126.4	129.5	132.7	134.7	138.2	(1)
Manufacturing:													
Output per hour of all persons	101.7	r104.5	102.3	102.0	102.1	102.0	100.7	100.7	103.2	104.2	105.2	105.5	r102.5
Compensation per hour	131.6	146.2	118.6	119.8	122.3	125.4	130.0	133.9	137.3	141.1	144.8	148.0	150.7
Real compensation per hour	96.8	97.4	100.7	98.5	97.2	96.0	96.5	97.5	97.0	97.1	97.9	97.3	97.2
Unit labor cost	129.4	140.0	115.9	117.5	119.8	122.9	129.0	133.0	133.0	135.5	137.6	140.3	r147.0

¹ Not available.

r = revised.

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

[1977 = 100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	II 1980 to III 1980	III 1980 to IV 1980	IV 1980 to I 1981	I 1981 to II 1981	II 1981 to III 1981	III 1981 to IV 1981	III 1979 to III 1980	IV 1979 to IV 1980	I 1980 to I 1981	II 1980 to II 1981	III 1980 to III 1981	IV 1980 to IV 1981
	III 1980	IV 1980	I 1981	II 1981	III 1981	IV 1981	III 1980	IV 1980	I 1981	II 1981	III 1981	IV 1981
Private business sector:												
Output per hour of all persons	1.3	-1.1	4.7	3.5	-1.1	r -6.5	0.0	0.0	0.8	2.1	1.5	r 0.0
Compensation per hour	9.5	8.6	11.9	10.4	9.3	r 5.5	10.3	10.3	10.6	10.1	10.1	9.3
Real compensation per hour	1.6	-3.8	0.5	3.2	-2.3	r -2.1	-2.3	-2.0	-0.6	0.3	-0.6	-0.2
Unit labor costs	8.1	9.8	6.9	6.6	10.6	r 12.9	10.3	10.3	9.7	7.8	8.5	r 9.2
Unit nonlabor payments	13.7	10.2	17.1	5.3	10.1	r 0.0	7.4	9.3	10.8	11.5	10.6	r 8.0
Implicit price deflator	9.8	9.9	10.0	6.2	10.4	r 8.7	9.4	10.0	10.1	9.0	9.1	r 8.8
Nonfarm business sector:												
Output per hour of all persons	3.6	-0.2	4.4	1.4	r -1.7	r -6.8	0.2	0.2	r 1.2	2.3	0.9	r -0.8
Compensation per hour	9.0	9.8	11.7	9.6	9.5	r 6.2	10.1	10.1	10.5	10.0	10.2	r 9.2
Real compensation per hour	1.2	-2.7	0.3	2.5	-2.2	r -1.5	-2.5	-2.2	-0.7	r 0.3	-0.6	-0.2
Unit labor costs	5.3	10.1	7.0	8.1	11.5	r 14.0	9.9	9.9	9.2	7.6	9.2	r 10.1
Unit nonlabor payments	15.0	9.9	r 20.2	3.0	11.3	r -1.6	9.1	10.8	12.2	11.8	10.9	r 8.8
Implicit price deflator	8.2	10.0	11.0	6.5	11.4	r 10.0	9.6	10.2	10.1	8.9	9.7	r 9.7
Nonfinancial corporations:												
Output per hour of all employees	6.7	0.0	6.3	2.2	-0.5	(¹)	1.3	1.9	3.1	3.8	2.0	(¹)
Compensation per hour	10.2	9.4	11.4	9.3	9.2	(¹)	10.3	10.4	10.8	10.1	9.8	(¹)
Real compensation per hour	2.2	-3.1	0.0	2.1	-2.5	(¹)	-2.2	-1.9	-0.5	0.3	-0.9	(¹)
Total unit costs	6.2	9.4	5.6	8.4	10.3	(¹)	11.0	10.5	9.5	7.4	8.4	(¹)
Unit labor costs	3.2	9.4	4.8	7.0	9.7	(¹)	8.9	8.4	7.4	6.1	7.7	(¹)
Unit nonlabor costs	14.7	9.5	7.9	12.3	11.8	(¹)	16.8	16.8	15.4	11.1	10.4	(¹)
Unit profits	30.3	15.7	77.9	-13.9	15.7	(¹)	-8.6	0.3	11.8	23.3	19.7	(¹)
Implicit price deflator	7.9	9.9	10.4	6.2	10.7	(¹)	9.1	9.6	9.7	8.6	9.3	(¹)
Manufacturing:												
Output per hour of all persons	-0.1	10.3	3.8	r 4.0	1.2	r -11.0	-1.2	1.1	2.1	4.5	4.8	r -0.7
Compensation per hour	12.7	10.5	11.6	10.8	9.3	r 7.4	11.8	12.3	12.5	11.4	10.5	9.8
Real compensation per hour	r 4.6	-2.2	-0.2	3.5	-2.4	r -0.4	-1.0	-0.2	1.1	1.5	-0.2	0.2
Unit labor costs	12.8	0.1	7.5	6.5	8.0	r 20.7	13.2	11.0	10.2	6.6	5.5	r 10.5

