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-
- John F. Early and others 3 **Double-digit inflation today and in 1973-74: a comparison**
Energy, housing, and materials spurred the acceleration of prices in both periods; how inflation slowed dramatically in 1975 points to factors to watch currently
- Virginia L. Ward 21 **Measuring wage relationships among selected occupations**
Occupational wage spreads, as measured by survey averages, do not mirror relationships within individual companies; pay differentials are much smaller within establishments
- H. Brand, C. Huffstutler 26 **The paper and plastic bag industry: two productivity phases**
In 1967-77, output per employee hour accelerated after a sluggish increase in 1954-66; the rise was linked to improved technology and rapid growth in output as demand surged

REPORTS

- Daniel J. B. Mitchell 31 Does the CPI exaggerate or understate inflation?
- Jack E. Triplett 33 Does the CPI exaggerate or understate inflation? Some observations
- Edward S. Sekscenski 36 Women's share of moonlighting nearly doubles during 1969-79
- George Stamas 39 Percent working long hours shows first post-recession decline
- Francis W. Horvath 43 Tracking individual earnings mobility with the Current Population Survey
- T. Roger Manley and others 46 The extent of alcoholism among Air Force employees
- Tadd Linsenmayer 50 U.S. rejoins ILO: agenda for 1980's stresses human rights

DEPARTMENTS

- 2 Labor month in review
- 31 Communications
- 36 Special labor force reports—summaries
- 43 Research summaries
- 50 Foreign labor developments
- 52 Major agreements expiring next month
- 54 Developments in industrial relations
- 58 Book reviews
- 65 Current labor statistics

Labor Month In Review



KLEIN AWARD. The trustees of the Lawrence R. Klein Fund selected a single article to receive the 11th annual Klein Award. The article, "The effect of demographic changes on the Nation's unemployment rate," appeared in the March 1979 *Monthly Labor Review*. Its author, Paul O. Flaim, is chief of the Division of Labor Force Studies in the BLS Office of Current Employment Analysis.

Runners-up among articles by BLS authors were "Young and marginal: an overview of youth employment," by Norman Bowers, October 1979, and "The influence of energy on industry output and employment," by Ronald E. Kutscher, December 1979.

The trustees presented no award this year to an author outside BLS. Nevertheless, the trustees expressed admiration for Thomas A. Kochan's "How American workers view labor unions," April 1979, Graham L. Staines' and Robert P. Quinn's "American workers evaluate the quality of their jobs," January 1979, and Joseph H. Wex's and William S. McGee's "Unionization of court employees has raised legal, practical questions," August 1979. The Kochan and Staines-Quinn articles were based on the Quality of Employment Survey, conducted by the Survey Research Center of the University of Michigan for the U.S. Department of Labor. The trustees also cited several "excellent" articles based on papers commissioned by the National Commission on Employment and Unemployment Statistics.

Flaim's article separates cyclical influences on the unemployment rate from noncyclical factors such as

changes in the composition of the labor force. Flaim finds that the large increase in the proportion of the labor force which resulted from the maturing of the post-World War II baby boom was one of the demographic factors which exerted upward pressure on the unemployment rate over the past two decades. Flaim estimates that from 0.6 to 1.0 percentage point of the increase in the overall unemployment rate over the 1957-77 period can be attributed to the changing composition of the labor force. The effect of the demographic factors should dissipate gradually during the 1980's, Flaim concludes.

Origin of the award. For more than half a century, writing for the *Monthly Labor Review* was its own reward. Lawrence R. Klein changed that when he retired as *Review*

editor in 1968. Instead of accepting a retirement gift, he matched the money collected for that purpose and established a fund to reward good writing and original research in the *Review*.

Since 1969, fund trustees (including Klein) have presented awards to authors of 19 *Review* articles on the basis of these criteria: originality of ideas or method of analysis, adherence to principles of scientific inquiry, and good writing. Awards, which initially carried cash prizes of \$100 each, are now \$200.

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

The winners

Mollie Orshansky, a social insurance research analyst at the Social Security Administration, won the first Lawrence R. Klein Award in 1970 for her article explaining "How poverty is measured" in the February 1969 *Monthly Labor Review*. Eighteen other BLS and outside authors have been honored since. Here is the complete list of winners:

1970	Mollie Orshansky	1976	Curtis Gilroy
1971	Hyman Kaitz		Nicholas Ashford
1972	Janice N. Hedges Denis Johnston	1977	Constance Sorrentino Rita M. Maldonado
1973	Peter Henle T. Aldrich Finegan	1978	William Deuterman Harold Douty
1974	Robert W. Fisher Jonathan Grossman	1979	Morris Newman Fred Best
1975	John Early Joseph Mire	1980	Paul O. Flaim

Double-digit inflation today and in 1973–74: a comparison

Energy, housing, and materials spurred the acceleration of prices in both periods; how inflation slowed dramatically in 1975 points to factors to watch currently

BY JOHN F. EARLY, CRAIG HOWELL
AND ANDREW CLEM

The decade just ended was marked by two distinct periods of double-digit inflation, a combination unprecedented in peacetime. The first price surge occurred in 1973–74, and the second began in 1978 and has continued into 1980.

In this article, we describe the life cycle of the first period and examine the first two stages of the current inflation. We identify factors which generated and sustained inflation rates in the neighborhood of 13 percent and reduced inflation to an average of about half that rate for more than 2 years in the intervening period. This comparison can provide a basis for a better understanding of the current situation.

The two periods have a number of similarities, including:

- Rapid runups in prices for energy, especially petroleum-based fuels, which occurred just as prices for other items were approaching double-digit inflation;
- Early, sharp increases in food prices;
- Steep rises in home prices and mortgage interest rates for at least 2 years after the housing market began to soften;
- Major indirect effects from the increases in energy prices within 3 to 6 months of the crude energy price boosts;
- Rapid commodity inflation among crude and intermediate materials other than food and energy; and
- Significant declines in the value of the dollar in in-

ternational markets, which further aggravated inflation.

Some of the differences between the two periods include:

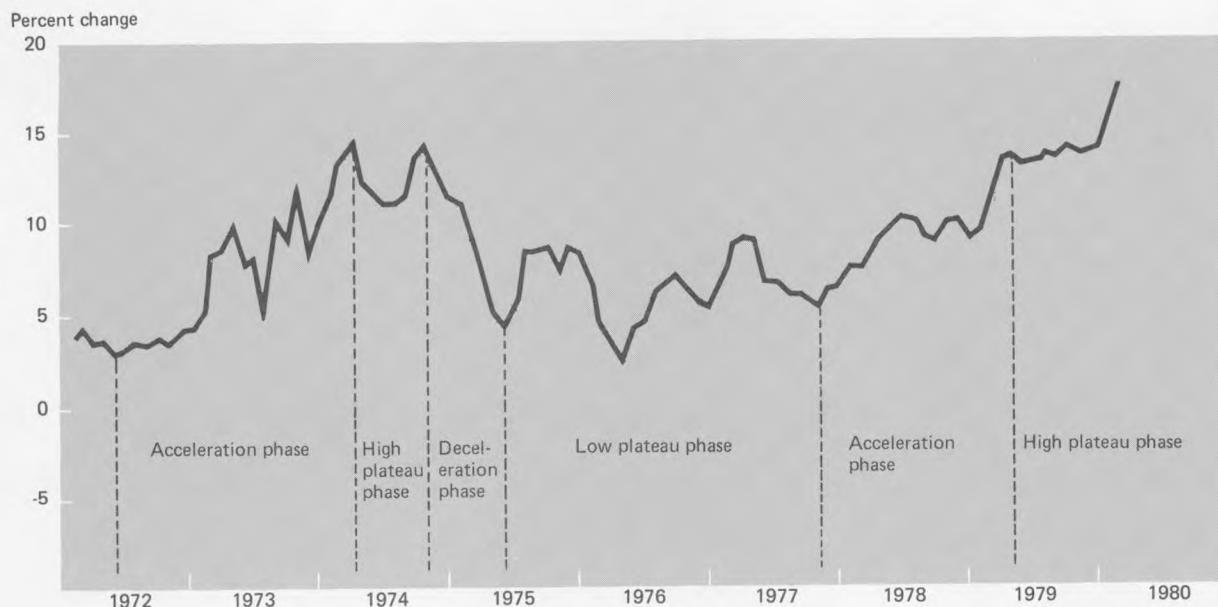
- The larger relative increases in the price of oil imported from members of the Organization of Petroleum Exporting Countries during the earlier period;
- The more protracted OPEC increases in the current period;
- The greater role of shortages and worldwide commodity inflation in the earlier period;
- The effect of speculation in the current period;
- The greater inflationary impact of energy costs on retail food prices in the current period;
- The impact of an inflationary-expectations psychology on saving, debt, and prices in the current period; and
- The delay in rapid price rises for natural gas until relatively late in the earlier period.

We also discuss factors contributing to the slowdown in price increases during 1974–75, including:

- The precipitous drop in business activity in late 1974;
- The substantial deceleration in prices of crude and intermediate materials; and
- The cessation of major crude petroleum price increases and the completion of most indirect pass-through effects on prices of other goods and services.

As an analytical aid, we have identified four stages in these two periods of inflation. The first is the *low plateau*. From January 1971 until May 1972, the Consumer Price Index increased at an annual rate of about

John F. Early is Assistant Commissioner for Industrial Prices and Price Indexes, Bureau of Labor Statistics. Craig Howell and Andrew Clem are economists in the Division of Industrial Prices and Price Indexes. The authors were assisted by William Thomas and James Webbenhurst, economists in the same office.

Chart 1. Inflation rate¹ of the Consumer Price Index for All Urban Consumers, 1972-80

¹Inflation rate is the 3-month change, seasonally adjusted at annual rates.

3.5 percent. During that time, the seasonally adjusted 3-month annual rate of change generally varied between 2 and 5 percent, partly as the result of the Government's comprehensive wage and price controls, which started in August 1971.¹ A similar low plateau lasted from May 1975 until October 1977. During this time, prices were rising at an average rate of about 6 percent; however, there was somewhat greater volatility around this average, reflecting, in part, wide swings in food prices. But once again the variation was within a relatively narrow range. (See chart 1.)

After both May 1972 and October 1977, prices began to rise at generally increasing rates. This signaled the beginning of the *acceleration* phase. In the earlier case, it lasted 22 months, with price increases accelerating from a 3-month annual rate of 2.6 percent to 14.3 percent; in the later case, it lasted 17 months, as prices accelerated from a 5.1-percent rate to 13 percent.

What can be characterized as *high plateaus* followed the rapid accelerations. From March through October 1974, inflation averaged about 12.5 percent. For the 11 months ended in February 1980, inflation averaged about 14 percent. In both cases there were some changes in the inflation rate during this high plateau phase, but, by definition, a high plateau is not marked by a clear

acceleration or deceleration. Because the current period of double-digit inflation has not yet come to an end as of this writing, there is some ambiguity in dating its phases. It is not yet clear whether the 17.2-percent annual rate of advance in the All Items CPI for the 3 months ended in February 1980 represents a short-term fluctuation within the high plateau stage or a resumption of acceleration.

Finally, the CPI began its *deceleration* phase in October 1974. Over the next 7 months, inflation plummeted from a rate of 14.2 percent to 4.4 percent.

A profile of the two periods

1973-74. An upturn in food prices in the spring of 1972 was directly responsible for the acceleration in the All Items CPI, as prices for most other goods were subject to the strict provisions of the Administration's Phase II price control program. (See table 1 and chart 2.) In May 1972, the CPI for food was rising at a 3-month annual rate of only 1.3 percent; but by the following April it was climbing at a 25.4-percent rate. Food price increases slowed considerably in mid-1973 when a 60-day price freeze was imposed, and surged again after the freeze was lifted. Food price increases

Table 1. Timing and magnitude of specific inflationary cycles of the Consumer Price Index and selected components

Index	Timing of phase				Length of phase (months)			Percent change over phase		
	Acceleration		Deceleration		Acceleration	High plateau	Deceleration	Acceleration	High plateau	Deceleration
	Start	End	Start	End						
All items	May 1972 Oct. 1977	Mar. 1974 Mar. 1979	Oct. 1974 (¹)	May 1975 (¹)	22 17	7 11	7 (¹)	14.8 13.7	6.7 11.5	4.2 (¹)
Food	May 1972 Jan. 1977 Sept. 1978	Apr. 1973 June 1978 Feb. 1979	Oct. 1973 June 1978 Feb. 1979	July 1974 Sept. 1978 Aug. 1979	11 17 5	6 0 0	9 3 6	11.3 15.3 5.6	9.2	7.0 1.6 3.1
Energy	Sept. 1973 July 1978	Mar. 1974 June 1979	Mar. 1974 Aug. 1979	Dec. 1974 (²)	6 11	0 2	9 (²)	25.7 24.3	..... 7.3	7.1 (²)
Gasoline	Sept. 1973 June 1978	Mar. 1974 June 1979	Mar. 1974 June 1979	Oct. 1974 (²)	6 12	0 0	7 (²)	36.8 36.3	..... .....	1.1 (²)
Fuel oil, coal, and bottled gas	Sept. 1973 July 1978	Jan. 1974 Aug. 1979	Jan. 1974 Aug. 1979	Mar. 1975 (²)	4 13	0 0	14 (²)	45.7 48.9	..... .....	17.3 (²)
Piped gas and electricity	July 1973 Nov. 1978	Mar. 1974 July 1979	(³) July 1979	(³) Jan. 1980	8 8	(³) 0	(³) 6	11.6 12.6	(³)	(³) 10.5
All items less food and energy	July 1973 Oct. 1977	Aug. 1974 (⁴)	Oct. 1974 (⁴)	July 1975 (⁴)	13 28	2 (⁴)	9 (⁴)	10.2 23.7	2.0 (⁴)	5.6 (⁴)
Commodities less food and energy	Sept. 1973 Sept. 1977	Aug. 1974 (⁴)	Oct. 1974 (⁴)	July 1975 (⁴)	11 29	2 (⁴)	9 (⁴)	8.9 20.1	2.3 (⁴)	5.4 (⁴)
Home purchase	Mar. 1973 Nov. 1976	Feb. 1975 (⁴)	Apr. 1975 (⁴)	Apr. 1976 (⁴)	23 39	2 (⁴)	12 (⁴)	17.8 41.5	2.9 (⁴)	4.1 (⁴)
Services less energy	Nov. 1972 Oct. 1977	July 1974 (⁴)	Sept. 1974 (⁴)	May 1975 (⁴)	20 28	2 (⁴)	8 (⁴)	12.9 27.7	2.0 (⁴)	5.4 (⁴)
Home financing, taxes, and insurance	Nov. 1972 Oct. 1977	Oct. 1973 (⁴)	Dec. 1974 (⁴)	Sept. 1975 (⁴)	11 28	14 (⁴)	9 (⁴)	10.1 54.7	16.3 (⁴)	4.3 (⁴)

¹ Computations are made as though the end of the All Items CPI high plateau phase were February 1980. However, there is yet no evidence of any deceleration.
² Energy price increases at the beginning of 1980 may indicate the start of a new acceleration phase.

³ Phase was not well defined.
⁴ No evidence that the acceleration phase has ended for these indexes. For purposes of computation, February 1980 was assumed to be the end of the acceleration phase.

fluctuated widely thereafter, rising a total of 12.2 percent in 1974.

Energy prices boomed at the end of 1973 and the beginning of the next year. (See chart 3.) After rising at a rate of only 2.3 percent in the third quarter of 1973, energy prices soared at a 49.8-percent rate in the fourth quarter and a 66.8-percent rate in the first 3 months of 1974. The index did not remain on a high plateau but immediately began to slow down; by the summer of 1974, energy prices were no longer rising at a double-digit rate.

The CPI for all items other than food and energy started its acceleration phase in the late summer of 1973 after the freeze on prices. Through the rest of 1973 and into the spring of 1974, the Administration gradually dismantled its comprehensive program to control prices and wages. All remaining general price controls lapsed as of April 30, 1974, as Congress did not renew the President's authority to impose such controls. By October 1974, the CPI for nonfood nonenergy items was advancing at an annual rate of 14.2 percent. Some increases reflected the pass-through of sharply higher costs for fuels and energy-intensive materials and thus would have been allowed even under the former controls. Other advances reflected attempts by producers to

restore traditional profit margins and to recover costs which could not be fully passed through under the rules of the controls program.

The indexes for food, energy, and other items each contributed roughly one-third of the total acceleration in the All Items CPI from May 1972 through March 1974. (See table 2.) Food prices were the dominant factor until mid-1973, when the acceleration in increases for energy and other items became crucial. The high plateau in the overall inflation rate during much of 1974 reflected a balance between slower rates for energy and steeper rates for items other than food and energy, with food prices climbing briskly throughout the period. The deceleration of the CPI from October 1974 through May 1975 showed the combined impact of food prices, which moved from a 19.3-percent rate of increase to a 1.2-percent rate of decline, and other nonenergy prices, which slowed from a rate of increase of 14.2 percent to 5.9 percent. Energy price increases had already decelerated to a rate of less than 5 percent by the time the CPI started to slow down, but then moved back up to a 3-month rate of 10 percent by May 1975.

1978-79. The acceleration of the All Items CPI after October 1977 followed the trough of the previous recession

Chart 2. Inflation rates for retail and producer prices of food, 1972-80¹

¹Twelve-month percent changes in Consumer Price Index for All Urban Consumers (food at home) and the Producer Price Index for consumer food.

by about two and one-half years. As of October 1977, the indexes for food, energy, and other items were all rising at rates between 5 and 6 percent. By the time the CPI had reached a high plateau in March 1979, energy prices were surging at a 25.7-percent rate, food prices were climbing at a 16-percent rate, and prices for other items were increasing at a rate of just over 10 percent.

Food prices seemed to follow a pattern of their own during the 1977-79 period and are thus more difficult to integrate into the overall inflation picture. In each of these three years, food prices climbed sharply early in the year when unusually harsh winter weather damaged crops and disrupted normal transportation and distribution channels. Poor weather in the United States and in many other major producing countries early in the year also raised fears that summer and fall harvests would be inadequate. Food price inflation eased later each year as generally favorable growing conditions led to excellent harvests for many crops.

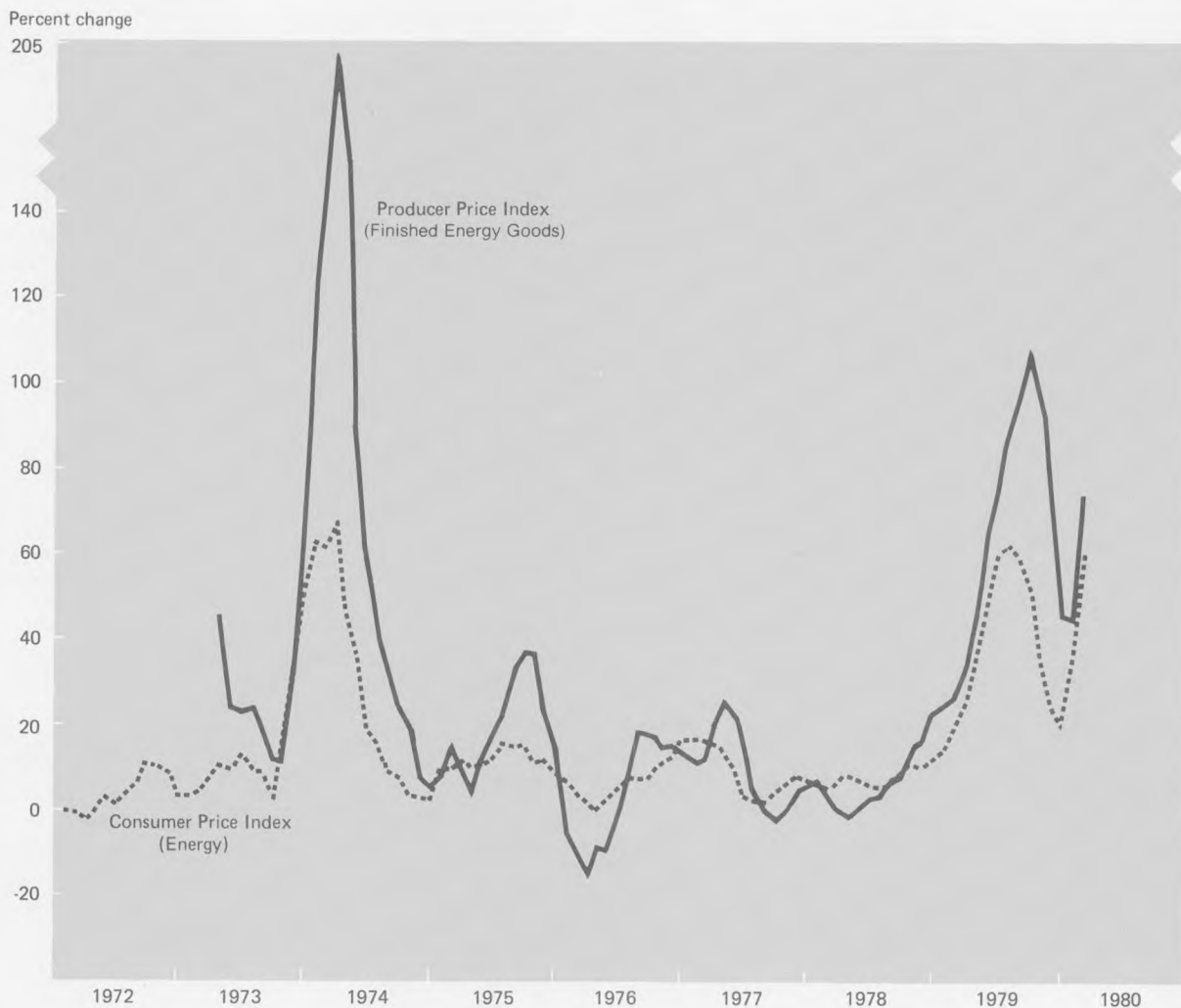
During the acceleration phase of the current inflation, the food index accounted for about one-fourth of the acceleration in the All Items CPI, compared with one-third of the earlier acceleration. When the All Items inflation rate was on a high plateau from early 1979 into early 1980, food prices provided a major decelerating pressure. Food prices were rising at a rate of 5.6 per-

cent in February 1980, considerably less than the 16.0-percent rate registered in March 1979. A more moderate winter in 1979-80 was an important factor in preventing the bulge in food price increases that had marked the previous three years.

As in the earlier period, energy prices did not begin to accelerate until some time after the All Items CPI had started to speed up. In the latter half of 1978, energy prices rose at an annual rate of 10 percent; but by mid-1979, energy prices were soaring at a rate of about 60 percent. Energy prices, like food prices, played a somewhat smaller role during the acceleration phase of the current inflation. But, unlike the earlier period, energy prices did not slow down as dramatically as they had speeded up; the energy CPI was still rising at a rate of 19.2 percent in the final quarter of the year. Another round of sharply higher prices for gasoline and home heating oil resulted in a much higher rate of increase for the energy index in the opening months of 1980, a situation without parallel in 1973-74.

In the remainder of this article, we examine some of the major factors that have helped to determine the course of double-digit inflation through both periods—the rapid rise in energy prices, the indirect effects of energy price increases, inflation in manufacturing materials, the role of food prices, the behavior of prices of

Chart 3. Inflation rates for retail and producer prices of energy, 1972-80¹



¹ Three-month change seasonally adjusted at annual rates for Consumer Price Index for All Urban Consumers (energy) and Producer Price Index for finished energy goods.

other goods and services, capital equipment prices, mortgage interest rates, and house prices. Based on that discussion, our final section presents a detailed analysis of the inflation picture as of early 1980, noting those factors which are continuing to produce double-digit inflation, as well as other influences which may eventually slow inflation.

Energy prices explode

There were marked similarities in the timing of energy price increases relative to the two inflationary cycles. Sharp increases in world crude petroleum prices oc-

curred on both occasions after inflation had already approached double-digit rates for other reasons. Prices for domestic crude oil also climbed sharply both times as controls were relaxed to encourage greater energy independence by spurring production and conservation. Prices for other forms of energy moved up sharply in the wake of higher crude oil costs. The added impetus of higher energy costs pushed the overall rate of inflation to its highest point.

The United States became increasingly dependent on imported crude petroleum during the 1970's. The ratio of imports to total domestic consumption of crude oil

rose from 26 percent in 1973 to 45 percent in 1977. The import ratio has since varied between 40 and 45 percent. As a result, the cost impacts of OPEC price changes are now much greater than they were in 1973.

Crude oil. A similar sequence of events led to the rapid advances for foreign and domestic crude petroleum prices in both periods. The world-wide level of economic activity was very high by 1973 as well as by 1978, and demand for petroleum products intensified as a result. Political upheaval in the Middle East led to partial cutoffs of oil shipments both times. The outbreak of the October 1973 Arab-Israeli war was followed by an embargo on some oil shipments by the Arab members of OPEC, and the Iranian revolution during the winter of 1978-79 resulted in a stoppage of all oil shipments from Iran. In each period, the tight supply of oil in the world market made it easier for oil-exporting nations to raise their prices to record levels. Already rapidly rising prices for other goods may also have contributed to both the desire and ability of petroleum-exporting countries to raise their prices.

There were, however, substantial differences between

the two periods. The price increase in 1973 was uniform for all OPEC members and was implemented at essentially one time. In 1979, by contrast, a number of increases were effected throughout the year, and the disciplined OPEC price structure was broken; several nations imposed varying surcharges in addition to the official price or sold substantial amounts of their production in the higher-priced spot market.

Another important difference was that the change in OPEC crude oil prices was greater in 1979 than in 1973 in terms of absolute differences of dollar prices, although the relative increase was larger in the earlier period. Between September 1973 and January 1974, the benchmark price for OPEC crude oil (Saudi Arabia light grade) rose by about \$8 a barrel, an increase of more than 260 percent. In comparison, the price of Saudi light crude oil advanced \$11.30 a barrel from December 1978 to December 1979, an increase of 89 percent. But because of surcharges and frequent spot market sales, the cost of oil actually imported into this country rose more quickly than the benchmark prices in 1979.²

In the wake of the Arab oil export embargo in 1973

Table 2. Contributions of selected Consumer Price Index components to overall inflation rate

Index	Acceleration				High plateau				Deceleration			
	3-month seasonally adjusted annual rate		Difference	Contribution ¹	3-month seasonally adjusted annual rate		Difference	Contribution ¹	3-month seasonally adjusted annual rate		Difference	Contribution ¹
	Start	End			Start	End			Start	End		
Reference cycle for All Items CPI	May '72 Oct. '77	Mar. '74 Mar. '79			Mar. '74 Mar. '79	Oct. '74 Feb. '80 ²			Oct. '74	May '75		
All items	2.6 5.1	14.3 13.0	11.7 7.9	11.7 7.9	14.3 13.0	14.2 17.2	-0.1 4.2	-0.1 4.2	14.2	4.4	-9.8	-9.8
Food	1.3 5.9	17.9 16.0	16.6 10.1	3.9 1.9	17.9 16.0	19.3 5.6	1.4 -10.4	.3 -1.9	19.3	-1.2	-20.5	-5.0
Energy	2.5 5.9	66.8 25.7	64.3 19.8	4.1 1.8	66.8 25.7	3.5 60.0	-63.3 34.3	-4.4 2.9	3.5	10.0	6.5	.6
Gasoline	-8 3.7	106.1 38.0	106.9 34.3	2.9 1.4	106.1 38.0	-9.6 95.4	-115.7 57.4	-3.4 2.4	-9.6	6.6	16.2	.5
Home heating oil	4.6 5.5	79.6 44.3	75.0 38.8	.5 .3	79.6 44.3	11.8 63.1	-67.8 18.8	-6 .1	11.8	0	-11.8	-1.1
Piped gas and electricity	4.1 6.3	30.4 13.9	26.3 7.6	.6 .3	30.4 13.9	15.3 18.4	-15.1 4.5	-.4 .2	15.3	11.8	-3.5	-1.1
All items less food and energy	2.9 5.1	8.0 10.2	5.1 5.1	3.8 4.1	8.0 10.2	14.2 15.5	6.2 5.3	4.0 3.3	14.2	5.9	-8.3	-5.4
Commodities less food and energy	2.7 4.0	8.2 9.1	5.5 5.1	2.0 1.9	8.2 9.1	15.8 11.1	7.6 2.0	2.9 .7	15.8	6.0	-9.8	-3.4
Home purchase	1.6 7.3	11.3 11.3	9.7 4.0	.6 .4	11.3 11.3	11.4 10.0	.1 -1.3	0 -.1	11.4	16.2	4.8	.3
Services less energy	4.0 6.1	8.9 11.7	4.9 5.6	1.7 2.1	8.9 11.7	11.7 18.7	2.8 7.0	1.1 2.6	11.7	5.8	-5.9	-2.0
Contracted mortgage interest cost	-2.1 8.9	8.7 28.8	10.8 19.9	.4 1.3	8.7 28.8	27.4 48.0	18.7 19.2	.8 1.4	27.4	3.0	-24.4	-1.1

¹ Entries in this column show how much of the difference in the rate of change for the All Items CPI during each phase was accounted for by the difference in the rate of change for the CPI components shown.

² Computations are made as though the end of the All Items CPI high plateau phase were February 1980. However, there is yet no evidence of any deceleration.

and the stiff boost in world oil prices, the Federal Government set higher prices for oil extracted from new wells and for any additional oil pumped from old wells in excess of the previous rate of production. Prices for oil from wells with very low yields (stripper wells) were completely decontrolled. As a result, the price of crude petroleum produced in this country rose 60.3 percent between August 1973 and February 1974.

In the spring of 1979, the Administration accelerated the phased deregulation of domestic crude petroleum prices, partly as a response to the changing world crude oil market. Higher prices were allowed for oil from some marginal lower tier (pre-1974) wells by reclassifying them as upper tier wells to encourage increased production. In addition, the price of "heavy" crude oil, which is difficult and expensive to extract, was decontrolled. Prices for that portion of domestic production which is not controlled tended to follow the continuing rise in the world market price for crude oil; by the fall of 1979, this share had climbed to more than 25 percent of all domestic output. These policy changes, plus the gradual lifting of prices of conventional upper and lower tier oil, led to sharp increases in the Producer Price Index for domestic crude petroleum; this index rose 53.4 percent from May 1979 through February 1980.

Refined petroleum products. The rapid rises in crude petroleum prices during both periods of double-digit inflation were quickly passed on by refiners and retailers to consumers:

Commodity	Index	Percent increase		
		Sept. 1973- March 1974	Sept. 1973- Sept. 1974	Dec. 1978- Feb. 1980
Refined petroleum products	PPI	56.2	85.2	85.1
Gasoline	PPI	49.9	73.6	84.1
	CPI	36.8	40.4	75.3
Home heating oil	PPI	68.4	101.2	85.6
	CPI	52.2	66.2	79.2

During the first surge of inflation, price increases for refined petroleum products were concentrated in the first 6 months following the steep boost in foreign crude oil prices in the autumn of 1973. In the current period, prices for refined petroleum products have been rising since December 1978, reflecting the series of increases in both domestic and foreign crude oil prices.

In both periods, prices charged by petroleum refiners advanced proportionately more than retail prices; however, there was a smaller difference between the relative increases at the primary market and retail levels in the current period. Dealers' margins have not climbed near-

ly as much as have the prices received by refiners. About three-fourths of the retail price of gasoline went to petroleum refiners at the end of 1979, while refiners only accounted for about half of the retail price before the 1973 energy crunch. Similarly, distributor margins for fuel oil are now a much smaller proportion of the total retail price than they were earlier. As a result, a given percent increase in producer prices for petroleum products now has a larger impact on consumer prices than before.³

Other energy items. Both times, the rise in crude petroleum prices increased demand for competing fuels, in particular, natural gas. In 1973-74, natural gas sold in interstate commerce was subject to strict control by the Federal Government. Gas sold only in intrastate commerce was subject to State regulation, which typically permitted price increases to market levels, although with some lag. As a result, natural gas prices did not begin to rise sharply until the second half of 1974.

The PPI for natural gas rose 40.9 percent in 1979, compared with a record increase of 49.6 percent over a 12-month span in 1974 and 1975. Unlike the earlier period, the 1979 increases in natural gas prices roughly coincided with increases in crude petroleum prices.

The passage of the Natural Gas Policy Act of 1978 mandated the gradual decontrol of domestic interstate natural gas prices. This act established a number of pricing categories for natural gas, based on the age of the wells, well depth, and other factors. Consequently, producer prices for interstate natural gas soared 57.3 percent during 1979, while prices for natural gas sold within the State of origin moved up 10.6 percent. (In December 1979, intrastate gas prices still exceeded interstate gas prices by 35 percent.) Prices of gas imported from Canada increased 58.8 percent in 1979, as the National Energy Board of Canada tied its natural gas export prices to the world market price of crude petroleum.

Electricity rates for household, commercial, and industrial consumers rose rapidly during both periods:

Electricity use	Index	Percent increase	
		Sept. 1973- Sept. 1974	Feb. 1979- Feb. 1980
Household	CPI	21.8	13.7
Commercial	PPI	26.5	18.4
Industrial	PPI	38.2	20.0

The slower rise in the current period may be attributable in large part to three factors: smaller increases in residual fuel oil prices; less reliance by electric utilities on residual fuel oil as a fuel; and all cost increases may not have been passed through yet to the consumer.

Indirect energy effects

In addition to higher prices for processed energy products, a rise in crude energy prices can produce two indirect effects: Price increases in commodities for which petroleum and natural gas are raw materials, and price increases associated with energy consumption in the production and distribution process.

Crude petroleum and natural gas are feedstocks for a wide variety of chemicals which, in turn, are employed in the manufacture of thousands of goods. Table 3 illustrates some of the more significant impacts. The chemicals listed as petroleum-based are either primary ones which are largely produced as part of the petroleum refining process (benzene and toluene), or are derived from such chemicals. The exception is ethylene, which also has a substantial amount derived from natural gas liquids.

Natural gas liquids serve as the primary source for another series of chemicals which are not, however, entirely independent of petroleum feedstocks. In addition, the ammonia base for nitrogenous fertilizers is derived from natural gas.

As effects of the 1973 OPEC oil price boosts were ap-

pearing in prices for refined petroleum products, prices for primary chemicals such as benzene and toluene were also increasing, but at much more rapid rates. Prices for the more highly processed chemicals such as styrene monomer and acetone reached their maximum rates of increase about 1 quarter after the peak for primary chemicals and began to slow between 1 and 2 quarters after the prices of primary chemicals. Reflecting its partial dependence on natural gas, prices for ethylene rose more slowly than prices for other petroleum-based chemicals in early 1974 but continued to rise rapidly into 1975 as natural gas prices accelerated in the second half of 1974. Prices for other natural-gas-related chemicals and nitrogenous fertilizers also rose more slowly and for a longer time as the result of the different timing in natural gas price changes.

During 1978 and 1979, there was less difference in the timing of price changes for petroleum and natural gas. As a result, prices for the two series of chemicals demonstrated greater similarity in their timing. Nevertheless, those with a substantial natural gas component have registered smaller price rises. For both series of chemicals, price increases during the current period have not been as sharp; however, large increases are

Table 3. Price changes in petroleum- and natural-gas-based materials, 1973-75 and 1978-80

Producer Price Indexes	Annualized percent change for 3 months ended—													
	Dec. 1973	Mar. 1974	June 1974	Sept. 1974	Dec. 1974	Mar. 1975	June 1975	Sept. 1975	Dec. 1975	Mar. 1976	June 1976	Sept. 1976	Dec. 1976	Feb. 1977
Refined petroleum products	88.8	215.4	57.9	24.4	-0.3	-2.5	16.3	4.0	23.3	35.2	80.0	106.1	44.5	74.9
Petroleum-based chemicals														
Benzene	0	1066.3	97.9	74.4	-4.1	-22.0	-40.4	19.0	55.5	130.9	180.8	98.0	1.2	40.4
Toluene	152.0	992.4	172.6	-5.4	-10.5	-42.1	-41.5	35.2	90.1	160.9	124.2	28.2	18.4	42.7
Ethylene	N.A.	439.4	157.2	84.4	35.4	30.9	37.7	.4	0	7.9	24.7	97.6	53.0	77.4
Ortho-xylene	N.A.	1016.6	513.6	281.2	-11.8	-53.6	-9.2	2.0	0	57.5	274.4	116.4	.5	15.0
Styrene monomer	137.4	421.3	995.6	105.9	18.0	-12.0	-19.9	-6	20.4	83.5	272.7	123.0	1.8	14.3
Acetone	0	198.1	403.2	128.6	43.1	.6	-29.6	2.6	5.0	11.4	23.4	65.6	33.4	29.6
Natural gas	17.9	19.0	11.0	23.1	44.8	37.7	79.2	13.0	21.5	39.0	43.7	45.5	35.8	45.4
Natural-gas-liquids-based chemicals														
Formaldehyde	0	30.6	146.9	42.5	44.5	40.7	2.1	0	4.0	7.5	18.5	30.4	30.8	54.4
Vinyl chloride	N.A.	67.1	277.6	112.6	2.3	132.9	8.5	6.2	-6	-1	30.2	63.9	42.8	41.0
Methanol	N.A.	15.2	158.0	243.9	142.4	128.8	21.0	-4.0	-2.1	6.4	16.9	22.5	95.8	33.1
Methylchloroform	N.A.	17.4	101.3	130.0	57.3	10.7	19.3	31.5	.5	-4.9	5.2	38.6	-5.0	6.6
Nitrogenous fertilizers	0	238.9	31.6	164.3	124.6	35.9	-3.2	-9.9	-8.9	6.4	11.1	13.6	37.4	44.8
Plastic resins	6.2	145.8	107.7	128.6	28.8	-9	-16.7	-4.1	6.4	22.0	37.7	40.4	24.5	20.8
Plastic construction products	3.4	26.8	104.5	40.6	4.0	-17.2	-12.7	9.1	-3.7	21.3	14.3	14.4	-14.2	3.8
Plastic film and sheeting	9.5	33.6	102.3	53.3	20.3	-4.9	-11.4	1.2	5.5	3.9	18.7	8.0	17.0	3.8
Synthetic rubber	7.3	45.1	91.9	30.1	16.9	-2.4	-10.4	6.9	15.5	10.9	28.0	38.7	11.1	32.4
Tires and tubes	27.3	53.9	13.3	17.6	12.7	6.9	7.1	-7.7	21.4	19.9	11.7	24.6	16.5	29.3
Cellulosic fibers	4	10.5	10.6	34.8	6.2	-9.1	24.9	5.5	0	9.3	3.7	10.6	15.5	27.2
Noncellulosic fibers	0	2.4	2.0	12.0	3.9	-3.0	-14.2	.4	10.9	19.4	19.2	19.4	-6	.3
Pharmaceutical materials	4.2	6.5	58.6	89.1	40.1	13.2	-8.4	0	5.3	4.4	6.1	5.3	6.3	4.1
Prescription pharmaceuticals	1.2	3.6	11.5	9.1	8.9	7.6	10.5	4.6	11.9	7.8	4.4	5.5	7.2	14.7
Over-the-counter pharmaceuticals	1.7	3.5	14.0	12.8	17.8	9.9	7.7	11.5	10.4	13.2	9.6	6.8	16.1	7.8

N.A. Not available.

generally continuing for a much longer time.

Plastic resins are polymerizations of chemicals from both the petroleum series (such as styrene monomer) and the natural gas series (such as vinyl chloride). During both periods, prices for plastic resins generally reflected the increases in the corresponding raw materials within one quarter. As much as one more quarter was required before prices of plastic products made from the resins reflected the maximum effect of the raw materials price increases. As prices for petroleum-based chemicals began to decline in late 1974 and the first half of 1975, prices for plastic resins and plastic products also began to fall. At the start of 1980, however, prices for plastic products began to slow despite the fact that prices for plastic resins and their constituent chemicals were continuing to post rapid increases.

Both synthetic and natural rubbers are used in the manufacture of tires. The doubling of natural rubber prices in 1973 was the primary cause of the 27.3-percent rate of advance in producer tire prices during the last quarter of 1973. Synthetic rubber prices soared during the first half of 1974 as the result of crude oil price increases. These price jumps for both kinds of rubber led to a 53.9-percent annual rate of increase in producer prices for tires during the first quarter of 1974. Retail tire prices, in turn, rose at double-digit rates until late 1974, when the depressed auto market lowered new-car demand for tires, and tire price rises slowed.

Price boosts for synthetic rubber were not as sharp in the more recent period. They were once again compounded by large price increases for natural rubber, which, however, were also smaller than before. Consequently, tire prices have risen more slowly. Although demand for new automobiles dropped in late 1979, overall consumer demand remained strong enough to enable manufacturers to pass along increases in raw materials prices.

Textiles and apparel. Cellulosic fibers are only slightly dependent on petroleum feedstocks. Noncellulosic fibers, on the other hand, are almost exclusively petroleum-based. In 1973-74, however, noncellulosic fibers showed only modest increases, while cellulosic fiber prices climbed at a double-digit rate. During the current period, prices for noncellulosic fibers did exhibit some greater impact from rising oil prices, although these increases were well below those for other petroleum derivatives.

During both periods, textile prices were under cost pressure not only from petroleum-based synthetic fibers but also from rapid price jumps in raw cotton. Nevertheless, during 1979 prices for finished fabrics rose only 3.1 percent, and prices for apparel (other than footwear) were up only 4.4 percent at the manufacturers' level and 3.8 percent at retail. In 1974, textiles and apparel prices also experienced less-than-average increases.

Why prices for textiles and apparel should exhibit such apparent resistance to cost pressures from raw materials is a topic that deserves further research. A number of factors, however, may contribute to this phenomenon. The apparel industry is composed of a large number of highly competitive firms, although competition may often be reflected in product differentiation as well as in price. In addition, there is substantial competition from imports. Demand may well be fairly price elastic, because a substantial proportion of clothing expenditures may be discretionary.

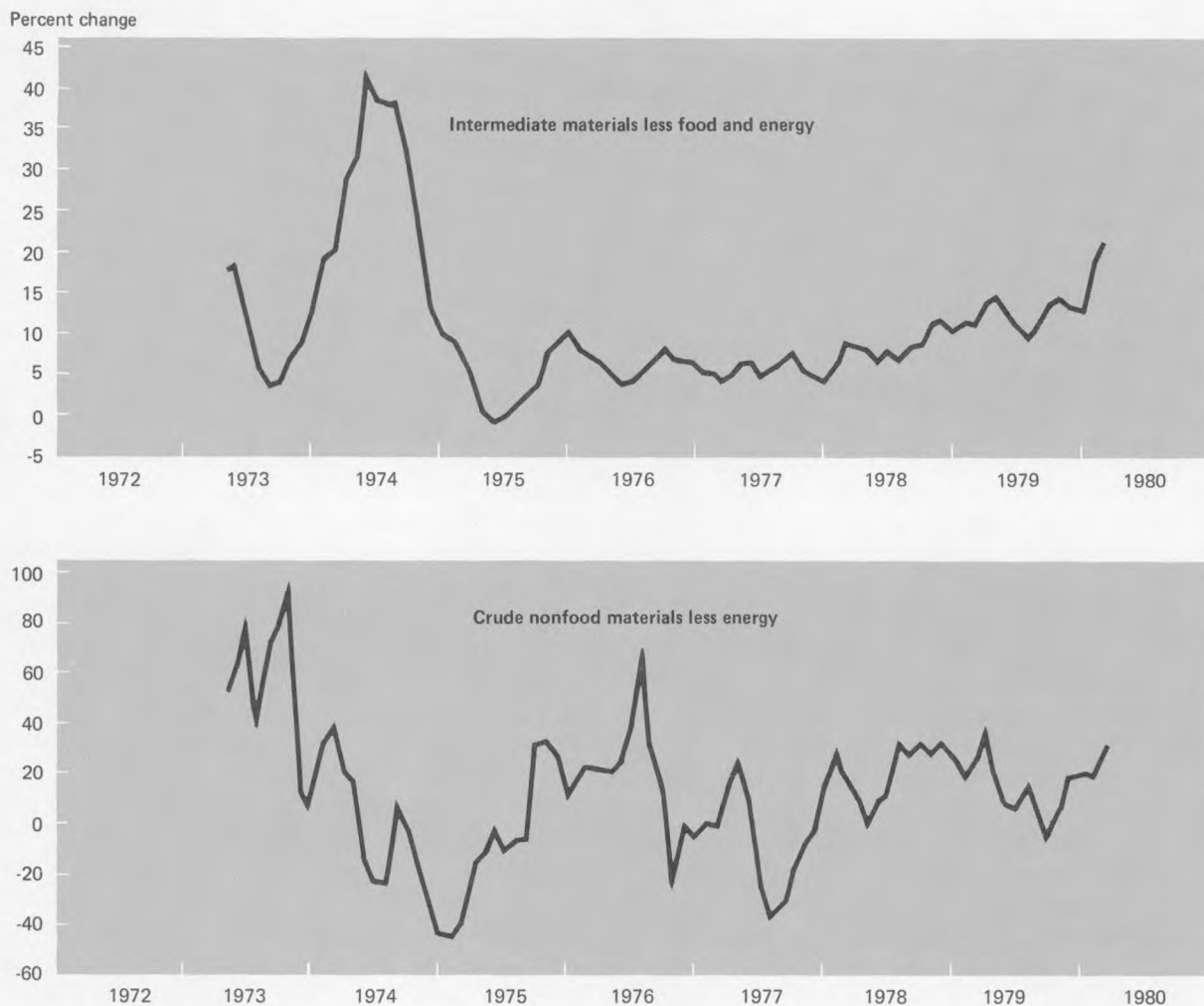
During 1974, prices for pharmaceutical materials appear to have jumped sharply in response to price increases for basic organic chemicals, with a lag of one or two quarters. Raw materials constitute only a small fraction of the cost of pharmaceuticals, with research and development costs being unusually important. As a result, the effect of changes in raw material costs on drug prices is somewhat muted. In 1974, price increases for drugs occurred at about the same time as price changes for pharmaceutical materials. As would be expected from their higher proportion of research and development costs, prescription drugs were affected less than over-the-counter preparations.

The impact of manufacturing materials

In both periods of double-digit inflation, a major factor was the sharp increases in prices of materials used in manufacturing. This was particularly the case in 1974. The Producer Price Index for intermediate materials less food and energy advanced more than 25 percent that year, while the increase in 1979 was just under 13 percent. Some of this difference may be attributed to the larger indirect effects of energy prices in the earlier period. Another factor was a substantially more rapid climb in crude material prices during the earlier period which began before the jump in crude petroleum prices. Prices for crude nonfood materials less energy were climbing at a rate in excess of 80 percent for the 6 months ended in September 1973, compared with a peak rate of 32.5 percent for the 6 months ended in March 1979. (See chart 4.)

Much of the inflation during 1973-74 had its origins in a worldwide commodity price boom that began in late 1972, which has had no counterpart in the more recent period. In addition, price controls kept prices for many items artificially low, thereby contributing to shortages of several materials. As controls were removed, industrial material prices rose unusually rapidly. Reflecting the vigorous state of the world economy, as well as the reduced value of the dollar in international money markets, price increases accelerated sharply for a broad range of basic materials, such as scrap metal, natural rubber, inedible fats and oils, woodpulp, and wastepaper.

Chart 4. Inflation rates for intermediate materials and crude nonfood materials, 1973-80¹



¹Three-month changes seasonally adjusted at annual rates for the Producer Price Indexes for intermediate materials less food and energy and for crude nonfood materials less energy.

The steel and nonferrous metals industries are two of the heaviest consumers of energy in manufacturing, and in both periods prices of their products were affected by runups in energy prices. (See table 4.) Very strong demand and rapid increases in scrap metal prices also contributed to price increases for metals.

Scrap metal prices are very sensitive to demand and thus are a barometer of the demand for metals. However, as a major raw material in metal production, scrap metal prices also represent a cost of manufacture. During 1973, strong demand and material shortages drove prices of primary and scrap metals up sharply. By the

first quarter of 1974, higher prices for fuels added to the cost pressure. By the second quarter of 1974, demand for nonferrous metals began to fall off, depressing prices for nonferrous scrap; rising fuel costs continued to push up primary nonferrous prices at annual rates in excess of 50 percent. By the end of the third quarter, most fuel costs had been passed through, and nonferrous metal prices began to fall in response to declining demand.

In 1974, steel manufacturers also passed on higher fuel costs during the first half. But steel demand remained strong most of the rest of the year, largely because of heavy demand from capital equipment

Table 4. Indirect effects of energy costs, 1973-1975 and 1978-80

Producer Price Indexes	Annualized percent change for 3 months ended -													
	Dec. 1973	Mar. 1974	June 1974	Sept. 1974	Dec. 1974	Mar. 1975	June 1975	Sept. 1975	Dec. 1975	Mar. 1976	June 1976	Sept. 1976	Dec. 1976	Feb. 1977
Crude fuels (natural gas and coal)	26.7	26.3	58.7	51.1	53.8	-10.3	30.2	11.3	14.7	26.6	32.1	32.4	27.5	33.9
Intermediate energy goods	46.0	105.3	56.2	27.7	12.2	9.1	6.9	-4.2	12.6	15.1	52.8	71.1	37.1	55.8
Ferrous scrap	345.5	125.8	2.1	75.6	-62.2	-51.0	-32.4	37.3	82.0	79.9	-6.4	-29.2	33.0	-9.6
Steel mill products	11.6	36.3	70.9	55.1	10.8	7.7	-4.2	7.4	7.8	13.5	8.9	7.4	12.4	5.8
Passenger cars	-2.7	7.4	12.0	14.6	17.6	5.0	3.1	6.6	4.2	11.5	10.2	1.8	6.8	9.3
Nonferrous scrap	124.5	46.2	-11.2	-54.5	-57.5	-47.1	-26.8	41.3	34.5	57.5	30.4	11.4	52.9	101.9
Primary nonferrous refinery shapes	86.0	51.3	56.1	1.2	-14.9	-22.0	-17.3	25.7	24.1	56.6	29.0	44.5	89.0	217.3
Nonferrous mill shapes	71.0	42.6	45.9	16.1	-11.3	-12.8	-9.5	12.6	19.4	31.9	8.4	16.0	22.1	24.8
Nonferrous foundry shop products	N.A.							11.8	7.0	11.2	45.7	15.0	-1.0	10.9
Railroad freight	8.5	31.2	4.6	41.8	.8	0	20.6	15.4	31.5	3.5	6.0	16.9	33.9	5.9
Capital equipment	6.6	14.3	26.8	29.9	19.6	13.0	5.4	8.1	7.9	10.5	9.4	5.9	9.4	13.2
Consumer goods excluding food and energy	8.4	10.0	19.2	16.9	14.2	5.6	2.3	8.4	7.7	10.3	7.9	9.1	10.5	22.1
Services excluding energy (CPI)	8.1	8.9	11.6	12.7	10.1	8.0	6.3	10.6	8.3	11.7	11.7	14.2	17.1	18.7
Home finance, taxes, and insurance (CPI)	14.4	10.8	12.0	17.6	19.1	8.5	7.2	19.0	8.3	25.8	22.0	25.3	38.1	39.5

N.A. Not available.

manufacturers. Prices continued to rise into 1975 as a result.

In 1978 and early 1979, strong demand for both ferrous and nonferrous metals kept prices for metal scrap rising rapidly, although not as spectacularly as in 1973. Unlike the second half of 1974, however, the second half of 1979 saw considerable slackening in demand for steel. This reduction in demand, coupled with the impact of the Administration's price guidelines, helped to keep the rise in steel prices smaller than in the earlier episode. Increased fuel costs undoubtedly contributed to the continuing steel prices increases. Steel prices were also affected by the Government's "reference pricing system" which placed a floor under imported steel prices through the use of anti-dumping duties triggered by a set of reference prices.

In contrast to 1974, nonferrous metal prices also have continued to rise rapidly. The effects of increased energy costs have been matched or exceeded by a number of other factors that were not present in 1974. Speculative demand drove prices for gold and silver up more than 200 and 600 percent over the 12 months ending in January 1980. Speculation spilled over into other metals, especially copper, which rose nearly 50 percent in the same period. (Other commodities such as sugar, natural rubber, and raw cotton were also affected by speculation.) Cobalt prices quadrupled during 1978 and 1979 because of political violence in Zaire, the world's leading producer.

The case of new cars. During both periods, new car prices were pushed upwards by the direct and indirect effects of the drop in the value of the dollar in international money markets. Prices of imported cars were raised to offset the dollar's decline; these increases in turn allowed domestic producers to boost prices of those models which were in high demand because they were most competitive with imports in terms of size and mileage. Both periods later witnessed a drop in demand

for larger new automobiles in response to the uncertainties of gasoline supply and higher gasoline prices. In the early months of both 1975 and 1980, manufacturers established substantial rebate programs to stimulate demand.

Price behavior of new cars each time, however, was quite different. During the 12 months ending in February 1975, new car prices rose 11.5 percent, compared with 8.0 percent for the 12 months ending in February 1980. The earlier increase was larger, partly because, as noted, steel prices rose more rapidly. Some of the slower rise in the current period might also be attributed to the Administration's price guidelines. The slower recent advance came in spite of the fact that demand for new cars remained stronger than in 1975; auto production has remained well ahead of its 1975 levels. The stronger demand currently may partly reflect the automobile industry's restructuring of its product line since the mid-1970's, improving gas mileage substantially on existing car lines and introducing more small-car models.

Distribution costs rise

Petroleum products, of course, are used heavily in the distribution of goods, including transportation and the operation of retail outlets. The intermediate energy goods and crude fuel indexes in table 4 show the rising costs from energy faced by the distribution process.

The railroad freight rate index illustrates the impact of fuel cost changes on transportation charges. The regulatory process usually permits some immediate relief to carriers for fuel cost increases. However, the full impact usually seems to come 3 to 6 months later.

The effects of fuel costs on the distribution process are illustrated by the prices for food at home. (See chart 2.) Through the first part of 1976, the over-the-year percent change in that CPI component had mirrored changes in the PPI for consumer food in a very regular way: major changes in the two indexes occurred either

simultaneously or within a month or two of each other, and prices received by food processors both accelerated and slowed more quickly because retailers and wholesalers tended to absorb some of the increases and recoup them on the down side. Retailers infrequently evaluated and incorporated changes in overhead costs into pricing decisions.

The energy price runup of 1974 changed all of that. It took a couple of years for retailers to adjust. But, since the beginning of 1976, food price increases over 12-month periods have usually been larger for the CPI than for the PPI, both when food prices were accelerating and when they were decelerating. While these data do not readily yield an estimate of the price impact of energy on the food distribution chain, they clearly suggest an increasing influence of energy on food prices which dampens the effect of falling producer prices on retail prices.

Increases other than food and energy

Substantial indirect energy effects on prices of consumer commodities other than food and energy began to be reflected in the PPI during the first quarter of 1974. (See table 4 and chart 5.) As we have noted, the end of price controls, strong demand, and worldwide inflation in a number of basic materials also caused manufacturers' prices to accelerate through the second quarter. As both energy prices and demand began to slow in the second half of the year, increases in producer prices for finished goods other than food and energy decelerated, reaching a 3-month annual rate of only 2.3 percent by the middle of 1975.

Retail prices for commodities other than food and energy rose somewhat more slowly than at the producer level, hit their peak about one quarter later, and decelerated more slowly. Prices for consumer services other than energy followed the same pattern with still smaller increases and less pronounced deceleration.

Currently, retail and manufacturers' prices for non-food commodities other than energy have moved even more closely together. The major exception was in early 1980 when sharp PPI rises for fine jewelry and silver flatware were not reflected as strongly in the CPI. Prices for goods other than food and energy have risen more slowly this time. On the other hand, their period of rapid increases has been more protracted, and the indirect impacts of the last two OPEC price increases have not yet filtered through.

In addition, demand seems to have been fueled by a psychology of inflationary expectations in which consumers have made purchases out of fear that prices will be still higher in the future. As a result, by recent standards personal savings rates have reached new lows, and consumer debt has hit new highs. Speculation in basic materials has also served to extend the inflation-

ary period, and the final effects from that still have not reached the consumer.

Unlike the earlier period, the index for nonenergy service prices has risen faster than commodity prices and has continued to accelerate to rates higher than those reached in 1974. This difference can be traced to the effect of mortgage costs, which have accounted for about half of the increase in this index. The record-high mortgage interest rates in turn are the result of the overheated economy and the elevated demand for consumer credit to finance the inflation-induced demand, as well as significant steps taken by the Federal Reserve Board to restrict credit. Because of the lag from the time a house buyer contracts for a mortgage until settlement, the maximum impact from the recent runups in mortgage interest costs has not yet been reflected in the CPI.