¹ Not available.

r = revised.

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of

the agreement. **Changes over the life of the agreement** refer to total agreed-upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments in major bargaining units measure actual changes during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or a cost-of-living adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1976 to date

[In percent]

Measures and industry	Annual average					Quarterly average								
	1977	1978	1979	1980	1981 ^P	1979	1980				1981 ^P			
						IV	I	II	III	IV	I	II	III	IV
Wage and benefit settlements, all industries:														
First-year settlements	9.6	8.3	9.0	10.4	11.3	8.5	8.8	10.2	11.4	8.5	10.5	11.6	12.3	11.1
Annual rate over life of contract	6.2	6.3	6.6	7.1	9.2	6.0	6.7	7.4	7.2	6.1	9.4	10.8	9.3	5.6
Wage rate settlements, all industries:														
First-year settlements	7.8	7.6	7.4	9.5	10.1	6.3	8.2	9.1	10.5	8.3	7.2	11.8	11.8	9.3
Annual rate over life of contract	5.8	6.4	6.0	7.1	8.1	5.3	6.5	7.3	7.4	6.5	6.5	9.7	9.4	5.6
Manufacturing:														
First-year settlements	8.4	8.3	6.9	7.4	7.3	5.6	7.2	6.7	8.4	7.8	6.7	8.1	9.4	6.0
Annual rate over life of contract	5.5	6.6	5.4	5.4	6.3	4.2	5.7	5.1	5.6	5.8	6.0	6.6	7.9	5.0
Nonmanufacturing (excluding construction):														
First-year settlements	8.0	8.0	7.6	9.5	10.2	7.8	9.4	10.3	9.5	8.2	7.9	11.7	10.3	9.8
Annual rate over life of contract	5.9	6.5	6.2	6.6	7.5	7.4	7.6	8.5	5.9	6.8	7.2	9.0	8.6	5.5
Construction:														
First-year settlements	6.3	6.5	8.8	13.6	13.5	7.5	10.8	12.2	15.4	14.3	11.4	12.9	16.4	11.4
Annual rate over life of contract	6.3	6.2	8.3	11.5	11.3	7.6	9.1	10.4	13.0	12.0	10.3	11.1	12.4	11.7

r = revised.

36. Effective wage adjustments in major collective bargaining units, 1976 to date

[In percent]

Measures and industry	Average annual changes					Average quarterly changes								
	1977	1978	1979	1980	1981 ^P	1979	1980				1981 ^P			
						IV	I	II	III	IV	I	II	III	IV
Total effective wage rate adjustment, all industries	8.0	8.2	9.1	9.9	9.1	1.6	1.6	3.3	3.5	1.3	1.6	3.0	3.2	1.3
Change resulting from—														
Current settlement	3.0	2.0	3.0	3.6	2.5	.5	.4	1.0	1.7	.5	.4	1.1	.6	.4
Prior settlement	3.2	3.7	3.0	3.5	3.8	.4	.5	1.4	1.2	.3	.6	1.3	1.5	.4
Cost-of-living adjustment clause	1.7	2.4	3.1	2.8	2.8	.7	.7	.8	.7	.6	.6	.7	1.1	.4
Manufacturing	8.4	8.6	9.6	10.2	8.9	2.4	2.0	3.4	2.9	1.7	2.2	2.1	3.0	1.6
Nonmanufacturing	7.6	7.9	8.8	9.7	9.2	1.0	1.3	3.2	4.0	1.1	1.1	3.7	3.4	1.1

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

r = revised.