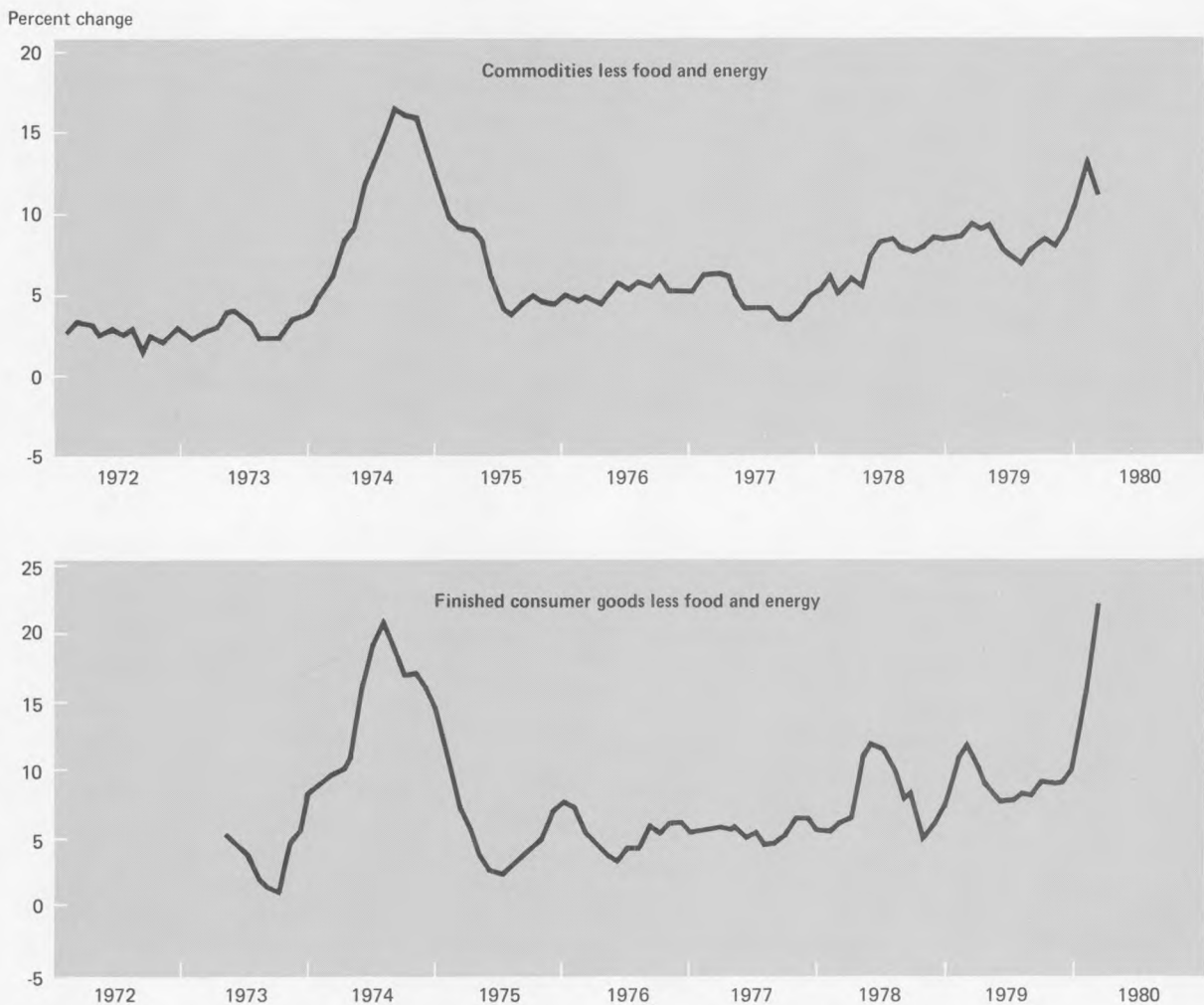
Capital equipment. Producer prices for capital equipment advanced at a much faster rate in the first round of double-digit inflation. (See table 4 and chart 6.) After rising 5.3 percent in 1973, this index jumped to a 14.3-percent rate in the first quarter of 1974 and rapidly accelerated after the April 30 expiration of the price controls program to a rate of about 30 percent in the third quarter. This index was still climbing at a 13-percent rate as late as the first quarter of 1975, at the bottom of the recession. In contrast, the rate of increase in capital equipment prices peaked at a rate of no more than 11 percent in early 1979 and rose 8.7 percent for the year as a whole, only slightly more than the 8-percent increase registered in 1978.

The 1974-75 spurt in the capital equipment index was in two ways a reflection of capacity shortages in many materials-producing industries. On the one hand, these shortages produced sharply increased demand for many types of industrial equipment; on the other, they drove up prices for the major materials used in the manufacture of capital equipment.

The absence of a similar widespread capacity crunch more recently helped to moderate capital equipment inflation, as the rate of growth in the general economy did not prove excessive compared to the Nation's capital stock. The relatively slow rate of recovery in capital expenditures after the last recession had raised concerns that the economy would soon be constrained by an inadequate supply of investment goods. Rather than commit themselves to long-term capital projects which might lead to excess capacity, many producers attempted to prolong the useful life of existing plants and equipment; one consequence was increased demand for replacement parts and thus a rapid rate of inflation in their prices.

Special factors contributed to changes in the rate of inflation during the 1970's for some types of capital

Chart 5. Inflation rates for consumer goods, less food and energy, 1972-80¹



¹ Three-month changes seasonally adjusted at annual rates for the Consumer Price Index for All Urban Consumers for commodities less food and energy, and the Producer Price Index for finished consumer goods less food and energy.

equipment. The drive to make America less dependent on foreign energy sources, for example, kept prices for most kinds of capital associated with the energy exploration and production industries advancing rapidly from 1973 through the end of the decade, even during times when prices of most other investment goods were rising slowly. Prices for agricultural and construction machinery were somewhat sensitive to shifts in the level of farmers' income and construction activity. Prices for machine tools rose at unusually steep rates during much of the 1978-79 episode, in part because of intense demand from the motor vehicles industry generated by

the need to produce downsized models with improved fuel efficiency; heavy demand from the aerospace industry was another important influence.

In contrast, motor truck prices rose much less in the current period, partly because demand for light trucks and vans with relatively low gas mileage dropped greatly in the wake of the steep rise in gasoline prices in mid-1979. Demand for capital goods by electric utilities was restrained as some expansion projects were postponed or canceled; sharply higher electricity rates led to increased consumer conservation efforts, thereby lowering the long-range projections of growth in electricity

Chart 6. Inflation rate for capital equipment, 1972-80¹

¹Three-month changes seasonally adjusted at annual rates for the Producer Price Index for capital equipment.

demand, while some planned nuclear and conventional power projects encountered environmental or political objections.

The housing boom

Both periods of double-digit inflation witnessed a boom in the market for residential real estate. Price indexes for both mortgage interest rates and home purchase started to accelerate around mid-1973, more than a year after rising food prices had initiated the acceleration in the All Items CPI. From July 1973 through October 1974, the CPI for mortgage interest rates moved up 21.4 percent. Home purchase prices also started to advance more rapidly in mid-1973 and continued to rise at a steep rate for nearly 2 years; by May 1975, this index was 21.9 percent higher than in July 1973. During the current inflation, home purchase prices and mortgage interest rates have again soared. Between December 1977 and February 1980, the index for mortgage interest rates increased 35.3 percent; the home purchase index climbed 30.5 percent during the same span.

Rising construction material costs were an important influence in the home price surge of 1973-74, but may have been less crucial in the current period. In the year ended September 1974, the Producer Price Index for construction materials and components advanced 23.6 percent. This steep rate partly reflected sharply higher

prices for many kinds of energy-intensive construction materials, such as structural steel, cement, flat glass, structural clay products, and asphalt, as well as strong demand from competing uses. During the more recent period, the PPI for construction materials rose 11 percent in 1978, before slowing somewhat during 1979 as the housing construction market weakened.

Demand for homes was extremely strong during most of the 1970's, partly because of a rapid growth in the number of people in the age and income categories most interested in buying a first home. The rate of residential construction starts peaked in October 1972 at more than 2.4 million units, as ample funds were available to accommodate the intense demand. (See table 5.) But as the general economic boom continued, tighter conditions began to prevail in the money markets. The resulting record-high interest rates reduced the availability of home mortgage financing. This was a major factor in the virtual collapse of the homebuilding industry by late 1974 and early 1975, when construction of new private housing units sank to less than one million. As housing starts reached this depressed level after 2 years of decline, interest rates dropped quickly, and home purchase prices began to rise much more slowly.

The residential construction market recovered gradually from its depressed level of early 1975, as mortgage funds became generally available again. By 1978, the

annual rate of new private home construction exceeded the 2-million unit mark in spite of the renewed climb in interest rates. Although a marked drop in construction activity was widely anticipated for 1979, the housing market was able to maintain most of its vigor until late in the year. The strength of the residential construction market in the late 1970's, in part, reflected several institutional changes, combined with the development of an inflationary psychology among many prospective home buyers.

New regulations allowed savings institutions (traditionally the primary source of mortgage financing) to issue money market certificates as of mid-1978, which paid an interest rate approximately equal to that of six-month Treasury bills. This action allowed savings institutions to compete more effectively for investment capital. This prevented "disintermediation," which had often occurred late in a business expansion when rising interest rates induced investors to purchase high-yield certificates rather than deposit funds in savings and loans, where interest rates were kept down by law. In the past, disintermediation led to recessions in the homebuilding industry, which helped to bring about downturns in overall business activity.

The new high-interest securities issued by savings institutions provided the financing which allowed the housing construction industry to operate at higher than expected levels during 1978 and much of 1979. By February 1980, however, mortgage interest rates were climbing at a 3-month annual rate of 33.9 percent—reflecting a series of credit-tightening moves by the Federal Reserve Board in early October. As a result, it was no longer profitable for many thrift institutions to make mortgage loans. The resulting cutoff or restrictions on home purchase financing in many parts of the country led to a drop in the rate of new home construction to an annual rate of approximately 1.5 million units at the beginning of 1980. As in 1973-74, home purchase prices and interest rates continued to climb many months after the rate of residential construction had begun to decline.

Another reason why the housing market maintained its strength longer than had been generally expected was that homes became more attractive as an investment. Inflationary expectations led many people to shift their assets from savings to home equity. From June 1978 through December 1979, the CPI for home purchase rose about 23 percent, compared with an advance of about 18 percent for the All Items CPI. Because home values were generally rising faster than the overall inflation rate, home purchases were widely viewed as a hedge against inflation. The consequent high demand for houses served to push prices up further and reinforce the initial perception. This was one reason the aggregate personal savings rate fell to about 3.5 percent

Table 5. Timing of selected business cycle indicators and the Consumer Price Index

Business cycle indicator	1973-74		1978-79	
	Lead time ¹		Lead time ¹	Date of high value preceding Feb. 1980
	Trough to acceleration start	Peak to deceleration start	Trough to acceleration start	
Gross National Product, 1972 dollars	-18	-11	-32	(²)
Personal income, 1972 dollars	-18	-12	-28	Dec. 1979
Employees on nonagricultural payrolls	-18	0	-30	(²)
Industrial production index	-18	-4	-31	Mar. 1979
Capacity utilization	-18	-14	-32	First quarter 1979
New orders for nondefense capital goods, 1972 dollars	-19	-3	-28	Mar. 1979
New housing starts	-28	-24	-32	Apr. 1978
Ratio of deflated inventories to sales, nonmanufacturing and trade	-18	-20	-31	(²)
Corporate bond yields	-4	-1	-10	(²)
Ratio of consumer installment credit to personal income	-11	-8	-24	Sept. 1979
Index of four roughly coincident indicators	-18	-11	-31	Mar. 1979

¹ The number of months by which the trough or peak of the given business cycle indicator leads (negative value) the start of acceleration or deceleration in the All Items CPI.

² These indicators were still rising at the time of the most recent available data.

by the end of 1979, compared with a personal savings rate of about 8 percent at the previous business cycle peak in late 1973.

The jump in food prices

Food prices played a greater role in the inflation of 1973-74. The CPI for food rose 20.1 percent in 1973 and 12.2 percent in 1974, compared with increases of 11.8 percent in 1978 and 10.2 percent in 1979. Retail food prices generally rose more moderately in the intervening period. Sharp advances in food marketing costs—particularly those most vulnerable to changes in energy prices—were a major influence in both periods; food processing and marketing currently account for about two-thirds of retail food prices.

Both periods were characterized by the declining value of the dollar on international exchange markets. The real value of agricultural exports expanded more than 60 percent from 1972 through 1979, partly because of the lower value of the dollar in international money markets. As a result, the relative proportion of agricultural exports to total cash receipts for farm products increased over the decade; more than 25 percent of all total cash receipts for farm products were accounted for by exports in 1979, compared with a 15-percent share in the early 1970's.

Beef prices were highly volatile in both periods as cattle owners initially attempted to liquidate herds that were no longer profitable. Smaller cattle herds led to higher beef prices, which encouraged consumers to shift demand to less expensive substitutes, such as pork, poultry, and cheese, resulting in higher prices for these

items. Price trends for beef tend to last longer than trends for pork and processed poultry prices; because the production cycle for cattle is longer, adjustments in beef output to changing market conditions are slower. In both cases, high cattle prices eventually induced farmers to increase their cattle herds. In 1974, this produced declines in beef prices. In the current period, herd rebuilding has only recently begun.

Unfavorable weather conditions reduced grain supplies in several foreign producing countries in 1972 and early 1973. Curtailed harvests in these countries, particularly the Soviet Union, and scarce supplies of soybean and Peruvian fish meal caused an upsurge in export demand for U.S. grains. From July 1972 to October 1973, grain prices soared 137.8 percent and manufactured animal feeds, 166.4 percent.

To alleviate the situation of tight supplies and increasing prices of grains and grain products in 1973 and 1974, changes were made in various Government farm commodity programs in an effort to expand domestic crop production and supplies. The Federal Government liquidated virtually all of its stockpiles of major grains. Direct export subsidies for all agricultural commodities were terminated. Export restrictions were placed on soybeans and cottonseeds in 1973.

Grain prices declined from late 1974 through mid-1977, so that they were only half as high at the end of this period as they were at the beginning. On balance, there were favorable growing conditions in grain-producing countries. In 1976, domestic production of both wheat and corn was at record levels. Carryover inventories of grains at the start of the 1976-77 growing season were at the highest level in 20 years, reflecting lower exports. Grain prices then rose for most months from mid-1977 through the end of 1979, although at rates well below those of the first period. The PPI for grains was more than 60 percent higher in December 1979 than in August 1977. The Federal Government's program of farmer-owned grain reserves and increased construction of on-farm storage facilities permitted farmers to withhold corn and wheat from the market and thus kept prices rising in spite of excellent domestic harvests. Strong export demand was another key influence.

Among other foods, retail prices for sugar and sweets soared 130.9 percent from January 1973 to January 1975, as raw cane sugar prices quadrupled. The unusually sharp increases were caused by several factors, such as a poor harvest of European sugar beets, typhoon damage to Philippine sugar cane crops, strong demand in world markets, and the uncertainty of U.S. purchasing policies due to the expiration of U.S. sugar price supports. Over the next 2 years, however, these prices declined as output expanded in the face of buyer resistance. Prices for sugar and sweets turned up again in

January 1977 and continued to rise through the rest of the decade, although not nearly as rapidly as in the earlier price boom.

Retail roasted coffee prices more than tripled from mid-1975 through mid-1977, reflecting first the effects of the severe 1975 Brazilian freeze and, later, the effects of production problems in Guatemala and Angola. This index declined by one-third from mid-1977 through mid-1979, as output gradually expanded and consumers cut consumption in reaction against higher prices. Prices turned up for the rest of 1979, partly because of adverse weather in Brazil and political turmoil in Nicaragua.

The current situation

It would be risky to develop any generalizations about the way double-digit inflations end from a single recent example. Nevertheless, it is the only comparable case available. Noting the similarities and differences between then and now will at least help to define the situation as of early 1980 and point to the factors to be watched in the coming months.

One of the major factors contributing to the rapid deceleration of prices in 1974-75 was the severe recession that accompanied it. The recession has been officially designated as beginning in the fall of 1973 at about the time that the Gross National Product, real personal income, and capacity utilization turned down. It remained mild, however, until late in 1974, after employment, industrial production, and new orders for nondefense capital goods all had begun to decline. Prices began to decelerate only after the recession entered its most depressed months. (See table 5.)

Although a number of forecasters have been predicting a recession for some time, the evidence is still not conclusive that one has begun. Industrial production, new orders for nondefense capital goods, and capacity utilization are all below first-quarter 1979 levels, and real personal income declined during the first two months of 1980. But the Gross National Product and employment, the two most significant indicators of a recession, have not begun to decline.

A severe recession need not be the only way to bring double-digit inflation down. Nevertheless, the single example of 1974-75 suggests that prices are slowed as the result of declining demand only when the reduction is substantial and prolonged. As of February 1980, little price relief from this source could be expected in the near future. The indicators in table 5 are those to watch for signs of slowing demand pressure on prices. Even if such relief were to come, it could well be partly or entirely offset by other factors.

One of the most important factors is the price of crude petroleum. There was a sudden rise in imported crude petroleum prices in late 1973-early 1974; by the

second quarter of 1974, energy prices at all stages of processing were decelerating. Six months later, the secondary effects on other products were sufficiently attenuated to permit prices to begin slowing down as the general recession intensified.

During 1979, the situation was quite different. Although the increases in OPEC oil quotations were slower, OPEC raised its prices several times during the year. In addition, domestic energy prices are now less insulated from the world price of petroleum for a number of reasons: imports constitute 45 percent of all crude petroleum, compared with 26 percent in 1973; prices of domestically produced crude petroleum have been partially decontrolled and about one-fourth is now sold at approximately the world price; and price controls on natural gas have been relaxed somewhat since 1974.

Unlike 1974, crude and intermediate energy prices accelerated for about one year and did not begin slowing until October 1979. Even then, the slowdown, especially for crude energy, has been only modest. Imported crude petroleum prices are not included in this index, and the two most recent OPEC price increases have not yet been totally reflected in intermediate or finished products. In addition, OPEC is now reviewing its prices quarterly, and future actions cannot be anticipated. As a result, if reduced demand should begin to exert a slowing effect on prices during the early spring of 1980, the offsetting pressure from the attempts to pass through rising energy prices will be greater than they were in 1974.

Currently, cost pressures from crude and intermediate materials other than food and energy may be more protracted. In 1973 and 1974, prices for crude nonfood materials began to decelerate sharply 1 full year before the All Items CPI started to slow down; prices of intermediate nonfood materials did so 2 months before the CPI, with a very sharp deceleration thereafter. In 1979, prices for crude nonfood materials except energy began a deceleration in April, which would have been consistent with a slowdown for the CPI during the early spring of 1980. Unfortunately, these prices accelerated sharply beginning in October and had reached an annual rate exceeding 30 percent by February 1980.

The PPI for intermediate materials less food and energy stopped accelerating in early 1979. Unlike the rapid deceleration that occurred in 1974, prices in 1979 continued to rise at an annual rate of about 13 percent for the remainder of the year. Although the increases were only about half as fast as in 1974, they began to accelerate further during the first 2 months of 1980, even if the effects of gold and silver speculation are removed. However, to the extent that the acceleration in both crude and intermediate materials may also be affected by speculation in commodities such as cotton,

rubber, and copper, it could collapse very quickly if demand drops.

Food prices are already a more moderating influence on the overall rate of inflation than was the case just prior to the deceleration phase in 1974. Retail food prices were 7.3 percent higher in February 1980 than 12 months earlier, while prices at the primary market level were up less than 3 percent. In addition, carryover supplies of most crops are extremely good, and cattle herds, though small, are beginning to expand. Of course, weather and foreign purchase plans can shift suddenly and change the price picture.

The stringent credit-tightening measures announced by the Federal Reserve Board in October 1979, followed by even greater tightening in March, are much more restrictive than any monetary actions in 1973-74. Interest rates may have a number of different impacts on overall price levels. On the one hand, higher interest rates are a cost and push prices higher. On the other hand, by discouraging debt-financed purchases they dampen demand and exert a slowing effect on prices. In this connection, rising interest rates during 1979 finally stopped the growth of installment credit as a proportion of personal income in September. In 1974, a similar drop in consumer credit preceded overall price deceleration by 8 months. If a comparable mechanism is present now, reduced consumer borrowing should exert slowing pressure on prices during the first half of 1980.

Interest rates on mortgages have a substantial impact on the CPI. Rapid rises in mortgage interest rates during late 1979 and early 1980 are among the most significant causes of continuing high inflation. However, high house prices and high interest rates have both had a depressing effect on the demand for housing. New housing starts have been falling since April 1978. During the earlier round of double-digit inflation, there was a two-year lag between the initial decline in housing starts and the deceleration of the CPI. A similar development this time would place the decelerating effect of house prices in the spring of 1980. In addition, a significant drop in aggregate demand would reduce the demand for borrowed funds and bring down mortgage interest rates.

Finally, there is the matter of the pressure which rising wages may have on prices, both from the demand side and from the cost of production. When prices began to decelerate after October 1974, hourly earnings (as measured by the average hourly earnings index for the total nonfarm sector) had increased 9.1 percent the previous year. As of December 1979, hourly earnings were 8.3 percent above their year-ago level. While these data suggest that wage pressures are not as severe now as they were during the earlier period, this proposition can be accepted only with two cautions. First, the higher 1974 rate (9.1 percent) was the result of a sudden runup from 5.8 percent at the end of 1972, while

the current 8.3-percent rate is a continuation of the 7.5–8.5-percent range that has prevailed since 1975. Second, the lower rate may conceal a large pent-up demand for higher wages that may erupt later.

The cost of labor in the production process can be affected by two other factors as well: the cost of nonwage compensation and changes in productivity. The combined effects of wages, other compensation, and productivity are reflected in the unit labor cost data. These data show that because of more severe declines in productivity, unit labor costs were also placing greater immediate pressure on prices during 1974, increasing by 14.8 percent that year, compared with 11.1 percent in 1979.

In summary, we can make the following characterizations about double-digit inflation in 1973–74 and today:

Energy prices were a major factor in both periods. Currently, price increases have been much more protracted, and both direct and indirect effects of crude petroleum prices have not yet been fully felt by the consumer. Future changes are heavily dependent on OPEC pricing decisions.

Food prices led the acceleration both times but are

currently a moderating influence.

Manufacturing material prices rose much more sharply in 1973–74. Although there were some indications in 1979 that crude material prices had slowed, speculation and strong demand renewed their rapid increase.

Nonfood finished commodities other than energy had substantial price increases in both periods as the result of higher raw material and energy costs, coupled with strong demand. Currently, cost pressures are still being felt, and slackening in demand has been too small to have had a major impact. Inflationary expectations have buoyed demand, increasing consumer debt and reducing the personal savings rate.

Mortgage interest and house prices pushed inflation up sharply in both periods. A decline in the housing market beginning in late 1972 led to a slowing of house price rises in 1975. The housing market has been declining again since the spring of 1978. Mortgage interest rates are currently being pushed to record levels, partly as the result of Federal Reserve credit-tightening actions. □

— FOOTNOTES —

¹ The dates we have chosen for each phase are those appropriate for the Consumer Price Index for All Items for All Urban Consumers (CPI-U). To help reduce the effects of "statistical noise" in the data, annualized rates of change over 3-month spans are used throughout our analysis, unless otherwise specified. Seasonally adjusted data have been used for those time series exhibiting a pattern of stable seasonality.

² Through the first 9 months of 1979, the acquisition cost of

imported oil climbed 67.7 percent, compared with a rise of 41.7 percent in the benchmark price. As 1980 began, the benchmark price was raised by an additional one-third retroactive to October 1979, and by another 8.3 percent effective in January 1980. OPEC decided to review crude oil prices every 3 months in the future.

³ In both episodes, the Federal Government controlled gasoline prices at all levels, whereas fuel oil prices were decontrolled in 1976.

Measuring wage relationships among selected occupations

Occupational wage spreads, as measured by survey averages, do not mirror relationships within individual firms; pay differentials are much smaller within establishments

VIRGINIA L. WARD

Reviewers of occupational wage relationships should not be misled by averages derived from wage surveys. An analysis of data from the Bureau of Labor Statistics' area wage surveys¹ confirmed that nationwide relationships may have little or no similarity to those within individual establishments.

Inter-establishment averages are the basic product of the Bureau's occupational wage surveys. However, these averages tend to mask actual intra-establishment pay relationships. For example, in South Bend, Ind.,² during March 1976, average weekly earnings of class B secretaries were \$165.50 and of class D secretaries (the lowest level studied that year), \$167.50. This inverse relationship indicates that, in South Bend, establishments paying high wages employed proportionately more class D secretaries and low-wage establishments employed proportionately more class B secretaries.

In other instances, the published wage relationships may seem more reasonable, although they do not reflect those within single establishments. National wage data indicate that maintenance workers averaged almost twice as much in hourly pay as janitors and that men in office clerical occupations averaged more than their female counterparts. But, when intra-establishment averages are compared, these differences are smaller.

The analysis in this article is based on measures of occupational wage relationships—pay relatives—which

reflect the pay practices and structures of employers. Pay relatives express earnings for an occupation as a percent of average earnings for a benchmark occupation in the same establishment. Janitor ("janitor, porter, cleaner") is used as the benchmark here because the job is widespread among establishments and is usually at or near the bottom of the wage scale—a convenience when analyzing pay relatives. The pay relatives were computed by dividing an establishment's average hourly earnings for the occupation being compared by the average for janitors.³ The next step was to array the pay relatives for establishments contributing to an occupational comparison (one pay relative per establishment, weighted by establishment and area weights) and determine the median of the array. The results are presented in table 1.

Occupations were not compared one to another (for example, class A typists to class B typists). If they had been, the results discussed in this article might be quite different because the establishments included in the comparisons would have been different.⁴ For example, establishments employing janitors and class A typists are not likely to be identical to those employing class A and class B typists.

Intra-establishment patterns

Nationwide. Based on median establishment pay relatives, blue-collar occupations averaged more than the janitorial occupation; a number of white-collar occupations averaged less. (See table 1.) Top-level secretaries were the highest paid clerical workers in 1976, averag-

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Table 1. Intra-establishment wage relationships for selected occupations, by industry and region, 1976

[Janitorial pay=100]

Occupation	Industry division			Region			
	All industries	Manufacturing	Nonmanu- facturing	Northeast	South	North Central	West
Office clerical							
Secretaries:							
Class A	145	134	162	149	161	129	153
Class B	131	123	142	133	143	120	134
Class C	120	113	131	118	129	111	122
Class D	110	104	123	109	121	101	109
Stenographers, general	100	93	109	100	113	91	100
Stenographers, senior	109	102	121	110	122	99	111
Transcribing-machine typists	101	95	106	101	114	89	100
Typists:							
Class A	98	93	108	99	112	93	98
Class B	90	84	98	88	100	83	87
Clerks:							
Accounting, class A	118	112	128	119	128	109	115
Accounting, class B	102	97	108	101	110	95	99
File, class A	105	95	111	105	121	100	105
File, class B	89	83	94	92	100	78	88
File, class C	86	81	89	86	97	78	87
Payroll	110	106	120	109	118	103	113
Messengers	86	82	89	85	95	81	86
Switchboard operator-receptionists	98	95	105	100	106	90	99
Bookkeeping-machine operators:							
Class A	118	111	125	111	123	121	116
Class B	108	100	113	109	117	97	107
Billers, machine:							
Billing machine	101	98	105	95	114	94	108
Bookkeeping machine	106	102	109	101	118	99	109
Keypunch operators:							
Class A	105	100	118	104	120	99	108
Class B	97	91	106	96	106	87	99
Tabulating machine operators:							
Class A	127	124	130	138	146	123	124
Class B	112	109	117	112	120	110	107
Class C	101	102	98	112	109	93	...
Professional and technical							
Computer systems analysts:							
Class A	229	219	251	226	272	198	247
Class B	190	175	218	190	232	170	190
Class C	160	146	177	149	210	147	160
Computer programmers:							
Class A	190	176	215	192	234	167	189
Class B	160	151	182	168	184	145	174
Class C	136	122	146	142	145	119	134
Computer operators:							
Class A	139	130	155	141	164	127	145
Class B	125	118	133	126	136	116	125
Class C	111	105	118	109	120	99	112
Drafters:							
Class A	155	152	168	155	168	145	158
Class B	132	131	148	131	144	123	129
Class C	113	112	119	116	116	109	110
Drafter-tracers	96	87	115	84	112	88	96
Electronics technicians:							
Class A	160	157	178	155	179	147	174
Class B	148	143	162	139	160	141	147
Class C	134	127	142	119	146	125	130
Registered industrial nurses	125	123	154	127	142	117	131
Maintenance, toolroom, and powerplant							
Maintenance carpenters	136	130	167	135	147	128	143
Maintenance electricians	140	138	163	137	153	134	144
Maintenance painters	128	124	160	124	143	125	136
Maintenance machinists	139	138	145	136	148	133	141
Maintenance mechanics (machinery)	134	134	144	132	144	129	141
Maintenance mechanics (motor vehicles)	132	127	146	130	138	125	136
Maintenance pipelitters	128	128	138	128	133	128	126
Maintenance sheet-metal workers	130	129	131	134	139	125	126
Millwrights	128	128	131	130	135	127	128
Maintenance trades helpers	110	109	115	109	114	109	110
Machine-tool operators (toolroom)	135	135	...	139	140	132	147
Tool and die makers	152	151	...	153	165	144	167
Stationary engineers	143	130	182	134	156	136	171
Boiler tenders	119	118	129	117	122	120	122
Material movement and custodial							
Truckdrivers:							
Light truck	112	112	110	113	109	112	106
Medium truck	119	117	127	123	117	118	127

Table 1. Continued—Intra-establishment wage relationships for selected occupations

[Janitorial pay=100]

Occupation	Industry division			Region			
	All industries	Manufacturing	Nonmanu- facturing	Northeast	South	North Central	West
Heavy truck (trailer)	123	120	135	131	122	117	132
Heavy truck (other than trailer)	122	117	136	132	116	117	120
Shipping clerks	116	116	119	117	117	115	121
Receiving clerks	116	113	125	114	120	114	117
Shipping and receiving clerks	119	117	123	115	126	116	120
Warehousemen	114	112	123	112	117	113	115
Order fillers	108	107	111	108	107	107	111
Shipping packers	105	105	105	104	107	105	106
Material handling laborers	103	103	104	104	103	103	104
Forklift operators	109	108	121	109	110	107	112
Power-truck operators (other than forklift)	109	108	111	112	117	105	110
Guards	105	104	106	107	107	104	102
Watchmen	102	101	105	103	101	101	105

ing 45 percent more than janitors. Messengers and entry-level file clerks were the lowest paid, averaging 14 percent less than janitors. Seven of the 26 office clerical occupations had pay relatives below 100.

Pay relatives for the 17 professional and technical occupations varied with the duties and responsibilities. Drafter-tracers who prepare simple drawings or copy drawings by tracing had the lowest pay relative of the group; systems analysts responsible for the most complex problems had the highest in the entire study.

Unlike the professional and technical group, pay relatives for 11 of the 14 maintenance, toolroom, and powerplant occupations studied were clustered within a comparatively narrow band—128 to 143. These 11 specialized occupations generally are found in large unionized establishments and require a formal apprenticeship or equivalent training and experience. Pay relatives for tool and die makers were the highest and those for maintenance trades helpers and boiler tenders were the lowest. Pay relatives for material movement and custodial occupations (other than janitor) ranged from a low of 102 for watchmen to 123 for trailer truckdrivers.

Industry. Pay relatives based on janitorial pay were generally larger in nonmanufacturing than in manufacturing industries. For example, class A typists in nonmanufacturing earned 8 percent more than janitors, while their counterparts in manufacturing earned 7 percent less.

Among the nonmanufacturing industries, services held the most favorable pay position for office clerical workers with pay relatives averaging 5 points above those in all nonmanufacturing industries; wholesale trade was lowest, averaging 9 points below nonmanufacturing. Computer occupations' pay relatives were about 35 points higher in retail trade, finance, and services than in public utilities and wholesale trade. The lower relatives were due to comparatively high wages for janitors, rather than low wages for computer personnel.⁵

Pay relatives for the skilled trades were also higher in nonmanufacturing. At least two elements contributed to this relationship. First, many large department stores pay skilled trades workers the local union rates for construction, even though the stores may not have a union contract covering any of their workers. (Union construction rates are usually much higher than rates for skilled trades in manufacturing or other nonmanufacturing industries.) Second, average earnings of janitors are much lower in nonmanufacturing than in manufacturing, where their wage rates are more frequently set by collective bargaining agreements.

Regional. Median establishment pay relatives in the Northeast and West closely approximated the national pattern for office, professional and technical, and skilled plant occupations. However, pay relatives in the South were as much as 43 percentage points higher than the nationwide figures and those in the North Central region were as much as 31 percentage points lower. The less-skilled plant occupations generally followed the national pattern in all regions.

The South has historically recorded higher pay relatives based on janitor pay than the other regions.⁶ This pattern reflects the comparatively low wages of janitors—not higher pay for other occupations in the South (wage levels for almost all of the occupations studied were lowest in the South). Conversely, the low pay relatives in the North Central region reflect comparatively high wages for janitors. In fact, 16 of the 26 office clerical occupations had pay relatives below the janitorial base, compared with 8 below in the West, 7 in the Northeast, and 2 in the South.

One explanation for the opposite pattern of wage relationships between the South and North Central regions may be the degree of labor-management agreement coverage. Three-fourths of the plantworkers in the North Central region were covered by union agreements, compared with about two-fifths of those in the

South; and about a tenth of the officeworkers were covered in both regions. It appears that when janitors are paid under labor-management agreements, they have a more favorable wage relationship with blue- and white-collar workers within the same establishment. This analysis made no attempt to isolate the influence of unionization on regional pay levels from other factors that bear on wages. Differences in industrial composition of regions should be taken into account when examining reasons for differences in regional wage structures.

Inter- and intra-establishment differences

Inter-establishment and intra-establishment wage relationships for selected occupations are shown in table 2. Roughly two-fifths of the janitors in the study were employed by janitorial services—a relatively low-paying industry with few of the surveyed occupations. Consequently, data from these firms widened the inter-establishment wage differentials by decreasing the average for janitors (the benchmark job), while not affecting the other job averages. The intra-establishment wage differentials were not strongly affected, because of the few occupational comparisons that can be made within janitorial firms and the method used in computing differentials.

The data for tool and die makers illustrate, to some extent, the effect of janitorial services on the two types of measures. The inter-establishment relative of 195 for tool and die makers indicates they earned nearly twice as much as janitors; in contrast, when comparisons are made within establishments, the pay relative of 152 indicates only a 50-percent advantage. This situation is not unique. For 6 of the 21 occupations shown, the inter-establishment differential is more than twice as large as the intra-establishment differential.

Two occupational groups averaged more, or less, than janitors, depending upon the type of comparisons being made. Using inter-establishment averages, bookkeeping machine billers and class B bookkeeping machine operators averaged 5 percent less than janitors; using the intra-establishment averages, they averaged 6 to 8 percent more.

Changes in wage relationships

Most of the occupations included in this study were also covered in 1962 and 1967. These earlier studies focused on occupational data identified by sex and provided separate estimates for manufacturing and non-manufacturing, but not for all industries combined. The following tabulation shows wage relationships from the three studies:⁷

	Average wage relationships		
	1962	1967	1976
Manufacturing:			
23 office clerical occupations (women)	103	102	98
13 maintenance, toolroom, and powerplant occupations (men)	136	136	131
13 material movement and custodial occupations (men)	112	113	110
Nonmanufacturing:			
23 office clerical occupations (women)	113	111	108
10 maintenance, toolroom, and powerplant occupations (men)	150	149	148
10 material movement and custodial occupations (men)	122	122	118

Wage differences between male janitors and other occupational groups remained relatively stable from 1962 to 1967; since then, some wage compression has occurred. Several factors provide for some speculation as to the difference in patterns between the two periods. For example, wages, as measured by the Bureau's Average Hourly Earnings Index,⁸ advanced less than 4 percent a year from 1962 to 1967, but about 7 percent a year from 1967 to 1976. Therefore, equal-sized cents-per-hour adjustments within establishments (either general wage increases or cost-of-living escalators) had more opportunity to cause compression during the latter period. Additional factors include the increase in the Federal minimum wage from \$1.25 an hour prior to 1967 to \$2.30 an hour in 1976, and the exemption of lower paid workers from the wage controls of the early 1970's. □

— FOOTNOTES —

¹ Data in the 1976 study relate to 262 Standard Metropolitan Statistical Areas of the United States (excluding Alaska and Hawaii), as

Table 2. Inter- and intra-establishment wage relationships for selected occupations, 1976

[Janitorial pay = 100]

Occupation	Inter-establishment relationships	Intra-establishment relationships
Systems analysts, class A	263	229
Systems analysts, class B	227	190
Programmers, class A	214	190
Tool and die makers	195	152
Electricians	189	140
Mechanics (motor vehicles)	185	132
Programmers, class B	180	160
Mechanics (machinery)	177	134
Truckdrivers, (all sizes)	166	118
Computer operators, class A	162	139
Secretaries	136	124
Computer operators, class B	135	125
Shipping and receiving clerks	135	119
Material handling laborers	133	103
Stenographers, senior	124	109
Accounting clerks, class B	101	102
Bookkeeping—machine billers	96	106
Bookkeeping—machine operators, class B	95	108
Messengers	92	86
Typists, class B	91	90
File clerks, class C	79	86

defined by the U.S. Office of Management and Budget through February 1974. BLS surveys are conducted annually in a sample of 70 areas selected to represent all of these areas. Establishments employing 50 workers or more are surveyed in six broad industry divisions: manufacturing; transportation, communication and other public utilities; wholesale trade; retail trade; finance, insurance and real estate; and selected services. See *Area Wage Surveys, Metropolitan Areas, United States and Regional Summaries, 1976*, Bulletin 1900-82 (Bureau of Labor Statistics, 1979).

² See *Area Wage Survey, South Bend, Indiana, Metropolitan Area, March 1976*, Bulletin 1900-5 (Bureau of Labor Statistics, 1976), p. 3.

³ The establishments used in these computations were limited to those with 100 workers or more, employing janitors, and reporting data for workers in at least one of the other occupations studied. Thus, the number of establishments involved varied somewhat by occupation. Because the survey data used in this analysis are limited to selected occupations, the more common approach of comparing occupational pay to the average for a broader group, such as all production workers or all office workers, was not possible.

⁴ An occupational pay matrix which directly compares occupations with each other in an establishment was introduced into the *Area*

Wage Survey bulletins in January 1979. For a discussion on pay matrix techniques see Mark S. Sieling, "Interpreting pay structures through matrix application," *Monthly Labor Review*, November 1979, pp. 41-45.

⁵ A table presenting additional data for nonmanufacturing industries will be presented in the forthcoming *Area Wage Surveys, Metropolitan Areas, United States and Regional Summaries, 1977*, Bulletin 1950-77 (Bureau of Labor Statistics, 1980).

⁶ See "Occupational Wage Relationships in Metropolitan Areas, 1961-62," *Monthly Labor Review*, December 1963, p. 1426 and "Occupational Wage Relationships in Metropolitan Areas," *Monthly Labor Review*, December 1968, p. 29.

⁷ A wage relationship was computed between male janitors and individual occupations within each establishment. The median of these wage relationships for each occupation was determined, and then averaged by occupational group. The average wage for male janitors equals 100. Data were not combined for men and women in the two earlier studies.

⁸ See *Handbook of Labor Statistics, 1978*, Bulletin 2000 (Bureau of Labor Statistics, 1979), pp. 315-16.

The sharp rise in wages of black women

Twenty years ago the average black woman employed full time was earning approximately half the wage rate of a similarly employed white woman. By 1975 almost complete racial parity in female wages had been achieved. Although this remarkable advance in the economic status of black women has accelerated in the last few years, it has received little serious analytical attention. In contrast, the significant but smaller income gains of black males during the 1960's generated considerable research attempting to disentangle possible sources of this improvement. Real wage changes

of the magnitude observed for black females are so rare that it seems unlikely conventional explanations will suffice.

—JAMES P. SMITH,

"The Convergence to Racial Equality in Women's Wages," in Cynthia B. Lloyd, Emily S. Andrews, and Curtis L. Gilroy, eds., *Women in the Labor Market* (New York, Columbia University Press, 1979), p. 173.

The paper and plastic bag industry: two distinct productivity phases

During 1967–77, output per employee hour accelerated after a sluggish increase during 1954–66; the rise was associated with improved technology and rapid growth in output as consumer demand surged

HORST BRAND AND CLYDE HUFFSTUTLER

Productivity in the paper and plastic bag manufacturing industry rose at an average annual rate of 2.9 percent between 1954 and 1977—slightly exceeding the 2.7-percent rate for manufacturing as a whole for the same period.¹ (See table 1.) The long-term productivity rise resulted primarily from improved technologies, especially in plastic bag production. Comparatively high output rates were induced by expansion in consumer spending on soft goods, the chief market for bags, helping to maximize utilization of staff and equipment.

The long-term trend in the industry's labor productivity has been marked by two distinct phases. Between 1954 and 1967, gains in output per employee hour averaged 2.6 percent per year. From 1967 forward, the rate of gain accelerated, rising to 3.4 percent a year. (For total manufacturing, the comparable figures read 2.8 percent and 2.3 percent.) The acceleration was associated with intensified and widely diffused mechanization of work previously performed by hand. It was also indirectly linked with locational shifts of bag manufacturing plants closer to important market areas than to Southern paper mills. These shifts made reductions in job classifications under union contracts possible, which in the older plants still reflected dated manufacturing technologies.²

Year-to-year movements varied considerably. In 6 out of the 23 years examined, output per employee hour declined, as increases in employee hours exceeded increases in output. The years of decline were more than offset by the 10 years when productivity advances ran 50 percent or more above the long-term trend rate. Output gains then were accompanied by relatively small gains—and at times by losses—in employee hours.

Most of the years when output ran significantly above its own long-term trend rate were characterized by cyclical recoveries (for example, 1955, 1959, 1961, 1971, and 1976). The real value of consumer expenditures for soft goods rose strongly in such years. Moreover, output showed no year-to-year declines during the review period except for 1960, 1975, and 1977—also the only years when real consumer spending on soft goods rose weakly.

Output and demand: a long-term rise

The bag manufacturing industry converts paper into grocery bags and sacks, multiwall sacks, and specialty and wardrobe bags. It also converts plastic film into specialty bags, such as those that enclose much commercially sold presliced bread, or household bags used for sandwiches, refrigerator storage, or refuse. Furthermore, the industry manufactures the glassine (wax paper) or plastic liners that form the moisture and flavor barriers for foods packed in cartons (for example, dry

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cereal); it also fabricates bags made of cellophane. The industry, which refers to the containers it makes as "flexible," is part of the group of industries manufacturing containers and packaging from various materials, accounting for approximately 11 percent by value of shipments.

Output of the paper and plastic bag manufacturing industry in 1977 ran 2½ times higher than in 1954—the first year for which adequate data for this study are available. The long-term output rise—4.7 percent per year between 1954 and 1977—considerably exceeded that for real consumer expenditures on soft goods for the period (2.8 percent). It also outpaced the expansion of such major user industries as commercial bread and bun bakeries (1.2 percent); for 1958–76, retail food stores (2.3 percent) and eating and drinking places (3.2 percent).

Among reasons for the comparatively rapid growth of bag manufacturing output has been the growth of supermarkets and the associated spread in unitized packaging of merchandise prior to display on retailers' shelves. This has meant that, in effect, given items are packaged twice—in the sealed bag (or other container) in which they are first enclosed for protection, and in the bag (or wrap) in which they leave the store. The unitizing of packages and the use of their surface as an advertising medium has been a tendency since about

1900. The advantages of pre-unitizing of packages by the manufacturer of the item packaged have been enhanced by steady improvements in packaging machinery since World War II, and their integration in the manufacturing process.³ During the period reviewed here, unitizing prior to shelf display was spurred by the spread of self-service in supermarkets, convenience stores, hardware stores, and department and variety stores. Self-service usually requires that the prepackaged item be easily accessible, and that the package feature descriptive information and graphics.

The industry's output of specialty bags and liners—which now consist preponderantly of plastic film⁴—more than quadrupled between 1954 and 1977; they accounted for more than half of total bag production in 1977, compared with one-third of a much smaller total in 1954. Advances in the sealing speed, seal integrity, and imprintability of plastic film greatly contributed to the rapid growth in their use—exemplified by the bread baking industry's switch from wax paper wraps to plastic bags or wraps in the mid-1960's.

Output of grocery bags and sacks, the mainstay of the paper bag production segment of the industry, nearly doubled over the period reviewed, with its share of total industry output, close to one-quarter in 1977, changing little. The demand for commercial-type bags and glassine, as well as for plastic bags, has been spurred by expanding carryout sales at restaurants accounting for 15 percent of their total sales in 1972.

Output of multiwall bags and shipping sacks rose by 40 percent over the period but dropped in relative importance, from two-fifths of the industry's total production in 1954 to about one-quarter in 1977. Gains in demand have been slowed by a shift in shipping methods—from bags to bulk. For example, according to Census and Bureau of Mines data, establishments manufacturing phosphate fertilizers reduced their consumption of multiwall bags by close to one-fifth between 1963 and 1972. Portland cement plants shipped 21 percent of their product in bags in 1958, but only 8 percent in 1975.

Employment pattern by phases. Employment in the bag manufacturing industry, currently at 53,000 persons, rose at an average annual rate of 1.8 percent between 1954 and 1977; hours at the plant rose by nearly the same long-term rate (1.7 percent). The trend, however, is distinguished by two phases. Until 1967, employment increased an average of 2.4 percent a year, but from then on, less than 1 percent. Hours at the plant rose in tandem with employment during the former period, but, like employment, they remained virtually unchanged during the latter. This reflected an exceptionally sharp cutback in hours (nearly 11 percent) in 1975. In 1977, employment stood 43 percent above 1954 levels, but

Table 1. Productivity and related indexes for the paper and plastic bag industry, 1954–77

[1967=100]

Year	Output per employee-hour			Output	Employee-hours		
	All employees	Production workers	Nonproduction workers		All employees	Production workers	Nonproduction workers
1954	73.0	70.5	86.2	52.4	71.8	74.3	60.8
1955	76.5	74.0	90.0	57.3	74.9	77.4	63.7
1956	73.5	72.1	80.1	58.1	79.1	80.6	72.5
1957	74.8	73.5	81.3	60.9	81.4	82.9	74.9
1958	76.4	75.8	79.2	63.4	83.0	83.6	80.1
1959	80.0	79.9	80.8	69.0	86.2	86.4	85.4
1960	80.9	80.2	84.1	67.4	83.3	84.0	80.1
1961	86.1	84.9	91.3	71.0	82.5	83.6	77.8
1962	88.4	87.2	93.7	73.9	83.6	84.7	78.9
1963	92.3	91.6	95.4	83.7	90.7	91.4	87.7
1964	91.7	91.4	92.8	86.9	94.8	95.1	93.6
1965	96.3	96.6	94.8	91.5	95.0	94.7	96.5
1966	95.8	95.6	96.7	98.9	103.2	103.4	102.3
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968	105.5	104.9	107.9	110.4	104.6	105.2	102.3
1969	103.5	104.1	101.1	111.7	107.9	107.3	110.5
1970	100.4	99.0	106.5	114.0	113.6	115.1	107.0
1971	114.2	113.2	118.3	122.4	107.2	108.1	103.5
1972	117.8	118.1	115.9	123.3	104.7	104.4	106.4
1973	125.1	126.0	120.7	132.7	106.1	105.3	109.9
1974	131.8	129.7	141.8	145.1	110.1	111.9	102.3
1975	133.6	135.4	126.7	131.1	98.1	96.8	103.5
1976	135.0	135.6	131.9	142.7	105.7	105.2	108.2
1977	130.2	132.1	122.3	133.8	102.8	101.3	109.4
Average annual rates of change (in percent)							
1954–77	2.9	3.0	2.3	4.7	1.7	1.6	2.3
1973–77	1.0	1.4	-5	-0	-1.0	-1.4	.5

ran significantly below the high it had reached for the period as a whole in 1970—when it had moved to 60 percent above 1954 totals.

Nonproduction workers grew in relative importance over the 23-year period. The average annual rate of increase in their number, 2.4 percent, was significantly higher than that for production workers, 1.6 percent. Currently, production workers account for 78 percent of total industry employment (compared with 71 percent for manufacturing as a whole). In 1954, their share was 83 percent. This rise in the proportion of nonproduction workers has in part been due to expanded professional staff, because with the shift to plastic film, research and testing personnel were increased by the larger firms. Also, computer-run extruders have required technical personnel over and above the normal complement of engineers and quality control teams needed in the plants.

Technological developments

The making of paper bags and of plastic bags differs in important respects. The basic material for plastic bags, that is, plastic film (usually polyethylene) is extruded from pelleted resins on the premises of the larger bag manufacturing plants. In contrast, the stock for paper bags is delivered from paper mills (classified in the paper and pulp industry). Improvements in extrusion technology have been a significant factor of productivity change in bag manufacturing. Improvements in the making of the paper stock for bags, however, are not reflected in the productivity measure discussed here.

The paper or plastic film roll is first imprinted according to customer specifications. The paper roll is fed into the bag-making machine, where generally, it is perforated, tubed, cut, bottomed, and glued. For multiwall bags, the tubing and bottoming processes are usually separate. Plastic bags are cut from rolls; they are sealed by heating as they are cut. Paper bags are stacked and bundled for shipment at the end of the manufacturing process; plastic bags may be "wicketed," that is hung upon pins, ready for machine-filling by the customer. They are then crated or cartoned for shipment.

Technological advances in all parts of the bag-making process have contributed to rising output speeds, and hence declines in unit labor requirements. Over the past 10 to 15 years, the number of standard grocery bags produced by up-to-date equipment has roughly doubled per shift. One factor here has been the installation of so-called single-size bag-making machines in place of multisize machines.⁵ Furthermore, the completed bags are mechanically indexed (that is, counted), stacked, and bundled—operations previously performed manually.

Production of multiwall paper bags and sacks re-

mains somewhat more labor-intensive. Runs are more limited than for standard bags, because they are determined by customer specifications regarding size, thickness, type of bottoms, and type of closure. For some uses, the sewing of the bag's filling end is specified. Multiwall bags, then, are produced for inventory to only a limited extent, and machines must be reset after each run. Nevertheless, machinery operates at speeds estimated to be about one-fifth higher than a decade ago.⁶ Innovations have been modest but steady; for example, gears are now bathed in oil; tubers and bottomers are mechanically connected, so labor for the transfer has been eliminated. Sewing apparatus is fed automatically rather than manually as in the past.

Product changes

Certain changes in the product have helped boost production speeds. For example, self-closing valves have replaced a variety of closure systems, including sewing. Such product changes have partly resulted from advances in filling equipment, requiring high-speed closing of bags.⁷

Some striking technological advances characterized the manufacture of plastic bags during the period studied. Machinery used today can produce up to 250 polyethylene bags per minute, roughly 4 times more than 2 decades ago.⁸ One reason for the higher speeds has been more rapid rates of sealing (or "welding") of the bag's bottom. Also, the wicketing of bags has been automated (although in some installations, manual labor is still used), and this automation has raised hourly output by as much as 60 percent.⁹

To attain high production speeds for plastic bags, difficult problems other than the forming of the bag from film have had to be tackled. These problems tend to retard the output capacity of advanced equipment. Some larger companies maintain substantial research facilities to deal with such matters, as the printability of plastic films; less labor-intensive printing machinery; drying speeds of ink; adhesion of liners; and seal integrity.

As mentioned, the larger plastic bag plants often extrude their own film from resin pellets. Extrusion in its most advanced form is a completely automated process. The pellets are melted electrically and, in the case of the so-called cast extrusion process, which produces single-layer sheets, by the friction of the extruder screw. The efficiency of the screw has come to be maximized by means of screw designs derived from experience and embodied in computer programs for screw geometry.¹⁰ The melted plastic is forced out through a slot die onto a chill drum, where it forms into a sheet. The sheet's thickness is computer-scanned and -controlled. The speed at which the rolls of plastic sheet become available to the manufacturing processes depends in good part on the chill drum's heat absorption characteristics,

which remain a subject of concern to production engineers.¹¹

Blown film extrusion, applied in the manufacture of double-sheeted film for refuse bags and related consumer uses, has also progressed technologically, particularly in efficiently cooling the extruded film without interfering with its speedy transfer to flattening rollers and perforating and cutting processes. Furthermore, the combining of different polymers offering various properties in the final plastic film—for example, toughness, moisture barrier, oxygen barrier—has spelled material economies, and has also accelerated manufacturing processes.¹²

The plastic sheet, prior to being imprinted, is treated by corona discharge so as to disturb its surface electronically and render it imprintable. Paper used for bags and sacks does not require pre-print treatment. The absorbability of paper permits the use of water-based inks, while plastic film requires more volatile, solvent inks. Heat to speed drying is nonetheless applied, but to cut associated energy costs, research to dispense with heating is underway.¹³ Innovations in printing machinery, particularly in press speeds, and inking and drying systems, have helped accelerate both paper and plastic bag manufacturing processes. Printing units have been produced in recent years that permit removal of components (for example, the printing trolley) without tools. Component removal facilitates preparation for the next job, as well as cleanup and maintenance. Loading and unloading at the wind and rewind end of the press have been automated.¹⁴

The use of cellophane for bags and wraps has been declining, and it is being replaced by plastic film (chiefly polypropylene). Cellophane's machinability (determined by a material's relative stiffness) and imprintability compare well with plastic film, but plastic film features comparable characteristics in preserving flavor and barring moisture. Plastic film has the advantage of being cheaper than cellophane, and more energy-efficient in production.¹⁵ The impact of the shift on unit labor requirements has probably been favorable, as the older cellophane-producing equipment has been phased out and advanced plastic film- and bag-producing equipment has replaced it.

During 1954–76 capital expenditures in the bag manufacturing industry quadrupled, doubling during 1967–76. The increase ran closely in line with that for manufacturing as a whole. Capital expenditures per employee, however, generally tended to lag the manufacturing average. In 1976, for example, the industry averaged \$1,900 per employee on plant and equipment, or 81 percent of the \$2,300-per-employee average for manufacturing as a whole. Moreover, the ratio declined somewhat from the early 1960's. The decline reflected the lessening importance of new (or expanded) plant

construction by bag manufacturers, compared with factory building in general. The industry rents a comparatively high proportion of its plant space—the equivalent of 75 percent of its spending on structures in 1975, as against 43 percent for all manufacturers. Moreover, investment in new machinery and equipment has accounted for a higher proportion of bag manufacturers' total capital outlays than of all manufacturers'. And machinery and equipment outlays per employee in the industry were not less than 90 percent of the manufacturing average between 1958 and 1975, and came close to, or exceeded it in 1972 and 1963.

Of the 583 establishments classified in the industry by the Census of Manufactures for 1972, less than a quarter accounted for more than 70 percent of capital expenditures, employment, and value of shipments. More than three-quarters of all establishments had fewer than 100 employees; 43 percent had fewer than 20, accounting for but 4 percent of total industry employment and value of shipments.¹⁶

Industry outlook

Continued gains in the labor productivity of the bag manufacturing industry are likely, although perhaps at somewhat lower rates than in the past 10 to 12 years. To a degree, the gains will be linked to continued high rates of output. While opportunities for packaging new or existing products have for some time been fully exploited, partial shifts away from such materials for containers and packaging as metal (for metal cans); glass (for glass containers); and paper (for paper cartons), and to plastic film or plastic film constructions, are likely to spur plastic bag manufacturing. Thus, for example, retort pouches, constructed usually of film and foil, are expected to make gradual inroads into the use of metal cans used to market canned foods. Frozen foods, currently packed mostly in paper cartons, may also, in part, be replaced by foods sold in pouches. For the present, the spread of pouches for food packaging is impeded by consumer reluctance to accept them, and by slow filling speeds.¹⁷

Machinery design improvements to attain higher output speeds will continue to be at a premium. It is expected, for example, that high productivity chill rolls on extruders will accelerate heat transfer, thus making for stepped-up production of cast-extruded film. Analogous developments are anticipated for blown film extrusion.¹⁸ Printing is likely to become less labor intensive as innovations in gravure and letterpress printing, as well as in inking systems, already well diffused in the printing and publishing industry, are more widely applied in bag manufacturing.¹⁹ In regard to paper bag manufacturing, it seems likely that improved tear strength in the materials used, and elimination of flaws, will continue to reduce downtime. □

— FOOTNOTES —

¹ The industry consists of establishments primarily engaged in manufacturing bags (other than textile bags) from purchased paper, cellophane, acetate, polyethylene, polypropylene, pliofilm, foil, and similar sheet and foil materials. It is designated as No. 2643 in the Office of Management and Budget's *Standard Industrial Classification Manual*, 1972.

The average annual rates shown in the article and table are based on the linear least square trend of the logarithms of the index numbers. Extension of the indexes for future years will appear in the annual BLS publication, *Productivity Indexes for Selected Industries*.

² Interview with industry representatives. In one relocated plant, the number of job classifications was fixed at seven, compared with 53 in the older plant with closely similar operations.

³ *The Role of Packaging in the U.S. Economy*. Report to the American Foundation for Management Research. Boston, Arthur D. Little, 1966. See also "Efficiency Marks Future of Bagmaking," by M. B. Novotny. *Paper, Film, and Foil Converter*, November 1977, p. 68.

⁴ About 70 percent of specialty bag output consists of plastic film.

⁵ Information from industry representatives.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ "Cast film extruder," *Paper, Film, and Foil Converter*, July 1977.