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693		2,170		34,600	.30
1948	3,419		1,960		34,100	.28
1949	3,606		3,030		50,500	.44
1950	4,843		2,410		38,800	.33
1951	4,737		2,220		22,900	.18
1952	5,117		3,540		59,100	.48
1953	5,091		2,400		28,300	.22
1954	3,468		1,530		22,600	.18
1955	4,320		2,650		28,200	.22
1956	3,825		1,900		33,100	.24
1957	3,673		1,390		16,500	.12
1958	3,694		2,060		23,900	.18
1959	3,708		1,880		69,000	.50
1960	3,333		1,320		19,100	.14
1961	3,367		1,450		16,300	.11
1962	3,614		1,230		18,600	.13
1963	3,362		941		16,100	.11
1964	3,655		1,640		22,900	.15
1965	3,963		1,550		23,300	.15
1966	4,405		1,960		25,400	.15
1967	4,595		2,870		42,100	.25
1968	5,045		2,649		49,018	.28
1969	5,700		2,481		42,869	.24
1970	5,716		3,305		66,414	.37
1971	5,138		3,280		47,589	.26
1972	5,010		1,714		27,066	.15
1973	5,353		2,251		27,948	.14
1974	6,074		2,778		47,991	.24
1975	5,031		1,746		31,237	.16
1976	5,648		2,420		37,859	.19
1977	5,506		2,040		35,822	.17
1978	4,230		1,623		36,922	.17
1979	4,827		1,727		34,754	.15
1980	3,885		1,366		33,289	.14
1981 ^P	2,577		1,082		24,670	.11
1980: December	90	380	19	77	1,228	.06
1981 ^P : January	187		38.8		942.4	.05
February	213		41.5		769.9	.04
March	285		243.7		1,697.5	.08
April	286		80.3		4,884.5	.24
May	301		123.7		5,307.6	.28
June	302		241.0		3,521.1	.17
July	286		120.5		2,472.6	.12
August	211		68.5		1,704.3	.09
September	225		58.5		1,479.3	.08
October	166		36.0		1,207.9	.06
November	82		21.0		395.2	.02
December	33		8.2		287.6	.01

NOTE: The preliminary data for 1981 have been revised.

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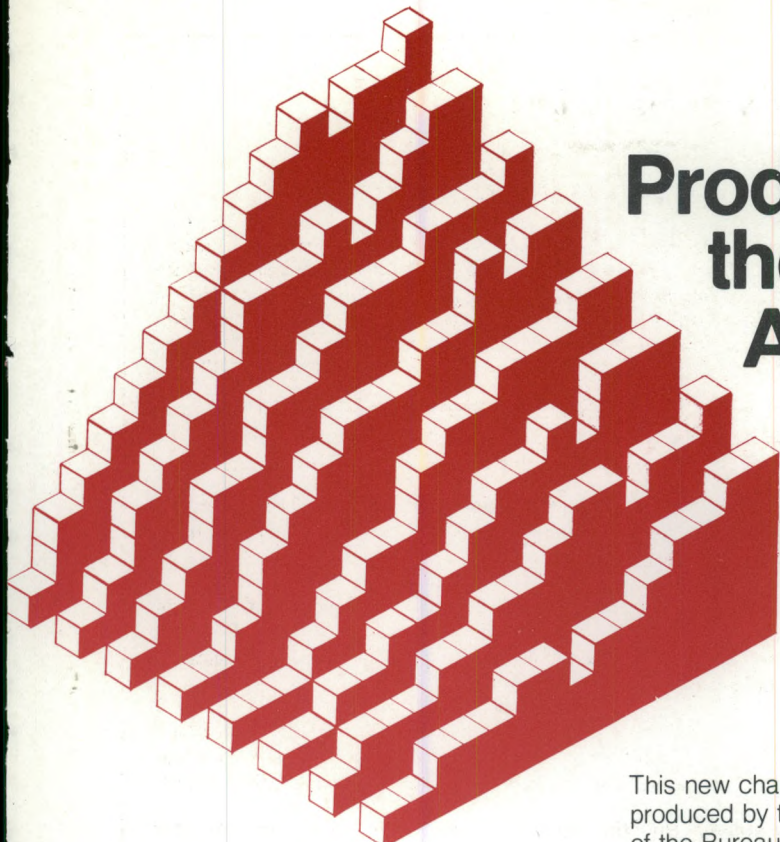
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