¹¹ Harold F. Wrede, "Extrusion coating into the 21st century," *Paper, Film, and Foil Converter*, November 1977, p. 87 ff. Also C. S. Blethen, "Swedish chill roll improves efficiency," *Paper, Film, and Foil Converter*, December 1977, p. 64 ff.

¹² "Better output, control on blown film extrusion," *Paper, Film, and Foil Converter*, June 1978, p. 66 ff; and A. M. Soutar, "Blown film coextrusion equipment—investment considerations," *Paper, Film, and Foil Converter*, March 1979, p. 72 ff.

¹³ Information from industry representatives.

¹⁴ "Newest gravure press in town for extensible, flexible materials plans to be the master," *Paper, Film, and Foil Converter*, June 1976, p. 32 ff.

¹⁵ "Cellophane—down but not out," *Modern Packaging*, May 1978, p. 51 ff.

¹⁶ Figures in this section based on Census data.

¹⁷ D. A. Heintz, "Marketing opportunities for RP's," *Paper, Film, and Foil Converter*, March 1978, p. 66. Also, "USA resorts to the report," *Packaging Engineer*, January 1978, p. 40.

¹⁸ Wrede, "Extrusion coating," and "Better output."

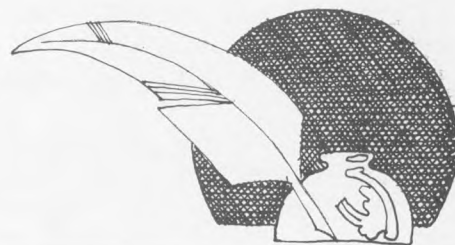
¹⁹ Wrede, "Extrusion coating," and "Better output." Also, *Outlook for Technology and Manpower in Printing and Publishing*, Bulletin 1774, Washington, U.S. Bureau of Labor Statistics, 1973.

APPENDIX: Measurement techniques and limitations

The productivity indexes in this study measure the change over time in industry output per unit of labor input. They do not measure the specific contribution of labor, but reflect the influence of many factors such as technology, capital investment, and managerial skills, as well as the skill and effort of the work force.

The output index is based on value of shipments data, published by the Bureau of the Census. Detailed data from the Census of Manufactures for 1954, 1958, 1963, 1967, and 1972 were used to derive benchmark indexes, to which the annual indexes for intervening

years, based on the Annual Survey of Manufactures, were adjusted. The value of shipments of the various product classes was adjusted for price changes by appropriate Producer Price Indexes to derive a real output measure. In turn, the product classes were combined with employee-hour weights to derive the overall output measure. Employment and employee-hour indexes were derived from Bureau of the Census data. The number of employees and employee-hours is considered homogeneous and additive, and the pertinent measures thus do not reflect changes in the qualitative aspects of labor.



Does the CPI exaggerate or understate inflation?

DANIEL J. B. MITCHELL

During periods of rapid inflation, the Consumer Price Index (CPI) is closely scrutinized by press and public. There is a natural tendency—when news is bad—to blame the messenger. In particular, it is often charged that the CPI is inherently upwardly biased¹ and that, therefore, it overstates the impact of inflation in reducing real earnings. It is only a small step from that charge to the conclusion that the CPI itself is inflationary because of its effect on indexed wages and incomes and on the perception of inflation by nonindexed groups.²

When the CPI is criticized for overstating the rate of inflation, two problems are most often mentioned. First, it is noted that the CPI has fixed weights and, thus, does not account for substitution effects induced by changes in relative prices. Second, it is said that the CPI cannot adequately reflect quality improvements, innovations, and new products. Such problems are inherent in index numbers, but there is no reason to assume that other elements in the construction of the CPI do not offset these biases. A third complaint during the recent period concerns the treatment of the housing sector. Basically, house purchases are treated in the same manner as other durable goods purchases in defining the CPI. Because house prices have increased substantially relative to other prices, it might be assumed that the inclusion of house prices had a substantial impact in pushing up the overall index.³

Is it true that the CPI has only upward biases? Or are there measurement and conceptual elements of the index which push in the other direction? Critics of the CPI have concentrated on the upward biases and have ignored important counteracting effects. The house-price

component of the CPI appears not to have reflected as much inflation during 1968–78 as other indexes of house prices. And the new car component—due to “quality” adjustments—has not reflected the full increase in “expenditures per car” experienced by consumers. In December 1978, the home-purchase weight in the CPI for all urban consumers was slightly more than 10 percent (9 percent for urban wage earners and clerical workers) and the new car weight was just under 4 percent. Thus, difficulties in measuring these components can have a noticeable effect on reported inflation rates.

House prices

Although the rapid increase in house prices was one of the most discussed economic phenomena of the 1970's, the CPI home-purchase component reported an annual increase of only 6.7 percent a year during 1968–78. During the same period, the All-Items CPI rose at a 6.5-percent rate.⁴ Thus, while the CPI did report some relative price increases in homes, the gain of 0.2 percent a year is hardly remarkable and its moderate size would surprise many home owners and buyers. Other indexes of house prices show a more rapid annual rate of inflation, as shown in the following tabulation:⁵

Bureau of the Census new-house price index (quality adjusted)	8.5
National Association of Realtors existing-house price index (not quality adjusted)	9.5
FHA:	
New home acquisition costs	7.6
Existing home acquisition costs	7.5

The CPI home-purchase component is based on data collected from the Federal Housing Administration (FHA), which insures mortgages primarily of lower priced housing. Unfortunately, dollar ceilings on mortgages the FHA will insure tend to inhibit price increases observed from FHA data. The number of new FHA-insured mortgages varies from year to year, but generally declined during 1968–78. The fact that unadjusted indexes of acquisition costs of FHA-insured houses⁶ rose faster than the CPI's home-purchase component may be due to quality adjustments included in the CPI figure. But, if so, the quality adjustment is greater than that made by the Census Bureau in its new-house index.⁷

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In summary, the CPI home-purchase component rose more slowly than other indexes of house prices. Because the home-purchase component did not rise much faster than the all-items index, it did not have a strong influence in pulling up the measured rate of inflation during 1968-78. In fact, other measures of house prices would have pushed up the CPI faster.

Car prices

The new-cars component of the CPI increased at a 4.5-percent annual rate during 1968-78, significantly slower than the all-items index (6.5 percent). Buyers of new cars, however, may find this reported relative decline at variance with their personal experience. The National Automobile Dealers Association's index of expenditures per new car showed a 7.2-percent annual gain.⁸ The used-cars component of the CPI rose 6.6 percent a year, higher than the all-items average. Because used cars are presumably substitutes for new cars, the substantial divergence in inflation rates for new and used cars is initially surprising.

The gap between the CPI index for new cars and the National Automobile Dealers Association's index of expenditures per new car is largely explained by various "quality" adjustments applied to new car prices before the CPI component is calculated. Much of the adjustment is due to the addition of mandatory safety and pollution equipment. The fact that such devices had to be required by law suggests that consumers value the devices at less than their actual cost.⁹ There is also a question as to whether the "downsizing" of new cars to meet fuel economy standards should be considered a quality deterioration, although it was not so treated in computing the CPI new-cars component. Obviously, if mandatory equipment had not been treated as a quality improvement and downsizing had been treated as a quality deterioration, the new-cars component of the CPI would have risen faster than the 4.5-percent reported during 1968-78.

Alternative procedures

The following tabulation shows the possible effect on the measured rate of inflation during 1968-78 if the CPI had been computed differently:

	<i>Annual increase</i>
CPI, all items (actual)	6.5
CPI, all items, substituting:	
Expenditures per car index	
(for CPI's new-cars component)	6.6
New-and existing-house price indexes	
(for CPI's home-purchase component)	6.8
Combination of the two alternative indexes	6.9

If the National Automobile Dealers Association's ex-

penditures per car index had been substituted for the new-cars component, the all-items index would have risen about 0.1 percent faster per year. If the Bureau of the Census' index of new house prices and the National Association of Realtors' index of existing house prices were substituted for the home-purchase component, the all-items index would have risen about 0.3 percent faster per year.¹⁰ The combination of the two alternative indexes for new cars and houses would have raised the all-items index by 0.4 percent a year.

IT IS EVIDENT that not all the biases in the CPI push the index upward. Some elements of measurement and methodology have had the opposite effect. Although there is no guarantee that the errors and biases of CPI methodology will cancel out exactly, critics should avoid concentrating only on particular problems of measurement or concept in evaluating the overall CPI as a measure of inflation. □

— FOOTNOTES —

¹ For example, see "U.S. Inflation Index is Inflationary, Critics Contend," *Los Angeles Times*, Dec. 27, 1979, Part III, pp. 12, 21.

² It has been estimated that 50 percent of the U.S. population receives some indexed income, although only 15 percent of total income is indexed. See Julius Shiskin, "A new role for economic indicators," *Monthly Labor Review*, November 1977, pp. 3-5.

³ This note does not address the issue of whether housing consumption should be treated as it is under current CPI methodology or whether—as some critics have suggested—as a flow. See Lawrence E. DeMilner, "Statement before the U.S. House Budget Committee Task Force on Inflation," Dec. 14, 1979, for arguments in favor of a flow concept.

⁴ This statement refers to the CPI for urban wage earners and clerical workers which was available throughout the period.

⁵ The quality-adjusted index for new houses are from *Price Index of New One-Family Houses Sold, Fourth Quarter 1978* (Bureau of the Census, 1979), p. 3. This index is based on a standardized house sold in 1978 and is adjusted for 10 important characteristics. The existing-house price index is from *Existing Home Sales* (National Association of Realtors, April 1979), p. 10.

⁶ Data on FHA-insured mortgages are from the *1975 Statistical Yearbook* (U.S. Department of Housing and Urban Development, 1978), tables 41-42; and from data supplied by HUD to the author.

⁷ The quality adjustment applied to the Census Bureau's new-house price index subtracts only about 0.3 percentage points a year from the unadjusted rate of new house inflation during 1968-78.

⁸ Data on expenditures per new car are from *NADA Data for 1979* (National Automobile Dealers Association, 1979), p. 5; or were supplied to the author by the association.

⁹ Some quality improvements stemmed from features which were not legally mandated. For example, options such as power brakes, power windows, and air conditioning have become more common in recent years. See *Statistical Abstract of the United States, 1979* (Bureau of the Census, 1979), p. 649. Concerning mandated equipment, however, there is an inconsistency in current methodology. The costs of safety and anti-pollution equipment used in the factories producing new cars are presumably reflected in car prices. Yet, no quality adjustment is made for such devices. Thus, an anti-pollution device on the factory smokestack is not viewed as an improvement in the quality of cars produced in the factory. But a similar device on the car's tailpipe is considered a quality improvement.

¹⁰The alternative house-price component was computed as a weighted average of the Census Bureau's new-house price index and the National Association of Realtors' existing-house price index. The weights on new and existing houses were 29 percent and 71 percent, respectively. These were the proportions of new and existing house sales during 1972-73, the same period used in the most recent weighting of the CPI. Data on existing house sales are from *Existing Home Sales* (National Association of Realtors, April 1979), p. 4. Data on new home sales are from *New One-Family Houses Sold and For Sale* (Bureau of the Census, November 1977 and February 1979), table 1. To compute the effect of substituting the alternative indexes in the CPI, an approximation was used. The CPI weights (all urban consumers) for December 1978 were projected to earlier years by taking account of price inflation in the various components of the index. These weights will not be identical to those actually used to calculate the CPI, but will give reasonable approximations.

Does the CPI exaggerate or understate inflation? Some observations

JACK E. TRIPPLET

Daniel Mitchell's paper provides a timely reminder that measurement errors in price indexes do not always result in overstatement of inflation. This point seems to have been overlooked in much recent public discussion of the Consumer Price Index.

Many critics of the CPI cite unmeasured quality change as a reason for assuming that the index overstates inflation.¹ However, research findings on this subject are not entirely consistent with what many of the CPI's critics seem to believe. Some studies of quality change in price indexes have pointed to possible downward errors in certain components of the indexes (including autos, rental housing, and some appliances); for other components, researchers obtained the opposite result.²

When a researcher produces a price index that differs from one published by the BLS, that does not necessarily mean the BLS index is wrong. Examining alternative data sources, computational methods, ways of handling quality change, and so forth can be very useful in the continuing and ongoing process of evaluation that a statistical agency must pursue to assure that its output is of the highest quality possible. But when these alternative procedures give results different from those currently in use in the CPI (or in some other price index), the evaluation has just begun. We must test the plausibility of the alternative indexes against other known facts, and against knowledge of the actual problems that arise in price index construction. Only when the alternative indexes "fit in" with other information can we have con-

fidence that the messages they give are not misleading.

House-price indexes

Mitchell points out that other measures of home prices, particularly the Census Bureau's index of the prices of new homes, have risen faster than the CPI home-purchase index. The discrepancy between the Census and CPI series has widened as the pace of inflation in home prices has accelerated over the past 3 years, so that the discrepancy is considerably larger for recent years. The following shows percent changes in the CPI's home-purchase component and the Bureau of the Census new-house prices index:

	CPI home purchase	Census new home price	Difference
1973-74	7.5	9.4	-1.9
1974-75	12.3	10.0	2.3
1975-76	5.1	8.4	-3.3
1976-77	6.6	12.3	-5.7
1977-78	9.6	14.1	-4.5
1978-79	13.4	13.8	-.4

The Census index is computed exclusively from prices of newly constructed homes; the BLS home-purchase index includes both new and existing homes. However, in most parts of the country there seems little reason to suppose that the upward trend of prices of previously occupied homes has not kept up with prices of new homes. What, then, can account for the difference between the two indexes?

The two indexes differ in data bases, computational methods, and in the way they handle quality change. Data for the Census index come primarily from builders. The CPI home-purchase index is compiled from data on home sales which involve mortgages insured by the Federal Housing Administration or the Veterans Administration. This is the only available data base which meets CPI needs for a national index, and also for 28 city indexes and 16 city size and regional indexes. The data base does, however, have known problems.

The Census index is computed by hedonic methods³ which hold constant a set of 10 characteristics of houses, such as floor space, number of bathrooms, locational factors, and so forth. The BLS index holds a somewhat smaller set of factors constant, including size, age, and geographic area. Both indexes are subject to potential quality error for changes in characteristics which are not held constant in the procedures used in their construction.

Little information about the statistical properties of the Census index and its data base is currently available. John Greenlees, in an as yet uncompleted BLS study, has shown that quality change in the FHA-VA sample creates a *downward* bias in some of the city home-purchase indexes that make up the CPI.⁴ It is not

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yet certain whether this result will hold for all CPI city indexes, but Greenlees' preliminary finding provides insight for interpreting the CPI-Census house price comparisons. If we have reason to suspect a downward quality error in the CPI home-purchase index, it is indeed reasonable to look to an independent index of new-house prices for suggestions about the probable magnitude of the problem.

The more rapid the inflation rate of homes, the more rapidly do those prices "bump" against the FHA-VA ceiling—thus, one might expect the problem with the CPI data base to be more severe in rapid inflation (and, conversely, to be rather more manageable at lower inflation rates). Mitchell's comparison of home-price indexes thus gives results that seem plausible. Though it is too early to tell why the two indexes give similar results for 1979 (both showing a nearly record rate of inflation for home prices), when the FHA-VA ceiling is raised, it tends to diminish the quality error in the BLS series.

Rental-cost index

At least two research studies of rental price indexes have suggested similar downward-bias problems. It has long been known that the CPI rent measure has an inherent "aging bias" because of unmeasured month-to-month deterioration.

In 1972, Rafael Rom Weston⁵ compared the CPI rent index with an index based on decennial Census data, which he adjusted for depreciation. For the 1960-70 interval, his quality-adjusted Census index (31.4 percent) rose about 50 percent more than the CPI rent index (20.0 percent). More recently, James Follain and Stephen Malpezzi of the Urban Institute computed a quality-adjusted index from the Annual Housing Survey for the years 1974-76. This, too, showed greater rates of increase than the CPI rent index:⁶

	<i>CPI rent index</i>	<i>Urban Institute rent index</i>
1974-75	5.5	5.9
1975-76	5.3	6.9
1974-76	11.1	13.2

Many economists have substituted the CPI rent index for the published CPI homeownership component, a recomputation that results in a lower overall index. Alternatively, others have preferred the Commerce Department's Implicit Price Deflator for Personal Consumption Expenditures (PCE) on the same grounds: the PCE uses the CPI rent index as a proxy for the cost of homeownership. However, because of aging bias in the rent index, such indexes probably understate inflation. This conclusion also applies to Experimental Index X-1 now published monthly by the BLS.⁷

Car-price index

Mitchell's discussion of automobile prices is less persuasive. The CPI new-cars index is adjusted for quality change using information from manufacturers, but comparable quality adjustments are not applied to the used-cars index, which suffers also from an inadequate data base. And an "expenditures per new car" series will clearly rise when quality improvements are incorporated into new cars, while a valid price index would not. Thus, both alternative series probably have more severe quality errors than does the CPI new-cars component. Yet, his statement that "if mandatory equipment had not been treated as a quality improvement . . . the new-car component of the CPI would have risen faster . . ." is certainly correct. And a number of previous studies of the CPI new automobiles index suggest that measurement error, when it exists under present procedures, might cause the index to rise somewhat too slowly—though differences between research indexes and the CPI are small, and the research indexes are also subject to certain biases.⁸

Mitchell's general point is correct: "Critics of the CPI have concentrated on the upward biases . . ." In the process, they have overlooked evidence of bias in the other direction. Price index measurement is, like all forms of measurement, subject to error. No one really knows the net effect of offsetting upward and downward quality errors in index components on the overall CPI. Mitchell's paper fits in with a wide body of research which, taken together, tells us we should not assume that improving the measurement will necessarily lower the measured rate of inflation. □

—FOOTNOTES—

¹ Mitchell also mentions another problem—that a fixed-weight price index formula suffers from a "substitution bias" because it makes no allowance for changes in consumption in response to relative price changes. An article covering recent research on the substitution bias question is in preparation and will appear in a future issue of the *Monthly Labor Review*.

² A survey of published studies on quality error in price indexes is contained in Jack E. Triplett, "The Measurement of Inflation: A Survey of Research on the Accuracy of Price Indexes," in Paul H. Earl, ed., *Analysis of Inflation* (Lexington, Mass., Lexington Books, 1975).

³ This is a regression procedure for holding quality change constant in the sample from which the price index is computed or (alternatively) for deriving adjustments for quality change that can be used within the framework of traditional price index formulas. A standard reference is in Zvi Griliches, ed., *Price Indexes and Quality Change: Studies in New Methods of Measurement* (Cambridge, Mass., Harvard University Press, 1971). See also Jack E. Triplett, *The Theory of Hedonic Quality Measurement and Its Use in Price Indexes*, Staff Paper 6, (Bureau of Labor Statistics, 1971).

⁴ The demonstration of this is in Greenlees' forthcoming paper. Briefly, the more expensive and higher quality houses qualifying for FHA-VA mortgages in one period will not qualify for them later because of housing inflation. This creates a slow monthly deterioration in average quality in the sample, which can cumulate over time to yield an index which rises more slowly than the true rate of inflation

in home prices.

⁵ Rafael Rom Weston, "The Quality of Housing in the United States, 1929-1970" Harvard University, 1972, Ph. D. dissertation.

⁶ James R. Follain and Stephen Malpezzi, *Dissecting Housing Value and Rent: Estimates of Hedonic Indexes for Thirty-Nine Large SMSA's*, Report 249-17 (Washington, D.C., The Urban Institute, 1979), tables 20 and 21.

⁷ See *The Consumer Price Index*, monthly press release of the Bureau of Labor Statistics.

⁸ See Jack E. Triplett, "Automobiles and Hedonic Quality Measure-

ment," *Journal of Political Economy*, May/June 1969, pp. 408-17; Phoebus F. Dhrymes, "Price and Quality Changes in Consumer Capital Goods: An Empirical Study," in Zvi Griliches, ed., *Price Indexes and Quality Change*, pp. 88-149; Thomas F. Hogarty, "Price-Quality Relations for Automobiles: A New Approach," *Applied Economics*, Vol. 7, 1975, pp. 41-51; and Makoto Ohta and Zvi Griliches, "Automobile Prices Revisited: Extensions of the Hedonic Hypothesis," in Nester E. Terleckyj, ed., *Household Production and Consumption, Studies in Income and Wealth*, Vol. 40, National Bureau of Economic Research (New York, Columbia University Press, 1975), pp. 325-90.

Measures to cut costs and prices

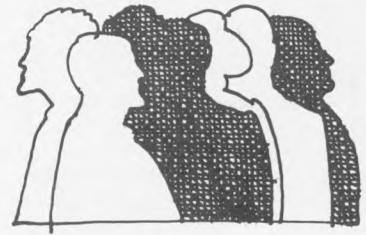
What effect can we expect on the ongoing inflation rate from one-time increases or reductions in prices or costs? We can rely on cost changes to be reflected in prices. Beyond that, the empirical evidence is unfailingly ambiguous. The price shocks of the mid-1970's affected wages, but not proportionately. Consumer prices appear to have some persistent effect on wages, but it is modest once the effects of lagged wages themselves are allowed for. On the basis of the evidence, it appears that only a minor fraction of any shock to prices would filter through into average wage changes and thus have some multiplied effect. That still makes measures to cut prices and costs worth pursuing

and their opposites worth avoiding. Even if only one-quarter of any price change influences wages, 1 percent removed from the CPI reduces wage inflation by about as much as 1 percentage point more unemployment for 1 year.

—GEORGE L. PERRY

"Slowing the Wage-Price Spiral: The Macroeconomic View," in Arthur M. Okun and George L. Perry, eds., *Curing Chronic Inflation* (Washington, The Brookings Institution, 1978), p. 55.

Special Labor Force Reports—Summaries



Women's share of moonlighting nearly doubles during 1969–79

EDWARD S. SEKSCENSKI

Nearly 1 in 20 workers held more than one job during the survey week in May 1979. Since May 1969, despite some fluctuations, the number of "moonlighters" has grown at about the same rate as the total work force; by May 1979, about 4.7 million persons held more than one job.¹ The most striking change in the moonlighting work force during the decade is the proportion of women in its ranks. About 3 of every 10 multiple jobholders in May 1979 were women, nearly double the proportion of 10 years earlier. (See table 1.)

Multiple jobholders are persons who were: wage or salary workers with more than one employer, self-employed but also held a wage and salary job, or unpaid family workers on their primary jobs but also held wage and salary jobs.² The primary job is the one where the greatest number of hours was worked.

Patterns by sex and race

In May 1969, about 658,000 women held more than one job, representing 16 percent of all moonlighters. By May 1979, moonlighting women numbered 1.4 million, accounting for 30 percent. However, the number of men with multiple jobs remained about 3.3 million. These changes are consistent with the increased proportion of women in the total work force, many of whom are the primary earners in their families.³ Further, the growth in the number of multi-earner families may have diminished the economic incentive for some husbands to hold more than one job.

While the reported incidence of multiple jobholding has long been lower for black than for white workers, the difference has grown considerably in recent years. The moonlighting rate for black men has dropped more rapidly than that for white men. The rate for black women has remained largely stationary, while that for white women has risen sharply.

Between 1969 and 1979, the reported incidence of

moonlighting among black men dropped from 6.1 to 3.8 percent, while the rate for white men declined from 7.0 to 6.1 percent. During the same period, the rate for black women edged down, from 2.2 to 2.0 percent, but the rate for white women increased from 2.3 to 3.7 percent. However, although black women were less likely than white women to hold more than one job, they were more likely to work full-time on at least one job.⁴

Industry and occupation

Groups of industries employing large proportions of workers who also moonlighted during May 1979 included public administration, 7.6 percent, and agriculture and services, 6.1 percent each. Within these groups, the specific industries with the highest proportions of moonlighters were State and local administration, 9.3 percent; education, 8.2 percent; and entertainment and recreation, 7.3 percent. (See tables 2 and 3.)

About 15 percent of second jobs were in agriculture, more than 4 times the percentage of primary jobs in the industry. One-third of multiple jobholders, including nearly two-fifths of the men, were self-employed in their second jobs. The proportion of moonlighters working their secondary jobs in services, 30 percent, was slightly higher than that for single jobholders.

Among the major occupational groups, farmers and farm managers, and professional and technical workers reported the highest rates of moonlighting. Nearly 1 in 4 multiple jobholders in May 1979 was a professional or technical worker, up from less than 1 in 5 in 1969. Women in these occupations accounted for more than 60 percent of the increase. Particularly large increases in moonlighting occurred among women teaching in primary and secondary schools, and persons working in health professions. The moonlighting rates for men in these two professions, though more than twice that of women in comparable jobs, were down by about one percentage point each, from their 1969 levels. Another occupational group with a high proportion of moonlighting men was protective services, such as police who also work as private guards. This rate, however, also decreased during the decade, from slightly less than 17 percent to about 12 percent.

Occupational groups with lower than average rates of multiple jobholding in May 1979, as well as 10 years earlier, included factory operatives and clerical workers.

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Table 1. Persons holding two jobs or more and multiple jobholding rates, May 1969 to May 1979

[Numbers in thousands]

Year	Total employed	All multiple jobholders	At least one job in agriculture	Two jobs in nonagricultural industries			Multiple jobholding rate ¹				
				Total	Two wage and salary jobs	Wage and salary and self employed	Both sexes	Men	Women	White	Black ²
1969	77,264	4,008	939	3,069	2,326	743	5.2	6.9	2.3	5.3	4.5
1970	78,358	4,048	943	3,105	2,356	749	5.2	7.0	2.2	5.3	4.4
1971	78,708	4,035	851	3,184	2,288	896	5.1	6.7	2.6	5.3	3.8
1972	81,224	3,770	831	2,939	2,066	873	4.6	6.0	2.4	4.8	3.7
1973	83,758	4,262	987	3,275	2,410	865	5.1	6.6	2.7	5.1	4.7
1974	85,786	3,889	848	3,041	2,169	872	4.5	5.8	2.6	4.6	3.8
1975	84,146	3,918	890	3,028	2,131	897	4.7	5.8	2.9	4.8	3.7
1976	87,278	3,948	819	3,129	2,191	938	4.5	5.8	2.6	4.7	2.8
1977	90,482	4,558	922	3,637	2,515	1,122	5.0	6.2	3.4	5.3	2.6
1978	93,904	4,493	905	3,587	2,513	1,074	4.8	5.8	3.3	5.0	3.1
1979	96,327	4,724	871	3,852	2,650	1,203	4.9	5.9	3.5	5.1	3.0

¹ Multiple jobholders as a percent of all employed persons.

² Starting with 1977, data are for black workers only. Data for prior years are for persons of black and other races except white, about 90 percent of whom are black.

Although differences exist in the responses given by men and women, the distribution of reasons for working more than one job has shown few year-to-year changes since 1974, the first period for which comparable data are available.⁵ About 29 percent of men and 34 percent of women stated "meeting regular expenses" was the main reason for holding two or more jobs during the survey week. (See table 4.) In 1974, 33 percent of men and 30 percent of women cited this as their main reason. However, among black women, about half of those with more than one job gave the need to meet regular expenses as their principal reason for moonlight-

ing, both in 1974 and 1979.

A larger proportion of men than women in May 1979 said "saving for the future" was their main reason for holding more than one job. More older workers than young ones offered "enjoying the work" on their second jobs as the main reason. More younger workers said it was "paying off debts." The proportion of women working a second job "to get experience" increased in almost every age group during 1974-79.

Marital status, historically, has been a factor in the decision to moonlight. The highest rates were exhibited by married men, especially those with two children or

Table 2. Multiple jobholders by type of industry and class of worker, May 1978 and May 1979

[Numbers in thousands]

Primary job	Total employed	Multiple jobholders		Second job in agriculture			Second job in nonagricultural industries		
		Number	Percent of employed	Total	Wage or salary	Self-employed	Total	Wage or salary	Self-employed
MAY 1978									
Total	93,904	4,493	4.8	752	118	634	3,741	2,878	863
Agriculture	3,392	204	6.0	50	24	26	154	143	11
Wage and salary	1,441	70	4.9	34	8	26	36	25	11
Self-employed	1,627	106	6.5	13	13	(¹)	94	94	(¹)
Unpaid family	323	28	8.6	3	3	(²)	25	25	(²)
Nonagriculture	90,512	4,289	4.7	701	94	607	3,587	2,735	852
Wage and salary	83,526	4,066	4.9	700	93	607	3,365	2,513	852
Self-employed	6,442	202	3.1	1	1	(¹)	201	201	(¹)
Unpaid family	543	21	3.8			(²)	21	21	(²)
MAY 1979									
Total	96,327	4,724	4.9	725	145	580	3,999	2,993	1,006
Agriculture	3,315	203	6.1	57	27	30	146	137	9
Wage and salary	1,455	78	5.4	42	12	30	37	28	9
Self-employed	1,592	108	7.1	14	14	(¹)	94	94	(¹)
Unpaid family	332	16	5.0	1	1	(²)	16	16	(²)
Nonagriculture	93,012	4,521	4.9	668	118	550	3,852	2,855	997
Wage and salary	85,662	4,307	5.0	660	110	550	3,647	2,650	997
Self-employed	6,841	206	3.0	8	8	0	198	198	0
Unpaid family	509	8	1.5	0	0	(²)	8	8	(²)

¹ Self-employed persons with secondary businesses or farms, but no wage or salary jobs, were not counted as multiple jobholders.

² Persons whose primary jobs were as unpaid family workers were counted as multiple jobholders only if they also held a wage or salary job.

Table 3. Personal characteristics of persons with 2 jobs or more, May 1979

[Numbers in thousands]

Characteristic	Total			Men			Women		
	Total employed	Multiple jobholders		Total employed	Multiple jobholders		Total employed	Multiple jobholders	
		Number	Percent		Number	Percent		Number	Percent
AGE									
Total, 16 years and over	96,327	4,724	4.9	56,410	3,317	5.9	39,917	1,407	3.5
16 and 17 years	3,118	120	3.8	1,755	59	3.4	1,363	60	4.4
18 and 19 years	4,593	180	3.9	2,429	107	4.4	2,164	73	3.4
20 to 24 years	13,715	656	4.8	7,481	382	5.1	6,234	274	4.4
25 to 34 years	25,589	1,405	5.5	15,158	976	6.4	10,431	430	4.1
35 to 44 years	18,747	1,066	5.7	10,969	790	7.2	7,777	277	3.6
45 to 54 years	16,229	805	5.0	9,795	613	6.3	6,434	192	3.0
55 to 64 years	11,364	401	3.5	6,968	319	4.6	4,396	82	1.9
65 years and over	2,974	91	3.1	1,855	71	3.8	1,118	20	1.7
MARITAL STATUS									
Single	22,822	1,001	4.4	12,974	572	4.4	9,848	429	4.4
Married, spouse present	61,598	3,199	5.2	39,098	2,550	6.5	22,500	649	2.9
Other marital status	11,908	524	4.4	4,339	195	4.5	7,569	329	4.3
RACE AND ETHNICITY									
White	85,541	4,390	5.1	50,656	3,087	6.1	34,885	1,304	3.7
Black	9,076	269	3.0	4,840	182	3.8	4,237	86	2.0
Hispanic origin	4,684	150	3.2	2,907	111	3.8	1,741	39	2.2

more. The lowest rates have been shown by married women. However, in the 1969–79 period, rates for married men declined and those for married women increased by about one percentage point each. The rate for widowed, divorced, and separated women rose from 3.5 to 4.3 percent. Single (never-married) women showed an even larger increase in moonlighting during the period, from 2.5 to 4.4 percent.

About two-thirds of multiple jobholders worked one full-time and one part-time job. More than three-fourths of such persons were men. Nearly half of women moonlighters held two part-time jobs. The proportion of men holding two full-time jobs in May 1979 was twice as high as for women:

	<i>Both sexes</i>		
	<i>Multiple jobholders</i>	<i>Men</i>	<i>Women</i>
Total [in thousands]	4,724	3,317	1,407
Percent distribution	100	100	100
One full-time, one part-time job	67	75	51
Two part-time jobs	27	19	48
Two full-time jobs	5	7	3

An average total of 52 hours was worked by moonlighters during the survey week. Hours worked on secondary jobs averaged 13; those worked by moonlighting women averaged about 70 percent of those by men. About 30 percent of moonlighters worked from 8 to 14 hours a week on their secondary jobs. About 52 percent worked either 1 to 7 hours or 15 to 21 hours.

Table 4. Main reason for working at more than one job, by selected characteristics, May 1979

Sex, marital status, and race	Total (thousands)	Total percent	Meet regular expenses	Pay off debts	Save for future	Get experience	Help friend or relative	Buy something special	Enjoy the work	Changed job	Other
Total	4,724	100.0	30.4	6.7	9.5	8.5	5.9	8.3	18.2	1.3	11.3
ALL RACES											
Men, total	3,317	100.0	28.8	6.3	11.0	8.8	5.6	7.8	19.1	1.1	11.5
Married, wife present	2,550	100.0	32.4	5.3	10.8	8.3	5.1	6.4	20.3	.7	10.8
Women, total	1,407	100.0	34.3	7.7	5.9	7.1	6.4	9.6	16.0	1.9	11.1
Married, husband present	636	100.0	25.9	4.9	6.2	7.3	7.4	11.4	20.9	2.5	13.4
WHITE											
Men	3,087	100.0	28.4	6.0	10.9	8.9	5.8	7.7	19.5	1.1	11.6
Women	1,304	100.0	33.4	7.3	6.0	7.4	6.6	9.8	17.0	1.8	10.9
BLACK AND OTHER¹											
Men	230	100.0	33.2	11.2	12.6	6.3	3.1	9.0	13.0	.1	10.8
Women	103	100.0	46.6	12.6	4.9	2.9	4.9	6.8	3.9	3.9	13.6

¹ Data on reasons for working at more than one job by race are tabulated for "black and other," in contrast to black only. The black and other group includes those who identified them-

selves in the enumeration process to be other than white. At the time of the 1970 Census of Population, 89 percent of the black and other population group were black.

Industries in which employees worked more than the average number of hours on secondary jobs, in May 1979, included construction, 16 hours, and manufacturing, 15 hours.

Moonlighters worked a weekly median of 40 hours on their primary jobs in May 1979, the same median as single jobholders, and for both white and black workers. Moonlighters who were self-employed in agriculture as a first job worked a median of 56 hours, the longest of any occupation, while unpaid family workers averaged 35 hours of work on their first jobs. □

—FOOTNOTES—

¹ This is an annual study based on data supplied by the May Current Population Survey.

² Also included as multiple jobholders are persons who had two jobs during the survey week because they were changing jobs. This group is very small—about one percent of all multiple jobholders in May 1979. Persons employed only in private households (such as housekeepers, launderers, gardeners, and babysitters) who worked for two or more employers during the survey week were not counted as multiple jobholders, because working for several employers is considered an inherent characteristic of this type of work. Also excluded were self-employed persons with additional farms or businesses and persons with secondary jobs as unpaid family workers.

³ See Beverly L. Johnson, "Marital and family characteristics of workers, 1970-78," *Monthly Labor Review*, April 1979, pp. 49-52; and Janet L. Norwood and Elizabeth Waldman, "Women in the labor force: some new data series," U.S. Bureau of Labor Statistics, Report 575, October 1979.

⁴ See Carol Leon and Robert W. Bednarzik, "A profile of women on part-time schedules," *Monthly Labor Review*, October 1978, pp. 3-12.

⁵ The question asked is "What is the main reason that . . . worked at more than one job?" That question was also asked in May 1969, but only five reasons were tabulated at that time. Since May 1974, eight reasons have been tabulated, thus, the earlier data are not strictly comparable with the 1974-79 tables.

Percent working long hours shows first post-recession decline

GEORGE D. STAMAS

From 1978 to 1979, the incidence of long hours among full-time wage and salary workers dropped for the first time since the 1974-75 recession. The 18.8 million employees who put in workweeks of 41 hours or more in May 1979 were about 26 percent of all full-time wage and salary workers, down about 1 percentage point from 1978. Of those who worked long hours, about 43 percent received premium pay, the same proportion as in 1978 and well above the recessionary low of 1975. (See table 1.)

These data were gathered through a supplement to the Current Population Survey and relate to wage and

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Table 1. Full-time wage and salary workers who worked long weeks and those who received premium pay, May 1973-May 1979

[Numbers in thousands]

Year	All full-time workers	Worked 41 hours or more ¹		Received premium pay	
		Number	Percent of full-time workers	Number	Percent of those who worked 41 hours or more
1973	62,202	18,105	29.1	7,697	42.5
1974	63,714	17,564	27.6	7,302	41.6
1975	61,765	15,450	25.0	5,597	36.2
1976	64,546	16,679	25.8	6,621	39.7
1977	66,441	18,174	27.4	7,697	42.4
1978	69,428	18,977	27.3	8,138	42.9
1979	71,677	18,765	26.2	7,999	42.6

¹ Data are limited to wage and salary workers who worked at only one job.

salary workers with one job who worked 41 hours or more during the week ending May 12, 1979.¹ They do not include the 3.3 million multiple jobholders who worked more than 40 hours, even if they passed the 40-hour mark on their principal job. Nor do they include the 4 million self-employed who worked 41 hours or more.

The Fair Labor Standards Act, passed by Congress in 1938, mandated that premium pay of time and one-half the regular wage be paid to qualifying non-supervisory workers for hours worked in excess of 40 per week. Over the years, the act has been amended and in 1979 its overtime provisions covered an estimated 53 million workers, 74 percent of all nonsupervisory workers, 59 percent of all civilian wage and salary workers.²

While the act sets the standard for most workers, premium pay for overtime begins before 40 hours for some workers. Public laws covering government contracts and Federal employment generally entitle workers to premium pay for hours worked in excess of 8 per day without regard to weekly hours. In addition, some collective bargaining agreements specify overtime after 35 hours a week or even less, after 8 or fewer hours a day or on some other basis.³ Thus, the data on long hours presented here include some workers who are not on "overtime" despite exceeding 40 hours per week, while they exclude others who worked overtime, although their workweek was less than 40 hours.

Use of overtime

Even with the premiums for overtime specified in laws and union contracts, employers still use overtime hours to get out their product. Management uses overtime to cope with "disequilibrium phenomena," such as strikes, mechanical breakdowns, or bad weather. Also, because the cost per hour of hiring, training, and providing fringe benefits to additional employees can exceed the cost per hour of premium pay, management sometimes orders overtime to meet increased demand, particularly of a temporary or short-term nature. Some

Table 2. Full-time wage and salary workers who worked long weeks and those who received premium pay by hours worked, May 1979

[Numbers in thousands]

Usual hours and premium pay	Hours worked			
	Worked 41 hours or more	Worked 41 to 48 hours	Worked 49 to 59 hours	Worked 60 hours or more
Total worked 41 hours or more	18,765	8,687	6,249	3,829
Received premium pay	7,999	4,748	2,357	894
Percent receiving premium pay	42.6	54.7	37.7	23.3
Usually worked 41 hours or more	12,895	4,630	4,859	3,404
Received premium pay	4,152	1,979	1,485	687
Percent receiving premium pay	32.2	42.7	30.6	20.2
Did not usually work 41 hours or more	5,871	4,055	1,390	424
Received premium pay	3,847	2,768	872	206
Percent receiving premium pay	65.5	68.3	62.7	48.6

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

economists think that rising fringe benefits have created a “fringe barrier” to new hirings by diminishing the relative cost of an overtime hour. They claim that the time-and-a-half premium is no longer a very strong deterrent to the use of overtime.⁴

However, a trend toward the increased use of overtime is not obvious in the general data presented here. During May 1973–79, from 25 to 29 percent of full-time wage and salary workers put in more than 40 hours a week, and at least 36 percent of those on long hours (and often about 42 percent) received premium pay. One in 10 full-time wage and salary workers put in more than 40 hours a week and received premium pay.

Of the 18.8 million workers on extended schedules during the May 1979 reference week, 12.9 million were

reported as regularly working 41 hours or more. Only one-third received premium pay, compared with two-thirds of those who worked over 40 hours only occasionally. (See table 2.) Whether or not a person routinely worked long hours, the proportion earning premium pay for extra hours decreased as the number of hours worked increased.

More than three-fifths of the workers who routinely worked long hours put in more than 48 hours and about half spread the work over more than 5 days. In contrast, only three-tenths of those who seldom worked long hours worked more than 48 hours during the reference week.

Approximately 7.4 million workers in goods-producing industries and 11.4 million workers in service-producing industries put in weeks of 41 hours or more in May 1979, nearly the same as the preceding year. Although about the same proportion of workers were on long hours in goods production as in services (27.2 and 25.5 percent) workers in goods production were—*as was the case in previous years—twice as likely to receive premium pay for long hours.* (See table 3.) Within the service-producing sector, however, the proportion of workers who received premium pay for long hours ranged up to 50 percent or more in transportation and public utilities and Federal public administration. The latter group includes the postal service, in which 78 percent of the employees on long hours received premiums.

Agriculture is the anomaly among the goods-producing industries, with 53 percent of the workers putting in more than 40 hours but only 12 percent receiving a premium. Farmworkers are exempt from overtime provisions of the Fair Labor Standards Act.

Table 3. Full-time wage and salary workers who worked long weeks and those who received premium pay, by industrial group, May 1973–May 1979

[In percent]

Industrial group	Worked 41 hours or more							Received premium pay						
	1973	1974	1975	1976	1977	1978	1979	1973	1974	1975	1976	1977	1978	1979
All industries	29.1	27.6	25.0	25.8	27.4	27.3	26.2	42.5	41.6	36.2	39.7	42.4	42.9	42.6
Goods producing	30.0	27.7	23.4	26.6	28.6	28.0	27.2	63.9	60.5	53.7	60.4	62.0	61.1	61.5
Agriculture	54.6	54.7	55.9	56.8	53.1	47.4	52.6	7.9	10.4	11.6	13.4	10.9	14.0	12.2
Mining	38.4	41.7	36.6	34.1	34.5	40.9	34.8	65.8	64.8	57.5	57.4	64.5	65.6	65.0
Construction	23.0	21.8	20.9	21.4	23.9	22.3	21.2	56.6	53.1	52.2	52.6	55.9	55.1	54.9
Manufacturing	30.1	27.3	21.5	25.7	28.0	27.7	26.9	69.9	66.7	59.9	67.3	68.4	66.7	68.0
Durable goods	31.3	28.7	20.6	25.3	28.7	28.6	27.8	73.7	70.3	62.6	69.5	70.4	70.0	71.0
Nondurable goods	28.3	25.1	22.8	26.4	27.1	26.2	25.4	63.4	60.4	56.1	64.1	65.2	60.9	62.5
Service producing	28.5	27.4	26.0	25.4	26.6	26.9	25.5	27.3	28.9	26.9	26.6	29.6	31.3	30.3
Transportation and public utilities	27.1	26.2	23.3	24.1	26.2	28.7	28.7	53.6	53.2	48.4	44.1	51.1	49.8	49.9
Wholesale and retail trade	39.3	37.1	35.9	35.7	36.6	35.8	34.2	27.5	30.0	28.3	28.5	31.0	32.0	31.8
Finance, insurance, and real estate	21.7	20.4	21.6	20.5	22.2	21.8	20.8	16.2	21.2	19.8	18.4	19.3	21.3	20.5
Miscellaneous Services	26.2	25.9	24.0	22.7	23.7	24.3	22.6	18.8	19.9	18.8	19.0	22.0	24.0	21.6
Professional ¹	23.4	23.5	22.0	20.6	21.6	22.5	20.7	15.3	16.4	16.5	16.4	18.5	20.4	18.2
Other ²	34.4	33.1	30.6	29.2	30.6	29.9	28.5	25.8	27.7	24.4	24.6	29.8	32.0	29.0
Public administration	17.1	17.0	15.5	15.5	16.6	16.7	15.6	36.9	34.8	35.9	37.5	36.2	43.4	40.9
Federal	15.0	13.5	11.4	13.4	14.8	15.2	14.4	58.1	57.3	53.1	58.8	53.0	58.7	52.4
Postal	20.4	12.9	9.0	16.7	18.1	21.3	18.2	68.2	59.1	(³)	76.4	78.3	80.8	78.4
Other Federal	12.1	13.8	12.4	11.9	13.4	12.6	12.9	49.1	56.6	46.6	48.0	38.4	43.3	37.4
State	15.8	14.7	14.3	11.4	11.1	12.1	9.4	24.0	16.5	11.2	17.9	18.9	31.0	42.5
Local	21.4	23.9	21.7	20.3	21.6	21.1	20.0	18.1	19.5	30.3	23.2	25.5	32.7	30.1

¹ Includes health, education, and welfare services.

² Includes forestry and fisheries, business and repair services, entertainment, personal ser-

vices, and private household workers.

³ Percent not shown where base is less than 75,000.

Long hours in services down

The incidence of long hours in the goods-producing industries was about the same as in the previous year, but lower than in May 1977. However, it remained well above the recessionary low of 1975. The proportion of long hours used by employers in the service sector has fallen to a level as low as anytime in the 7-year period. This may be due partly to the gradual removal of the Fair Labor Standards Act's overtime exemptions for hotel, motel, and restaurant employees, which was completed in January 1979. This does not necessarily indicate weakness of the economy. On the contrary, employers—expecting strong demand for their goods or services—may have been more likely than in recent years to hire additional employees, rather than work those on board overtime.

State and local public administration bucked the trend of relatively little change in premium pay set by other industries. In State and local government, the proportion of workers on long hours receiving premium pay has shown a substantial increase during 1973–79. At the same time, the incidence of workers on long hours in State public administration has been decreasing.

Although white-collar and blue-collar employees are about equally apt to work long hours, the incidence of premium pay is much lower for white- than blue-collar workers. (See table 4.) Managers and administrators were among the most likely of all workers to put in long hours and the least likely to receive premium pay. Clerical workers were among the least likely to work long hours, but the proportion who received premium

Table 4. Full-time wage and salary workers who worked 41 hours or more a week and those who received premium pay, by occupational group, May 1979

[Numbers in thousands]

Occupational group	May 1979		
	Number	Percent of full-time workers	Percent received premium pay
All occupations	18,765	26.2	42.6
White collar	9,691	26.2	23.8
Professional and technical workers	3,199	26.4	21.0
Managers and administrators	3,643	44.0	11.9
Sales workers	1,212	34.2	14.7
Clerical workers	1,638	12.6	62.5
Blue collar	7,325	27.2	70.9
Skilled trades	3,286	30.1	67.0
Operatives, except transport	2,140	22.2	84.7
Transport equipment operatives	1,195	40.4	56.2
Laborers, except farm	704	20.7	71.6
Service workers	1,279	18.3	36.8
Farm workers	470	56.6	6.8
Production and nonsupervisory ¹	11,393	22.7	60.1

¹ All occupations except professional and technical, managerial and administrative, private household, and farmworkers.

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

Table 5. Full-time wage and salary workers who worked long weeks and percent who received premium pay, by union status and occupation and industry group, May 1979

Occupational and industrial group	Percent working 41 hours or more		Percent working 41 hours or more who received premium pay	
	Union ¹	Other	Union ¹	Other
Occupation	20.0	28.9	69.1	34.6
White collar	16.7	28.7	37.7	21.7
Blue collar	22.8	31.0	85.5	61.9
Service	15.5	19.4	53.4	31.8
Farm	(²)	58.6	(²)	6.1
Industry	20.0	28.9	69.1	34.6
Goods producing	20.9	31.0	90.2	50.0
Agriculture	(²)	54.5	(²)	11.8
Mining	20.4	43.0	(²)	57.4
Construction	13.4	25.7	80.7	47.0
Manufacturing	22.6	29.7	91.4	56.4
Service producing	19.2	27.8	49.3	25.6
Transportation, public utilities	25.5	32.5	70.7	30.6
Trade	22.3	36.0	76.7	27.7
Miscellaneous services	16.6	24.0	16.2	22.4
Public administration	14.4	16.5	58.4	28.8

¹ Member of a labor union or of an employee association similar to a union or working at a job covered by a union or employee association contract.

² Percent not shown where base is less than 75,000.

pay was comparable to that among blue-collar workers. Transport equipment operatives were about as likely as managers and administrators to work long hours and were the least probable of all blue-collar employees to receive premium pay. A higher proportion of other operatives received premium pay than any other occupation.

The proportion of white-collar workers on long hours was lower in 1979 than in 1978, and had returned to a level as low as in any May in the preceding 6 years. Although the work schedules of blue-collar workers tend to be more cyclically sensitive (probably because the industries where they concentrate are particularly sensitive to business cycles) the number and percent of blue-collar workers on long weeks were about the same in May 1979 as 1 year earlier. About the same proportion of blue-collar workers received premium pay for long hours in 1979 as in 1973, while the proportion of white-collar workers had risen slightly.

The proportion of service workers on long hours dropped over the 1973–79 period, while the proportion receiving premium pay, though off from the May 1978 level, rose considerably over the May 1973 rate, from 25.7 to 36.8 percent.

Negotiations by unions

Workers covered by union contracts make up three-tenths of the full-time wage and salary workers.⁵ In some cases, unions have negotiated shorter standard hours and higher overtime premiums than provided by law, as well as the right to a fair share of overtime and the right of individual workers to refuse overtime. Table

Table 6. Full-time wage and salary workers who worked long weeks and those who received premium pay, by selected characteristics, May 1979

[Numbers in thousands]

Characteristic	Worked 41 hours or more		Received premium pay	
	Number	Percent of full-time workers	Number	Percent of those who worked 41 hours or more
Men	14,778	32.7	6,191	41.9
Age: 16 to 19 years	420	24.5	244	58.1
20 to 24 years	1,994	31.6	1,127	56.5
25 to 54 years	10,666	34.4	4,254	39.9
55 years and over	1,696	27.6	565	33.3
Race: White	13,761	34.2	5,642	41.0
Black and other	1,017	20.7	549	54.0
Marital status: Never married	2,283	25.8	1,063	46.6
Married, spouse present	11,300	34.5	4,585	40.6
Other	1,195	33.2	543	45.4
Union status: Union ¹	3,674	23.5	2,674	72.8
Other	11,105	37.6	3,518	31.7
Women	3,986	15.0	1,807	45.3
Age: 16 to 19 years	134	11.0	78	58.2
20 to 24 years	701	15.1	408	58.2
25 to 54 years	2,708	15.6	1,163	42.9
55 years and over	443	13.6	159	35.9
Race: White	3,616	15.9	1,621	44.8
Black and other	371	9.6	186	50.1
Marital status: Never married	944	15.1	408	43.2
Married, spouse present	2,059	14.2	947	46.0
Other	985	17.1	453	46.0
Union status: Union ¹	711	11.3	354	49.8
Other	3,276	16.2	1,453	44.4

¹ Data include workers who either are members of a labor union or of an employee association similar to a union, or whose job is covered by a union or employee association contract.

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

5 shows that the proportion of union workers on long hours was only two-thirds that for nonunion workers, while the proportion that received premium pay for long hours was twice as large. This relation pervades the major occupational and industrial groups, though the relative differences between the union and nonunion rates vary.

The frequency of long hours among women is only half of that among men. (See table 6.) For those women who did work long hours, their workweeks were short relative to those of men; 58 percent of the men worked more than 48 hours compared to 39 percent of the women. A larger proportion of men than women regularly work long hours, as well. Women, however, were slightly more likely to receive premium pay than men. Married men worked long hours more frequently than men who were never married but with little difference from widowed, separated, or divorced men. Among women, long hours varied less with marital status.

Black workers were much less likely than white workers to put in long workweeks. Among the full-time wage and salary workers, 28 percent of whites and 16 percent of blacks worked long hours in May 1979.⁶ However, 53 percent of the black workers earned premium pay for their long hours, compared to 42 percent of the white workers. Disproportionately small numbers of

blacks work in professional, technical, or management occupations, where long hours are more common and premium pay less so. The differences in the incidence of premium pay between black and white workers was greater among men than women.

Individuals 25 to 54 years old had the highest incidence of long hours. However, the likelihood of receiving premium pay declines in successively older age categories, dropping from 58 percent for teenagers to 34 percent for persons 55 years and over. A factor in this is that many older workers have taken supervisory positions where premium pay provisions do not apply. Even when the worker may have the choice of accepting premium pay, the combination of higher income and progressive income tax schedules may make older workers more likely to take compensatory time off for long hours rather than premium pay. □

FOOTNOTES

¹ The Current Population Survey is a survey of households, numbering 56,000 in May 1979, which is conducted for the Bureau of Labor Statistics by the Bureau of the Census. A worker reported as receiving premium pay is one who answered "yes" to the question: Did . . . get a higher rate of pay, like time and a half or double time, for hours . . . worked over 40? Data on premium pay are not available for the 3.3 million wage and salary workers who held two or more jobs totaling 41 hours or more. For information on these workers, see Edward S. Sekscenski, "Women's share of moonlighting nearly doubles during 1969-79," *Monthly Labor Review*, this issue.

Although the data presented here provide considerable information on the number and characteristics of workers on extended schedules and on their receipt of premium pay, they cannot measure with precision the number of overtime hours. For data from employer payroll records on overtime hours paid production workers in manufacturing, see *Employment and Earnings* (Bureau of Labor Statistics) monthly, table C-2.

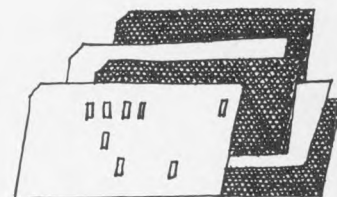
² *Minimum Wage and Maximum Hours Standards Under the Fair Labor Standards Act* (U.S. Department of Labor, Employment Standards Administration, 1978) p. 62.

³ Workers in firms holding government contracts are covered by the Walsh-Healey Public Contracts Act (Public Law 74-846, June 30, 1936) or the Contract Work Hours and Safety Standards Act (Public Law 87-581, Aug. 13, 1962). The Federal Pay Act (U.S. Code, title 5, Ch. 61) applies to Federal workers. For more information on overtime provisions in union contracts see *Characteristics of Major Collective Bargaining Agreements, July 1, 1976*, Bulletin 1957 (Bureau of Labor Statistics, 1979), pp. 43-58.

⁴ For various views on this point, Ronald G. Ehrenberg, *The Short-Run Employment Decision and Overtime Behavior*, Ph.D. dissertation, Northwestern University, 1970, or Joseph Garbarino, "Fringe Benefits and Overtime as Barriers to Expanding Employment," *Industrial and Labor Relations Review*, April 1964, pp. 426-442, or Robert M. MacDonald, "The Fringe Barrier Hypothesis and Overtime Behavior," *Industrial and Labor Relations Review*, July 1966, pp. 562-569, and, most recently, Arthur R. Schwartz, *The Effects of Benefits and Overtime Costs on the Short Run Cyclical Demand for Labor in the Automobile Industry in Michigan*, Ph.D. dissertation, the University of Michigan-Wayne State University, Ann Arbor, Michigan, January 1979.

⁵ In this report, a union worker is defined as a member of a labor union or employee association similar to a union or a worker whose job is covered by a union or employee association contract.

⁶ "Black workers" refers to all workers who are not white. According to the 1970 Census of Population, black people make up about 89 percent of the "black and other" population.



Tracking individual earnings mobility with the Current Population Survey

FRANCIS W. HORVATH

The earnings of individual workers, matched in two consecutive May Current Population Surveys, increased more over the year ended in May 1978 than did earnings averages for all wage and salary workers. While median hourly earnings rose 7.0 percent between May 1977 and May 1978, the corresponding median level of change across matched individuals was 9.1 percent. However, this and other findings in this report must be interpreted with caution due to several complications inherent in the formation of the sample and other restrictions outlined below.

The data in this report are based on unweighted sample counts from a match of the Current Population Surveys (CPS) of May 1977 and May 1978. The CPS is a monthly cross-sectional sample which provides the basic national data on employment and unemployment. In May of each year, supplemental data have been collected on usual weekly earnings, usual hours worked per week, as well as actual hourly earnings for those employed during the sample period.¹

While the CPS earnings data refer to only one period covering the given reference week, it is possible to create a year-to-year longitudinal subsample by virtue of the survey design. To minimize the reporting burden on the respondents in the survey, as well as to improve the reliability of estimates of change, households are rotated in and out of the sample in a predetermined pattern. Specifically, after a household address enters the sample in a given month, it remains in the sample during the next 3 months, is dropped for 8 months, and then returned for a final 4 months. This rotation system, known as a "4-8-4", provides for maximum overlaps of 75 percent in the month-to-month estimates, and 50 percent in the year-to-year sample² That is, the ques-

tions asked in May of one year will be asked (potentially) a second time of one-half the households in the sample the following May.

Using those households common to both May surveys, it is possible to obtain a subsample of persons containing information on all the questions asked in each survey. Thus, it becomes possible to track the flows of individual persons from one labor force and earnings status to another by comparing answers from the two surveys.

Sample selectivity. The gap between the potential of the theoretical match and that actually achieved is very wide, however. Several biases are known to exist in the matched data which should temper any conclusions based on this source of data. Most significantly, it should be noted that the possibility of a year-to-year longitudinal match is a byproduct of the sample design. The CPS is a survey of households—persons living in those households are not the basic units of the sample design. Thus, if a person were to move out of a surveyed household before the end of the sample period, and a new occupant were to move in, the new resident would be in the survey in all the subsequent survey months. The one who leaves is not followed and, thus, is "lost" to the sample. When the household address is "matched" with its previous information, its occupants will differ and, therefore, cannot be used in the longitudinal sample.

In the light of these considerations, the matched sample is not a random sample of the population, and cannot be used appropriately by any statistical procedure (such as ordinary least squares) which treats it as such.³ Every characteristic known to be positively associated with mobility will be disproportionately "lost" in the matched sample. This includes characteristics such as age, race, and sex.⁴ The matched sampling process retains more of those persons who are older, white, and more likely to be women. This is shown in table 1, which displays the sample representation of the match used in this report by several demographic characteristics.

The most striking feature shown by the data in table 1 is the systematic loss of young persons by the matching process. About 50 percent of the young persons 16-

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24 years of age in May 1977 are not matched in the next year. In addition, there appears to be a slightly greater loss of blacks and others than whites, and a slightly higher retention of women than men in the matched sample.

In addition to the loss of movers, the matched sample is incomplete for other reasons. Information is missing for persons who died and there is no way of separating them from those who moved. Response and coding errors may also present a problem. If the respondent changes some answers on which the match is keyed (such as race or age), he or she may not be treated as a match. Any incorrectly recorded or coded information in either year can cause identical persons to be rejected by the matching procedure.

Another problem with the sample is that the data are not inflated to population estimates using the weights assigned to persons in the CPS. In any month, the weights used to inflate the raw sample counts are based on the answers received in that particular sample month. This implies that the two separate weights for 1977 and 1978 need not necessarily be equal. While some average of the two weights could be defined, this procedure would not have a reliable statistical foundation.

Wage change selectivity. Another layer of selectivity is imposed on wage change comparisons by the restriction that persons remain in the employed labor force for both periods. Questions on usual weekly earnings and actual hourly earnings are asked only of those persons who were employed in the reference week, excluding the self-employed and unpaid family workers. Obviously, to compute any measure of change in average hourly earnings or usual weekly earnings, it is necessary to have

observations for both years. Because the wage change sample is limited to employed persons who responded to the questions in both years with dollar amounts, it is even less representative of the population. At this level, groups with high probabilities of leaving employment are lost, as well as those who are unable or choose not to answer the earnings questions in both reference periods. For example, 59 percent of 2,824 black and other men were matched in 1978, but only 19 percent were employed in both years and provided sufficient information to compute a change in average hourly earnings.

Despite these caveats, the underlying earnings mobility data are interesting in their own right. This data base contains more observations than most special-purpose longitudinal surveys and, thus, permits a range of dynamic analysis.

Annual flows. Table 2 shows the employment status and hourly earnings level for those reporting hourly pay in May 1977 and May 1978. In addition to those in the earnings match, the table includes the complete distribution for all persons in rotation groups 1-4 in May 1977 and those in rotation groups 5-8 in May 1978. With the level of detail shown here, it is possible to trace the changes in actual hourly earnings and labor force categories within fairly small wage brackets over the course of the 2-year period.

For example, reading across the row marked "\$2.30," which was the minimum wage in the first year, 505 matched persons were employed and paid by the hour again in May 1978; 107 worked at the new minimum wage of \$2.65; 32 of the 505 became the unemployed in the second year and 101 dropped out of the labor force. Three hundred and forty of those employed at the minimum wage in May 1977 could not be followed in May 1978.

Examination of the "unemployed" and "not in the labor force" categories crossed by previous year's earnings yields some interesting findings. Persons leaving employment and becoming unemployed tend to have higher wages than those employed persons who leave the labor force. Similarly, persons entering employment who were unemployed in the first year seem to have higher 1978 earnings levels than those who enter employment from outside the labor force. It seems that low-wage workers are more likely to move into and out of the labor force than higher wage persons, who typically are looking for work if not employed.

Several comments can be made about those not responding to the earnings questions in both years. If nonresponse is concentrated in particular demographic or earnings groups, it could complicate wage change comparisons. For example, 17 percent of black and other men who respond to the actual hourly earnings questions in the first year and should respond in the

Table 1. Sample representation by selected demographic characteristics

Characteristic	Total	In match	Not in match ¹	Match as a percent of total potential match
Total	55,062	36,811	18,251	66.8
MEN				
16 to 24 years	5,966	2,886	3,080	48.4
25 to 64 years	16,491	11,590	4,901	69.7
65 years and over	3,266	2,500	766	76.5
WOMEN				
16 to 24 years	6,488	3,085	3,403	47.5
25 to 64 years	18,281	13,243	5,038	72.4
65 years and over	4,570	3,507	1,063	76.7
White men	22,899	15,302	7,597	66.8
White women	25,776	17,554	8,222	68.1
Black and other men	2,824	1,674	1,150	59.3
Black and other women	3,523	2,241	1,282	63.2

¹ These persons were in rotation groups 1-4 in May 1977, and therefore, in the potential match, but were not surveyed again in May 1978.

Table 2. Labor force status and actual hourly earnings of individuals, May 1977 and May 1978

[Unweighted sample counts from CPS longitudinal match]

Characteristic	All in match	Employed in May 1978											Unemployed in May 1978	Not in labor force, May 1978	Not surveyed in May 1978 ³	
		Total	Paid by the hour													Not paid by hour ²
			Total ¹	\$0.1 - 2.29	\$2.30	\$2.31 - 2.64	\$2.65	\$2.65 - 3.99	\$4.00 - 5.99	\$6.00 - 7.99	\$8.00 - 9.99	\$10.00 and over				
All in match	36,811	21,155	9,289	256	53	228	703	2,300	1,982	1,365	630	304	11,866	945	14,711	....
Employed in May 1977, total	21,184	18,963	8,028	184	30	159	462	1,837	1,823	1,312	609	291	10,935	462	1,759	10,778
Paid by the hour, total ¹	9,475	8,322	6,584	149	26	132	372	1,544	1,495	1,105	527	238	1,738	312	841	5,361
\$0.1 - 2.29	506	369	298	103	14	24	65	48	9	...	2	...	71	25	112	354
2.30	505	372	298	14	7	22	107	99	10	...	...	1	74	32	101	340
2.31 - 3.99	3,136	2,656	2,131	25	3	66	171	1,215	388	37	6	2	525	111	369	2,112
4.00 - 5.99	2,046	1,892	1,502	...	...	2	2	60	896	332	31	1	390	50	104	1,102
6.00 - 7.99	1,375	1,306	1,088	...	...	1	...	9	49	616	243	22	218	28	41	580
8.00 - 9.99	438	413	326	1	...	1	...	...	7	21	194	56	87	12	13	141
10.00 and over	251	230	174	...	...	...	...	2	3	5	8	137	56	12	9	94
Not paid by hour ²	11,709	10,641	1,444	35	4	27	90	293	328	207	82	53	9,197	150	918	5,417
Unemployed in May 1977	1,159	578	379	11	1	13	49	133	76	24	12	6	199	205	376	1,094
Not in labor force in May 1977	14,468	1,614	882	61	22	56	192	330	83	29	9	7	732	278	12,576	6,379
Not surveyed in May 1977 ⁴ . . . . .	.....	10,374	5,133	210	23	158	585	1,491	1,118	591	244	132	5,241	857	5,400	....

¹ Includes those paid by the hour but not reporting a dollar amount.

² Includes all those not paid by the hour, those not answering, and those not asked the question.

³ There were 18,251 persons in rotation groups 1-4 in May 1977 who were not matched

with May 1978 information.

⁴ There were 16,631 persons in rotation groups 5-8 in May 1978 who could not be matched with May 1977 information.

second did not, compared with only 12 percent of the white men in similar circumstances. Nonresponse in the second year tends to rise slightly at higher 1977 earnings levels.

Earnings mobility. The most striking feature of the earnings change data is that, for those matched, the percentage change in each measure of earnings is large. The median percentage increase in earnings per hour for individuals paid by the hour was 9.6 percent, usual weekly earnings were up by 9.1 percent, and average hourly earnings rose by 9.4 percent. By comparison, from May 1977 to May 1978, median hourly earnings for all wage and salary workers increased 7 percent.

The differences in the results between the matched sample and the two individual May surveys may be related to work experience. If labor force experience does indeed produce higher earnings levels, those workers common to both periods are most likely to have increased their level of experience by 1 year.⁵ This is not true of the two separate earnings distributions. These figures are based not only on those employed in both periods, but also on the relationships between levels of wages and flows of persons entering and leaving employment. The differences between the aggregates and the individual change measures might be more pronounced the greater the volume of employment turnover in the group.

Table 3 describes the percent change in actual hourly earnings, average hourly earnings, and usual weekly earnings by selected demographic characteristics. In

addition, the table lists the 1978 status of all persons employed during May 1977, so that the various layers of selectivity may be seen in perspective.

The percentage change in earnings for all three measures tends to be highest for those groups with the greatest flows out of employment. For example, while young women age 16-24 employed and paid by the hour in both periods increased their actual hourly earnings by 14.7 percent, the percentage of young women employed in both periods was among the smallest, 78.6 percent. Among employed white men, 92.9 percent were employed the following May, and those answering actual earnings questions in both surveys showed an increase of 9.2 percent. For white women, only 84.8 percent were employed again the following May, but those answering both actual hourly earnings questions had a slightly higher increase, 10.1 percent.

It should be noted that the groups with the highest percentage changes in the earnings measures typically begin from a low base. For example, persons earning the minimum wage in both May 1977 and May 1978 moved from \$2.30 an hour to \$2.65. This small absolute increase of 35 cents becomes a large relative increase of 15.2 percent when related to the \$2.30 base.

Average hourly earnings (usual weekly earnings divided by usual hours worked) rose at about the same rate as actual hourly earnings. Again, prime working-age men showed the smallest increases, and those groups not strongly attached to the labor force showed the largest changes. The representation of the sample runs at about one-third of those surveyed in May of

Table 3. Tracking individuals employed in May 1977 and May 1978

Characteristic	Total	Men					Women				
		White	Black and other	Age 16-24	Age 25-64	Age 65 and over	White	Black and other	Age 16-24	Age 25-64	Age 65 and over
Employed in May 1977	31,962	17,026	1,726	3,771	14,771	684	11,654	1,556	3,255	9,594	361
Not in match	10,778	5,801	675	2,013	4,135	128	3,968	534	1,735	2,681	86
In match	21,184	11,425	1,051	1,758	10,162	556	7,686	1,022	1,520	6,913	275
Not in labor force in 1978	1,759	589	67	193	307	156	1,001	102	252	774	77
Unemployed in 1978	462	224	34	84	168	6	170	34	74	127	3
Employed in 1978	18,963	10,612	950	1,481	9,687	394	6,515	886	1,194	6,012	195
Number reporting actual hourly earnings in both years	5,137	2,616	274	625	2,215	50	1,979	268	480	1,716	51
Percent change in actual hourly earnings ¹	9.6	9.2	10.9	15.0	8.6	7.9	10.1	9.4	14.7	9.3	7.0
Number with average hourly earnings in both years	11,516	6,081	579	1,038	5,576	122	4,293	616	901	3,901	107
Percent change in average hourly earnings ¹	9.4	8.9	8.6	8.6	15.7	8.3	10.1	9.7	14.0	9.4	10.2
Number reporting usual weekly earnings in both years	11,571	6,106	585	9,663	5,600	125	4,256	624	855	3,917	108
Percent change in usual weekly earnings ¹	9.1	8.5	8.5	18.0	7.8	3.6	10.2	8.9	16.7	9.2	2.4

¹Data are median percent changes based on individuals in the respective percent change universe.

1977 for most groups, although somewhat lower for very young and older workers.

Usual weekly earnings followed the same general pattern as actual and average hourly earnings. Percent changes were highest for young men and women, both groups which are likely to get "lost" in the matching process. Usual weekly earnings were higher for white women than white men, which may reflect, in part, a greater increase in hours worked for women. Sample followup was slightly more than one-third of those employed in May 1977 for most groups. □

30-34	20.3
35-44	13.4
45-54	8.4
55-64	7.0
65 and over	5.6

Black	18.0
White	17.0
Men	17.5
Women	16.8

¹ There are only two discrete observation points and the amount of work experience between these two points cannot be determined.

— FOOTNOTES —

¹ See *Weekly and hourly earnings data from the Current Population Survey*, Special Labor Force Report 195 (Bureau of Labor Statistics, 1977), for a more complete discussion of this source of data. May 1978 was the last year in which these items were collected for the full sample. Beginning in October 1978, earnings questions were asked of persons in the two outgoing rotation groups each month and will be published quarterly. These new data will not be strictly comparable to previous earnings information.

² See *The Current Population Survey, Design and Methodology*, Technical Paper No. 40 (Bureau of the Census, 1978), for a complete description of the survey design.

³ See G. S. Maddala, "Self Selectivity Problems in Econometric Models," in P. Krishniah, ed., *Applications of Statistics* (Amsterdam, North Holland Publishing Co., 1977).

⁴ The percentage of persons who change their household each year in the United States has been relatively constant at about 20 percent since the question of previous residence was first asked. However, mobility varies sharply by several demographic characteristics most notably by age as shown below in the most recent 1-year mobility figures from the March 1976 Current Population Survey:

	Percent changed households in year ended March 1976
Total	17.1
Age groups:	
15-19	16.1
20-24	38.0
25-29	32.6

The extent of alcoholism among Air Force employees

T. ROGER MANLEY, CHARLES W. MCNICHOLS, AND MICHAEL J. STAHL

An extensive survey of Air Force civilian employees reveals that almost 7 percent are problem drinkers.¹ But a conservative classification scheme as well as voluntary participation in the 1978 survey, the first of its type among Federal employees, suggests that the number of problem drinkers may be substantially understated.

We administered questionnaires to 13,146 U.S. Air Force civilian employees during October-November 1978, of which 9,939 responded. The results showed that 6.9 percent of these respondents experienced some

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impairment of their job performance because of drinking. The overall toll on productivity due to missed days, working at lower levels of efficiency, and irregular hours was computed to be .359 day per person during 1978.

The results

Table 1 presents a summary of responses to survey items used to establish physical dependence on alcohol. To ensure that respondents understood the wording of the symptom describing tremors ("shakes"), two differently worded items were used. A positive response to either or both was counted as one symptom of physical dependence. According to our criteria, 1.1 percent of the respondents were physically dependent upon alcohol.

The 13 serious consequences related to drinking, as shown in table 2, cover an individual's worklife, physical health, and social/family life. They suggest that family life might be the part of the individual's life which is most severely or frequently affected, or both.

In computing lost working time associated with alcohol consumption, one quarter of a day lost was counted for each reported instance of working at a lower level of performance, being "high" at work, or arriving late or leaving early. It is of interest to note that 11 percent of the employees worked at a lower level of performance because of drinking; 5.5 percent missed at least 1 entire day; 5 percent arrived late or left early; and 6 percent were "high" at work on at least one occasion. We conservatively estimated that an average of .359 days per employee was lost last year because of drinking. (See table 3.)

Our figures show that 20 percent of the respondents abstained from using alcohol during the preceding year, 52 percent consumed up to 1 ounce of ethanol (pure alcohol) per day, 8 percent consumed between 1 and 2 ounces per day, 6 percent consumed between 2 and 5 ounces per day, and 1 percent reported consuming over 5 ounces of pure alcohol per day.²

Psychological dependence

In addition to symptoms of physical dependence, the survey contained six questions which were found to

Table 1. Workers reporting symptoms of alcohol dependence during year
[In percent]

Symptom	Never	Has happened, but not in past year	1-11 days per year	One or more days per month
Tremors ("shakes")	92.1	4.0	2.7	1.2
Tremors (morning shakes)	91.5	3.8	3.6	1.1
Morning drinking	93.2	3.2	2.3	1.3
Memory loss (blackouts)	86.5	7.9	4.5	1.1
Loss of control	91.3	4.0	4.5	1.1

NOTE: Item wording for all symptoms was specified as being related to drinking.

Table 2. Workers reporting alcohol-related consequences during year

[In percent]

Consequence ¹	Never	Happened, but not in past year	Happened one or more in past year
Received disciplinary action	98.4	0.8	0.8
Received lower performance rating	98.2	0.8	1.0
Illness kept me from work for a week or more	97.4	1.3	1.3
Hospitalized for 2 or more days	97.9	1.7	0.4
Visited a physician two or more times	97.7	1.9	0.4
Had an accident causing self-injury	97.4	1.8	0.8
Had an accident causing injury/property damage	97.1	2.2	0.7
Spouse left because of drinking	98.5	0.7	0.8
Spouse threatened to leave but did not	87.4	7.8	4.8
Arrested for drunken driving	94.4	4.4	1.1
Arrested for non-driving offense	93.0	5.6	1.4
Spent time in jail	95.8	3.4	0.8
Got into fight(s)	93.9	4.1	2.0

¹ All incidents were specified as caused by or related to alcohol consumption and occurring during the past year.

provide an effective overall measure of psychological dependence.

By using factor analysis, we determined that the six questions measured a single underlying phenomenon (accounting for 62 percent of the variance in the responses) and could be summed with unit weights to provide a single overall measure of psychological dependence. Scores ranged from the lowest possible, 6, to the highest possible, 30. The mean score for all respondents was 8.33, with a standard deviation of 3.32. The mean score for respondents classified as physically dependent was 14.38, and 12.05 for those classified as adversely affected.

We conducted a number of tests to compare the psychological dependence scores of respondents according to various parameters. We found that respondents who scored high on psychological dependence were more likely to report more symptoms of physical dependence than other employees; more adverse effects related to drinking; higher scores on an intoxication index; more days lost from work because of drinking; and, higher consumption of alcohol. These and other findings suggest that psychological dependence, as measured by the six survey items, can be an effective discriminator for alcohol-related problems.

Work and alcohol-related problems

Although some notice has been taken of alcohol problems vis-a-vis job satisfaction and work involvement or leisure activities, the literature remains somewhat sparse and inconclusive. However, the little that can be found suggests that individuals with drinking problems tend to be somewhat compulsive about their work and uncomfortable with leisure time.³

Nevertheless, our study of alcohol-related variables and variables dealing with work suggests that individuals with drinking problems may not be so compulsive about their work, nor do they enjoy it.

Executive stress as a cause of alcoholism and various other stress-related diseases have recently received a good bit of attention in the press.⁴ Examination of stress scores (the sum of responses to a six-item measure of overall stress) and alcohol-related variables, such as adverse consequences, suggests individuals with low and high stress scores are more apt to report having experienced adverse consequences than are respondents who report some moderate level of stress. Interestingly, these data seem to support theory in preventive medicine as well as the observations of stress management specialists.⁵

Alcoholism and alcohol-related problems were elevated to a status requiring official notice and concern by Federal agencies with the passage of the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970. This law directed that the Civil Service Commission and the Secretary of Health, Education, and Welfare make certain that all Federal agencies and departments develop and maintain appropriate prevention, treatment, and rehabilitation programs and services for Federal employees. Similar legislation has been passed by a number of State legislatures.

As highlighted by a 1977 GAO report⁶ and later by the HEW Secretary, alcoholism and problems associated with alcohol deserve national concern.⁷ Although some dimensions of the problem have been estimated and can be found in sources such as the HEW report to the Congress, until now virtually no scientifically designed epidemiological research has been conducted among public sector employees. Some indication of the belatedness of public sector employer interest in this area can be gained by noting that of the 2,400 U.S. employers with occupational alcoholism programs in 1977, only 400 were in the public sector, and most of these were of relatively recent vintage.

Sample randomly selected

Our survey sample was randomly selected and stratified by grade. Questionnaires were administered in two

ways: respondents were requested to report to a central location to fill out the survey instrument, or they were mailed a questionnaire at their work locations. Completion of the questionnaire was voluntary and all respondents were guaranteed anonymity. Instructions accompanying the survey emphasized that the researchers from the Air Force Institute of Technology would be the only individuals who would have access to decoded answer sheets.

Of the 9,939 Air Force employees responding, 3,098 did so by mail and 6,841 in groups. The response rates were: overall, 75.6 percent; group-administered, 78.4 percent; and mail-administered, 70.2 percent. We do not know what proportion of nonrespondents to mail-administered surveys actually received questionnaires. Of the 21.6 percent nonrespondents to group administration, 1.7 percent refused to participate. The remaining 19.9 percent were notified, but did not show up at the scheduled time.

We emphasize the 24.4-percent nonresponse rate because we consider it critical. As suggested by other researchers, we recognize that a disproportionate number of individuals with drinking problems were probably among the 3,207 nonrespondents. As a result, we consider the data to represent a "lower-bound" or overly optimistic assessment of the extent to which alcoholism and alcohol-related problems exist among Air Force employees.⁸

The typical respondent was a 43-year-old white male who was married, had two dependents, was a high school graduate, and whose supervisor was also a civilian. Thirty-six percent of the respondents were women (average age 35 years) and 25 percent, minority group members. The distribution of respondents according to standard organizational and personal variables closely matched those of the overall Air Force civilian work force. Overseas employees, because of ground rules established to protect respondent anonymity, were underrepresented.

The questionnaire

In constructing the questionnaire,⁹ we attempt to focus on two aspects of alcohol-related problems: addiction/physical dependence upon alcohol and serious consequences associated with the consumption of it. Respondents who placed themselves in the first (and more serious) category we call *alcohol dependent*. Respondents who report having experienced one or more serious consequences we call *adversely affected*. More formal definitions are:

Alcohol dependent: An individual who exhibits observable, chronic behavioral problems which imply physical dependence on alcohol or physical impairment akin to dependence.

Adversely affected: An individual who experiences one or

Table 3. Workers reporting lost working time due to drinking

[In percent]

Item	Any occurrence	Occurrences resulting in 3 lost days or more	Estimated days lost per person ¹
Missed an entire workday	5.5	1.9	.161 days
Worked at lower level of performance than normal ²	11.4	5.1	.118
Arrived late or left early	5.0	2.2	.047
Was "high" at work	6.0	1.9	.066
Days lost	—	4.3	.359

¹ One occurrence counted as the loss of 25 percent of a workday.

² Counted only to the extent that days "high on duty" exceeds days of "lower performance than normal" for that person (to avoid possible double counting).

more serious consequences, whose average daily intake of alcohol is at a "high risk" level (that is, a volume at which damage to the liver can be presumed to occur), or who loses 3 or more work days because of drinking.

In performing the calculus to identify respondents to be placed in each category, we relied on self-reports of having experienced two or more of four physical dependence symptoms *at least once a month* over the past 12 months to establish alcohol dependence. A respondent who was adversely affected experienced one of 13 serious consequences *at least once during the past year*; consumed 5 or more ounces of pure alcohol daily; or missed at least three working days.

Survey items measuring alcohol consumption included consideration of the type of beverages consumed during the past 30 days, the frequency of drinking during the past 30 days and the past year, and the volume of alcohol consumed during the past 30 days and the past year. Items measuring productivity loss (days lost from work) included consideration of time lost because an individual was sick, "high" on the job, hung over, absent, or arrived late or left work early.

Also included in the 109-item questionnaire were measures of psychological dependence, stress/tension, work involvement, and job satisfaction. In addition, we included standard demographic variables which had been identified as meaningful in other alcoholism studies.

We believe that our data mark the first time that a large-scale research effort has been conducted on the subject of alcoholism and alcohol-related problems among Federal employees.

The often used approximation of 6 percent of the Federal employee work force having drinking problems is clearly ultra-conservative. Although we made use of self-reports (which notoriously understate quantity and symptomatic reports) and a version of the very conservative Rand classification scheme, almost 7 percent of the population was still identified as having significant drinking problems. The data also clearly show that misuse of alcohol costs the employer in terms of absenteeism, lowered efficiency, employee sick time, and on-the-job accidents which cause injuries and damage property. Alcohol costs the individual in terms of illness, impaired functioning, decreased personal control, and strained interpersonal relations. The fact that marriages and families suffer is also clearly indicated by the data. Correlated with problem drinking are decreased job satisfaction and work involvement, and increased stress and psychological dependence.

In many respects, employee alcoholism and alcohol-related problems have been like the weather: "Everyone talks about it but. . ." A law dealing with alcoholism

among Federal employees has been in effect for almost a decade, and recent research suggests that alcoholism among women and teenagers is gaining in intensity; yet little organizational energy and resources are devoted to efforts to solve the problem, which costs so dearly in human suffering and lost productivity.

While there can be no doubt that the medical model of alcoholism as a disease holds for the alcoholic who is physically dependent on alcohol, it is also true that for many, alcoholism results from a progressive sequence of events (often easily observable by members of the family, friends, supervisors, and by the potential alcoholics themselves). Identification and treatment programs, if they are programs in more than name, can identify individuals with problems and offer treatment to potential alcoholics on a voluntary basis. For relatively modest investments in occupational alcoholism programs, organizations can realize significant returns on previous investments in their human resources. These returns equate to higher productivity, a heightened quality of life, and responsible organizational citizenship. □

—FOOTNOTES—

¹ The research described in this report was initiated at the request of the U.S. Air Force Director of Civilian Personnel who, in attempting to comply with the Comprehensive Alcohol Abuse and Alcoholism Act of 1970, determined that a scientifically designed research effort was needed to estimate the prevalence of alcohol-related problems and the consequences of those problems among USAF civilian employees.

² Note that 5 ounces of alcohol would be the equivalent of 12.5 one-ounce shots of 80 proof whiskey or 8.3 twelve-ounce cans of 5 percent beer.

³ C. Berg and J. Neulinger, "Alcoholic's Perception of Leisure," *Journal of Studies on Alcohol*, 36:1196-1207, September 1974.

⁴ "Executive Stress May Not Be All Bad," *Business Week*, April 1979, pp. 96-103.

⁵ "Executive Stress." Also, see H. Selye, *The Stress of Life* (New York: McGraw-Hill, 1956, p. 87). Selye has studied the effects of physiological stress for several decades and has postulated a model of the individual's response to stress which appears to be supported by these data.

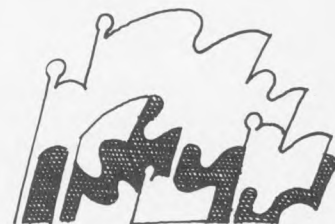
⁶ "Most Agency Programs for Employees with Alcohol-Related Problems Still Ineffective," U.S. General Accounting Office, Washington D.C., HRD-77-75, September 1977.

⁷ *Third Special Report to the U.S. Congress on Alcohol and Health from the Secretary of Health, Education, and Welfare*, National Clearinghouse for Alcohol Information, Rockville, Maryland.

⁸ J. M. Polich and B. R. Orvis, *Prevalence of Alcoholism and Alcohol Abuse in the Air Force*, Rand Corporation, Santa Monica, California, 1979, in press.

⁹ H. A. Mulford, "Iowa Alcoholic Intake Schedule, Model 4," The University of Iowa College of Medicine, Alcohol Studies Division. Also see, D. Cahalan, *Problem Drinkers* (San Francisco: Jossey-Bass, Inc., 1979), and D. Cahalan and R. Room, *Problem Drinking Among American Men* (New Haven, College and University Press, 1974), and J. M. Polich and B. R. Orvis, *Alcohol Problems: Patterns and Prevalence in the U.S. Air Force*, Project Rand Report R-2308-AF, Rand Corporation, Santa Monica, June 1979.

Foreign Labor Developments



U.S. rejoins ILO: the agenda for 1980's stresses human rights

TADD LINSENMAYER

The 66th session of the International Labor Conference will convene in Geneva, Switzerland early next month. An official tripartite U.S. delegation will participate in this annual International Labor Organization gathering for the first time since 1977,¹ when the United States withdrew from that organization. The conference will take up a number of crucial labor issues involving working conditions and human rights, issues that are likely to represent a major part of the work of the ILO during the 1980's.

U.S. withdrawal

The historical relationship of the United States with the ILO has been marked by periods of warm support followed by disillusionment.

Although Samuel Gompers chaired the committee that drafted the original ILO charter in 1919 (as part of the Treaty of Versailles), the United States did not join the organization until 1934. During World War II, when the League of Nations withered, the United States strongly supported the ILO's continued existence and hosted the historic 1944 conference that adopted the Declaration of Philadelphia, setting forth the organization's principles and purposes.

The 1970's, however, saw U.S. support for the ILO decay and eventually break over a number of serious issues.

Beginning in 1970, the U.S. Congress voted to withhold its contribution to the ILO budget (25 percent of the total), citing its concern with growing Soviet influence and the nonobservance of fundamental ILO principles and procedures. U.S. funds were restored in 1973, but the resumption of U.S. support was followed shortly by even sharper U.S. complaints about misdirected ILO activities.

In 1975, following a decision by the ILO conference to grant observer status to the Palestine Liberation Organization, Secretary of State Henry Kissinger formally

notified the ILO's Director General that the United States would withdraw from the organization in 1977 unless progress was made on the following four issues of major U.S. concern:

1. *Erosion of tripartism.* U.S. concern was triggered by efforts of some ILO members to impose restrictions on the independence of worker and employer delegates to ILO meetings.
2. *Selective concern for human rights.* Although ILO machinery for investigating violations of ILO human rights standards worked well in most cases, one group of countries—principally the Communist states of Eastern Europe—successfully used political influence to gain relative immunity from the application of that machinery.
3. *Violation of due process.* The ILO's human rights machinery protects the rights of accused governments by requiring an objective investigation of the facts. But in some cases, this due process right was ignored by conference participants who adopted politically inspired condemnatory resolutions.
4. *Politicization of ILO meetings.* In far too many cases, delegates to ILO meetings introduced political issues which were totally extraneous to the work of the ILO and which detracted from the organization's legitimate responsibilities.

Because the ILO failed, in the U.S. view, to make satisfactory progress on these issues in the intervening 2 years, President Carter ordered U.S. withdrawal from the ILO in November 1977.

Recent progress

Following U.S. withdrawal, a majority of ILO delegates—governments, workers, and employers—successfully joined together to promote a number of important reforms. The 1979 conference, for example, adopted a new procedure permitting voting by secret ballot to protect the independence of worker and employer delegates.² In November 1978, the ILO Governing Body censured Czechoslovakia for violating ILO standards concerning discrimination in employment. More recently, the Governing Body has initiated investigations into alleged violations of trade union rights in the Soviet Union and Poland.

The principle of due process was strengthened by the decision of the 1978 Conference to reject a proposal to extend the life of a 1974 resolution criticizing Israel without benefit of any investigation. A special working party of the ILO is currently giving serious consideration to a new procedure to screen out future resolu-

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tions violating due process principles. Finally, the level of debate in ILO meetings on extraneous political issues has significantly diminished.

A special U.S. Cabinet-level committee on the ILO—chaired by Secretary of Labor Ray Marshall and including Secretary of State Cyrus Vance, the Secretary of Commerce (Juanita Kreps, Philip Klutznick), National Security Adviser Zbigniew Brzezinski, the AFL-CIO President (George Meany, Lane Kirkland), and Dr. David Grove, President of the U.S. Council of the International Chamber of Commerce—carefully examined these and other developments during the summer of 1979. The committee concluded that although not all of the issues of concern to the United States had been fully resolved, the ILO had made significant progress. Moreover, the committee agreed that continued progress in reaching the fundamental goals of the ILO was now more likely if the United States resumed active membership.

As a result of this review, the committee unanimously recommended to the President that the United States rejoin the ILO. Acting on this recommendation, President Carter announced the U.S. return, effective February 18, 1980.

1980 conference issues

The significance of the U.S. return can be measured by, among other things, its potential contribution to ILO technical programs, starting with an active U.S. presence during the June 1980 conference. That conference will consider the issues that will underlie the major ILO programs during the 1980's.

The conference has four major technical issues on its agenda: older workers; equal opportunities and equal treatment for men and women workers; safety and health in the working environment; and promotion of collective bargaining.

Significantly, all four issues involve aspects of human rights. For older workers and women, job discrimination continues to represent a serious concern. Some observers also feel that certain early ILO conventions, designed initially to protect women workers, resulted instead in promoting a system of discriminatory labor

standards, which actually limited the employment opportunities of women workers.

The question of occupational safety and health also involves serious moral and human rights aspects. The ILO constitution and other international accords recognize that workers must be protected on the job as a matter of right, not privilege. Moreover, an increasing number of governments and worker organizations are expressing concern that countries which refuse to adequately protect workers' health may be reaping—at workers' expense—an unwarranted competitive advantage over countries which provide adequate worker protection.

Collective bargaining remains an important and recognized human right, one which is all too frequently compromised in the name of economic development.

Other important issues will also be considered by the 1980 conference. The committee which supervises the application of ratified ILO labor standards, for example, will consider whether to modify or, as some governments have proposed, eliminate entirely the so-called "special list" and "special paragraphs." These devices allow the conference to highlight flagrant violations of workers' human rights. The majority of delegates will likely favor retention of these important tools.

A committee on structure will consider proposals to modify the organization of the ILO, including the size and composition of the Governing Body. Another committee will examine any resolutions submitted by conference delegates.

The results of this conference will provide important indications of the ability of the ILO to tackle those serious technical issues for which it has a unique competence. A successful conference could well mark the start, after the troubled 1970's, of a new decade of achievement for the ILO. □

— FOOTNOTES —

¹ Delegations to ILO conferences include independent representation from governments, as well as worker and employer organizations.

² See "Highlights of the 1979 ILO conference," *Monthly Labor Review*, October 1979, pp. 65-67.

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in June 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
Acme Markets, Inc. (Pennsylvania)	Retail trade	Food and Commercial Workers	1,900
Allis-Chalmers Corp. (Pennsylvania)	Machinery	Machinists	1,100
Aluminum Co. of America (Interstate)	Primary metals	Auto Workers (Ind.)	1,300
Associated Building Contractors of Northern Ohio, Inc. (Ohio)	Construction	Carpenters	1,500
Associated General Contractors of America, Inc.	Construction	Carpenters	1,500
Alaska Chapter, 2 agreements	Construction	Carpenters and Teamsters (Ind.)	1,800
California Chapter	Construction	Operating Engineers	14,000
California Chapter	Construction	Plumbers	25,000
California-Northern Chapters, 4 agreements	Construction	Carpenters; Laborers; Plasterers and Cement Masons; and Teamsters (Ind.)	44,000
San Diego Chapter, 2 agreements (California)	Construction	Building and Construction Trades Council	7,400
Southern California Chapters, 4 agreements (California)	Construction	Carpenters; Operating Engineers; Laborers; and Teamsters (Ind.)	66,500
Automobile Dealers Industrial Relations Association of New York, Inc.	Retail Trade	Auto Workers (Ind.)	1,000
Avco Corp., Aerostructures Division (Nashville, Tenn.)	Transportation equipment	Machinists	1,650
Avco Corp., Locomotive Division	Transportation equipment	Auto Workers (Ind.)	1,600
Boise Cascade Corp. (Rumford, Me.)	Paper	Paperworkers	1,300
Carrier Corp. Elliott Co. Division, Shop Agreement (Jeannette, Pa.)	Machinery	Steelworkers	1,100
Celanese Corp., 2 agreements (Interstate)	Chemicals	Textile Workers	3,500
Clark Equipment Co. (Buchanan, Mich.)	Transportation equipment	Auto Workers (Ind.)	1,400
Combustion Engineering, Inc. (Chattanooga, Tenn.)	Fabricated metal products	Boilermakers	2,900
Consolidated Edison Co. of New York, Inc. (New York, N.Y.)	Utilities	Utility Workers	17,700
Continental Group, Inc. (Hodge, Penn.)	Paper	Paperworkers	1,050
Contracting Plasters Association of Southern California, Inc. (California)	Construction	Plasterers and Cement Masons	1,400
CPI International, Inc., Corn Products (Interstate)	Food products	Oil, Chemical and Atomic Workers	2,300
Eastern New York Construction Employers, Inc., 2 agreements (New York)	Construction	Laborers; and Carpenters	4,650
Georgia-Pacific Corp. Crossett Division-Paper (Crossett, Ark.)	Paper	Paperworkers	1,700
Hotel Employers Association of San Francisco (California)	Hotels	Hotel and Restaurant Employees; and Service Employees	20,000
Iron Worker Employers of California and Nevada (California and Nevada)	Construction	Iron Workers	8,500
J. I. Case Co. (Interstate)	Machinery	Auto Workers (Ind.)	6,500
Kennecott Cooper Corp., Utah Copper Division (Utah)	Primary metals	Steelworkers	2,400
League of Voluntary Hospitals and Homes of New York (New York, N.Y.)	Hospitals	Retail, Wholesale, and Department Store	37,000
Los Angeles County Painting and Decorating Contractors (California)	Construction	Painters	6,000
Magnavox Co. of Tennessee (Greenville, Tenn.)	Construction	Electrical Workers (IUE)	1,600
Master Lock Co. (Milwaukee, Wis.)	Fabricated metal products	Auto Workers (Ind.)	1,150
Maytag Co. (Iowa)	Electrical products	Auto Workers (Ind.)	2,250
Mechanical Contractors Council of Central California (California)	Construction	Plumbers	2,000
Metropolitan Lithographers Association, Inc. (Interstate)	Printing and publishing	Graphic Arts	8,100
National Airlines, Clerical (Interstate) ²	Air transportation	Air Line Pilots	4,300
Northwest Airlines, Inc., Pilots (Interstate) ²	Air transportation	Air Line Pilots	1,500
Northern California Home Builders Conference, Master Agreement (California)	Construction	Carpenters	40,000
Northwest Contractors' Association, Inc. (Toledo, Ohio)	Construction	Laborers	1,200
Ohio Edison Co. (Interstate)	Utilities	Utility Workers	1,950

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

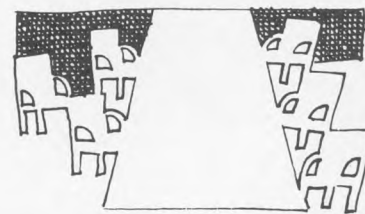
Employer and location	Industry	Union ¹	Number of workers
Pacific Coast Shipbuilders Association (Interstate)	Transportation equipment	Electrical Workers (IBEW)	1,600
Pacific Coast Shipbuilding & Repair, 2 agreements (Interstate) ³	Transportation equipment	Metal Trades Council	19,700
Painting and Decorating Contractors Association:			
Central Coast Counties, Inc., and 1 other (California)	Construction	Painters	2,000
(Massachusetts)	Construction	Painters	1,500
Oregon Council & 2 other Associations (Oregon and Washington)	Construction	Painters	3,000
(San Francisco, Calif.)	Construction	Painters	1,500
(Southern California)	Construction	Painters	3,600
Plumbing-Heating & Piping Industry Council (California)	Construction	Plumbers	10,000
Reliance Electric Co. (Ohio)	Electrical products	Electrical Workers (IUE)	1,300
Rush-Presbyterian-St. Lukes Medical Center (Chicago, Ill.)	Hospital	Professional and Technical Employees; Service Employees; and Teamsters (Ind.)	1,000
Sheet Metal Heating and Air Conditioning Contractors (California)	Construction	Sheet Metal Workers	1,250
Southern California Drywall Finishers (California) ³	Construction	Painters	1,800
Southern California General Contractors (California) ³	Construction	Plasterers and Cement Masons	3,500
Tecumseh Products Co., Lauson Engine Division (New Holstein, Wis.)	Machinery	Machinists	2,000
Teledyne Continental Motors, General Products Division (Muskegon, Mich.)	Machinery	Auto Workers (Ind.)	1,400
Wagner Castings Co. (Decatur, Ill.)	Primary metals	Allied Industrial Workers	1,000
Western Airlines, Clerical (Interstate) ²	Air transportation	Railway Clerks	3,800
	Government activity	Employee organization¹	
California: Oakland-Alameda Contra Costa Transit District	Transportation	Amalgamated Transit	1,850
Oakland Municipal Employees	Multidepartment	Service Employees	2,100
Connecticut: New Haven Board of Education	Education	Teachers	1,350
Maryland: Baltimore White Collar Classified	Multidepartment	Classified Municipal Employees Association of Baltimore City, Inc. (Ind.)	5,800
Montgomery County Board of Education	Education	National Education Association (Ind.)	5,000
Montgomery County Board of Education, Supporting Service	Education	Montgomery County Council of Supporting Services Employees, Inc. (Ind.)	6,000
Massachusetts: Boston Municipal Employees	Multidepartment	Service Employees	3,700
Department of Mental Health	Social Services	American Federation of State, County and Municipal Employees; and Service Employees	15,000
Michigan: Detroit Department of Transportation, Equipment Division	Transportation	Amalgamated Transit	1,350
Detroit Municipal Employees	Multidepartment	American Federation of State, County and Municipal Employees	8,000
New Jersey: College of Medicine and Dentistry	Education	Teamsters (Ind.)	2,250
Hudson County Municipal Employees	Multidepartment	Teamsters (Ind.)	1,750
Oregon: Lane County Municipal Employees	Multidepartment	American Federation of State, County and Municipal Employees	1,000
Portland Municipal Employees	Multidepartment	District Council of Trade Unions	1,800
Pennsylvania: Temple University, Faculty	Education	American Association of University Professors (Ind.)	1,500
Wisconsin: Milwaukee Board of School Directors	Education	Service Employees	1,100

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

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

³Information is from newspaper reports.

Developments in Industrial Relations



Administration announces new anti-inflation plan

President Carter on March 14 announced a new anti-inflation program that he said would restore "discipline" to both Government and American consumers without imposing mandatory wage and price controls. He accepted the Pay Advisory Committee's recommendation that annual pay increases fall within a 7.5- to 9.5-percent range. (See *Monthly Labor Review*, March 1980, pp. 55-56.) The President also indicated that he will ask the Congress to increase the staff of the Council on Wage and Price Stability to permit closer monitoring of wage increases and to require smaller firms with annual sales of \$100 million or more to report quarterly price actions to the council. (Presently, only firms with annual sales of \$250 million or more are required to report.)

The new plan stressed budgetary restraints, calling for spending cuts of \$18 billion during fiscal 1981 (which begins October 1, 1980) as well as cuts in the current fiscal year. The reduction will be achieved by deferring, reducing, or canceling most of the new or expanded programs included in the budget for fiscal 1981, submitted to the Congress on January 28; cutting expenditures for personnel operations and maintenance in Government; and reducing Federal civilian jobs by more than 20,000 by October 1980.

Other aspects of the plan involved the use of credit, with the President and the Federal Reserve Board moving to restrict unsecured loans by consumers and bank-to-bank loans, and energy, with the President imposing a conservation fee of about 10 cents a gallon on gasoline refined from imported petroleum.

Productivity, a long-term factor in inflation, has slowed sharply in the past 10 years and actually declined in 1979. To counter this development, the President said that he was asking his Commission on an Agenda for the 1980's for "recommendations for revitalizing our economy."

The proposal to cut the Federal budget drew an immediate objection from AFL-CIO President Lane Kirkland, who contended that the burden would fall

most heavily on those already suffering most from inflation. Kirkland maintained that the new policies will do nothing to attack the "direct causes of inflation—the escalating costs of energy, housing, food, and medical care and the incredibly high interest rates that have a critical impact on all sectors of the economy."

Coal Commission issues final report

The final report of the President's Commission on Coal calls on the United Mine Workers and the Bituminous Coal Operators' Association to immediately begin negotiating on renewal of the coal contract which expires in March 1981. Both sides said they were pleased with the commission's final report which offers measures for improving labor-management relations, reducing U.S. dependence on oil, and for dealing with the continuing problem of coal-mine safety and the living conditions of miners.

Recalling that the last five contract settlements in the industry have been preceded by strikes, the commission attributed the strained labor-management relations in the industry to internal factors, such as dissension among leaders of the union and an influx of young, inexperienced workers. On the management side, the commission said that the BCOA's unity had been broken by a growing diversity of interest between underground and surface mining firms and between the traditional operators and some of the newer producers.

However, the commission concluded this portion of its report on an optimistic note, saying that the young supervisors and workers in the industry are maturing and gaining experience in mining—wildcat strikes have declined and that productivity appears to be improving—and citing the growing realization by labor and management of their mutual role in attaining a healthy, stable industry.

In addition to calling for an early start on collective bargaining, the commission also recommended that the union's leaders continue their efforts to stop wildcat strikes and "stranger picketing" and that the growing body of arbitration awards regarding these activities be respected; that labor and management continue their efforts to improve productivity, and that they expand training in this area, as well as in job safety, grievance handling, and labor-management relations; and that the parties establish a joint committee, headed by a neutral

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

person, for continuing action on issues of mutual concern.

The commission presented statistics showing that coal mining is the most hazardous major occupation and made four recommendations; (1) that labor and management accept the principle that there is no place in the industry for firms and employees who are not prepared to observe safe mining practices; (2) that the Mine Safety and Health Administration increase its inspection and enforcement activities in mines the commission finds to have accident and fatality rates consistently and substantially above national averages; (3) that the National Academy of Science, in cooperation with all interested parties, conduct an investigation of the factors that distinguish safe mines from unsafe mines; and (4) that the BCOA and the UMW continue the joint task force on safety that had been established in cooperation with the commission.

The commission found that miners' living conditions have improved in the last generation to the point of being "more closely in line with mainstream America." However, the commission advocated three actions to counter problems resulting from expansion of the industry: that coal companies and other large landholders in areas lacking adequate housing make available parcels of land for new housing; that coal companies retain part of their working capital in local lending institutions committed to improving local housing; and that regional government subdivisions, in cooperation with mine owners and employees, identify and obtain public sector funding to spur the building of homes, roads, and utilities, and that the power of eminent domain be used to acquire land otherwise not available for housing.

The increasing price of petroleum, military developments that threaten the security of world supplies of petroleum, and doubts about public acceptance of nuclear power caused the commission to broaden its inquiry beyond the original mandate "to report on ways to improve labor-management relations." Under this broadened mandate, the commission presented principles it said must govern the Nation's efforts to meet the energy shortage. Specific recommendations that conformed with the principles included: use of coal to replace oil and natural gas in generating electricity and in industrial boilers; use of natural gas to replace oil in home and commercial heating and in industrial uses where coal is impractical; and reserving oil primarily for petrochemical products and transportation uses.

The President's Commission on Coal was established in 1978. It was chaired by John D. Rockefeller IV, Governor of West Virginia. Other members were Jesse F. Core, Adjunct Professor of Mining Engineering, Pennsylvania State University; Marvin Friedman, Vice President, Ruttenberg, Friedman, Kilgallon, Gutches and Associates, Inc., Washington, D.C.; W. Dewey

Presley, Director and Chairman of the Executive Committee, First International Bancshares, Inc., Dallas, Tex.; and W. Willard Wirtz, Wirtz and Lapointe, Washington, D.C.

In a related development in the industry, members of the BCOA ratified structural changes that will put the largest operators in control of the coming negotiations with the UMW. The change in bargaining approach was expected to induce U.S. Steel Corp. to withdraw its threat to leave the BCOA. The change also resulted in the return of Consolidation Coal Co., the Nation's second largest producer, which had quit the BCOA in May 1979 because it believed there was excessive disunity in the ranks of the operators—particularly the smaller ones—during the 1978 bargaining.

Under the restructuring, the executives of the nine largest companies are in charge of the bargaining, with the three-member bargaining team to consist of representatives of U.S. Steel and the largest producers, Peabody Coal Co. and Consolidation Coal Co. The smaller companies opposed the restructuring, but their proposal to temper the change drew only 22 percent of the votes.

Firestone to close six plants

The problems of the tire manufacturing industry were reflected in Firestone Tire and Rubber Co.'s announcement that it plans to close six plants. Company chairman and chief executive officer Richard A. Riley said the closings were necessary "to meet changing market conditions" and would eliminate "unneeded capacity that has been used mainly for the production of bias-ply tires."

Another Firestone official said that the domestic industry has been running at only 65 to 75 percent of capacity and projected demand is slowing. Among the reasons for lower production are increased use of radial tires, which wear longer than bias-ply tires; decreased driving due to increasing fuel costs; elimination of spare tires on some cars; and increased imports.

United Rubber Workers president Peter Bommarito said that he was shocked that the company would take "such drastic action" without first asking the union for help in keeping the plants open. Bommarito declared that the U.S. automobile manufacturers had aggravated the tire industry's problems by failing to produce fuel-efficient cars, thus losing sales to foreign companies. He indicated that the union would initiate immediate discussions with Firestone on ways to keep the plants open. Under the union's 1979 contracts, tire manufacturers are required to give the union 6 months' notice of plant closings.

According to a Firestone official, the severance pay, pension, and other costs of the shutdowns will total

about \$82 million, but will be partly offset by \$33 million from the sale of inventories. The company reported a loss of \$13.8 million for the 3 months ended January 31, compared with a profit of \$34.8 million for the same period a year earlier.

The plants involved are in Salinas and Los Angeles, Calif., Dayton, Barbeton, and Akron, Ohio, and Pottstown, Pa. A total of 7,265 active employees will be affected, in addition to the 1,575 already on layoff. According to the union, this will bring to 19,200 the number of jobs lost in the industry since 1975. In January, Uniroyal, Inc., announced plans to close two of its five plants, which is expected to result in a loss of 3,300 jobs. In 1979, Mansfield Tire and Rubber Co. declared bankruptcy.

In a separate announcement, Firestone offered its 69,500 employees and retirees \$100 if they buy a new domestic automobile in April. The company said such purchases will aid the automobile and rubber industries, as well as the general economy.

Large oil refineries negotiate pattern contract

The round of bargaining in petroleum refining moved rapidly towards a close, as the first of the major companies settled with the Oil, Chemical and Atomic Workers, ending an 11-week strike and setting a pattern for bargaining in the industry. The two similar accords were with Gulf Oil Corp. and Cities Service Co. The union had settled earlier with some small refineries on the package it had been seeking, but the major companies had balked at some demands. (See *Monthly Labor Review*, April 1980, p. 63.)

Gulf and Cities Service agreed to new 2-year contracts, while the earlier settlements provided for wage and benefit improvements during the final year of the existing 2-year contracts. Bargaining at all companies was conducted under reopening provisions of the existing contracts, negotiated in 1979.

The 1980 Gulf settlement provided for a wage increase of 5 percent plus 52 cents an hour, effective immediately, and a 10.5-percent increase in January 1981. The immediate increase included the 5-percent deferred raise already scheduled for that date under the 1979 settlement.

Under the Gulf settlement, the company's monthly payment to the health-care plan will be increased by \$18.50 for family coverage and by \$6 for single employees, effective immediately, and by \$18 and \$6 in January 1981. This will bring Gulf's obligation to \$120.50 monthly for family coverage and \$47 for single employees. However, employees will be required to pay any increase in the premium in excess of Gulf's obligation. A dental plan also was established, with Gulf paying \$15.50 a month for family coverage and \$4 for

single coverage. The agreement also provided for a sixth week of paid vacation after 30 years of service.

Union president Robert Goss expressed "disappointment" that the oil workers had not won the company-paid health-care plan they had been seeking, but, "We just can't compete with the raw power of the multinational companies." One factor that definitely strengthened the companies' bargaining position is that the refineries are highly automated and can be operated by management employees during a walkout.

New contracts for glass container workers

Owens-Illinois, Inc., and the Glass Bottle Blowers negotiated 3-year contracts that set a pattern for several other companies in the glass container industry. The bargaining round involved a total of 77,000 workers, including 12,000 at Owens-Illinois, the largest firm.

The three separate, but essentially identical, Owens-Illinois accords covered production and related workers at 17 plants in the East, production and related employees at seven Western plants, and automatic machine operators at all plants. The agreements provide for a 68-cent general wage increase on the April 1 termination date of existing contracts and 55 cents on April 1 of 1981 and 1982. In addition, the increment between job grades was increased by an amount ranging from 10 cents an hour for employees in the lowest pay grade to no change for those in the highest grade. Production and maintenance workers in the Eastern plants received additional 2-, 1-, and 1-cent general increases on the respective dates to reduce a wage differential with the other employees. Other wage terms at all plants include an escalator clause that provides for adjustments in April of 1981 and 1982 if the Consumer Price Index rises more than 9 percent during the preceding 12 months. Adjustments will be at the rate of 1 cent for each 0.5-point increase in the index.

Shift differentials were increased by 3 cents an hour, to 20 cents for the afternoon shift and 24 cents for the night shift. Vacation pay was increased for employees with 22 to 25 years of service and all employees will receive an additional paid holiday. The monthly pension rate for each year of service was increased by \$3 for employees in the lowest pay grades and by \$2 for those in the highest, bringing the range to \$14-\$16. The benefit rate also was increased to a minimum \$9 for current retirees, which affected employees who had retired before 1971 at \$6.25 or \$7 rates.

Life insurance coverage was increased by \$3,000, bringing the new range to \$13,000-\$15,000, varying by job grade. The weekly sickness and accident benefit was increased by \$30; and the maximum lifetime orthodontic benefit was increased to \$1,000 per individual (formerly \$750).

The companies that have settled on terms similar to Owens-Illinois include Brockway Glass Co., Thatcher Glass Manufacturing Co., Kerr Glass Manufacturing Co., Midland Glass Co., and Anchor Hocking Glass Corp.

Sugar companies settle

The International Longshoremen's and Warehousemen's Union and 12 Hawaiian sugar companies agreed to 2-year contracts that provided for February 1, 1980, and 1981 wage increases ranging from 55 cents an hour for employees in the lowest pay grade to 75 cents for those in the highest. After the 1981 increases, rates will range from \$6.09 to \$8.625 an hour. The same increase will apply at two "distressed" plantations that also settled—Maunakea Sugar Co. and Holo Coast Processing Co.—but will be accomplished in four steps instead of two.

Other provisions at all 14 plantations include a 10th annual paid holiday; increases in shift premiums; industrywide standardization of some job classifications; and an optional family-enrollment dental plan to replace the current plan that covers children only.

Eastern's flight attendants get new contract

Eastern Airlines and the Transport Workers negotiated a 3-year contract for flight attendants that provides for a 6-percent pay increase retroactive to April 1979, 2.5 percent retroactive to October 1979, 4 percent in May and December 1980, 5 percent in July 1981, and 6 percent in January 1982. The 5,500 employees also will receive automatic wage escalator adjustments in January of 1981 and 1982 of \$1 a month for each 0.3-point movement in the Consumer Price Index. "Over-water-pay" was increased to \$1.50 an hour (formerly \$1.05), the "away-from-base" allowance was increased to \$1.25 an hour (formerly 90 cents), and a pay step was added for employees with 13 years of service.

The minimum pension rate was increased to \$24 a month for each year of service, and there is a provision for returning the contributions employees made before the plan became fully company-financed in 1977.

Eastern's variable earnings plan was continued. Under this plan, which was established in 1977 for the flight attendants and certain other employees, 3.5 percent of wages is withheld from paychecks but is returned to employees at yearend if the company's annual profit amounts to 2 percent of sales. If the profit is more than 2 percent, employees receive the full 3.5 percent and an additional amount up to 3.5 percent. If the profit is less than 2 percent, employees receive part of the withheld amount.

Honeywell employees reopen contract, get raises

About 8,700 Honeywell, Inc. employees in Minneapolis, Minn., were covered by a 2-year settlement with Local 1145 of the Teamsters. The new contract, negotiated under a reopening provision, was effective immediately, superseding the final year of the existing 3-year agreement.

The settlement provided for wage increases of 13 percent immediately and 11 percent in February 1981. There was no provision for a wage escalator clause. Company officials said they agreed to the relatively large set wage increases—rather than smaller increases and an escalator clause—because an escalator clause makes it more difficult to predict labor costs. Vice President Charles Brown said that a wage escalator clause that provides for cents-per-hour pay adjustments tends to be less beneficial to skilled employees because it reduces their percentage pay differential over less skilled workers.

The vacation schedule was increased by one day in the year in which employees attain 2, 5, 7, 10, 13, 16, and 22 years of service, and the maximum was increased to 30 days after 30 years, formerly 25 days after 24 years. There also were some improvements in insurance benefits. The separate 4-year pension contract provided for raising the benefit rate for future retirees to \$18 a month for each year of credited service (formerly \$12). Benefit rates for current retirees were increased to \$14 (formerly \$12), or to \$12 (formerly \$7-\$10), depending on the date of retirement.

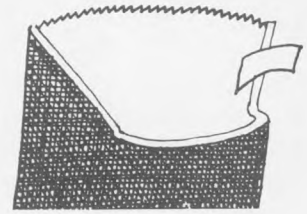
Minority attorneys at Justice charge bias

Attorneys employed by the U.S. Department of Justice filed an administrative complaint charging that the agency discriminates against minorities in hiring, training, and promotion. The formal complaint was filed by leaders of the group, the Racial and Ethnic Minority Attorneys Caucus, on behalf of about 150 attorneys after unsuccessful negotiations on the issue. The attorneys make up about 8 percent of all attorneys within the six units of the agency covered by the complaint.

Specifically, the complaint asserted that the units failed to hire or promote members of minority groups in adequate numbers; denied them equal access to training and the most interesting cases; and evaluated job performance in a manner that resulted in a disproportionate share of pay awards going to nonminority attorneys.

The 2 years of negotiations prior to the filing reportedly were not successful because the leaders of the caucus had been seeking remedies beyond those in the agency's affirmative action plan. □

Book Reviews



The unemployed tell their story

Not Working: An Oral History of the Unemployed. By Harry Maurer. New York, Holt, Rinehart and Winston, 1980. 297 pp. \$12.95.

Not Working is an important book about unemployment in American society. Unlike the typical book on the subject, it focuses on people rather than statistics. It is about unemployed executives and clerks, engineers and auto workers, college professors and high school dropouts. In his oral history of unemployment, Harry Maurer has done for the unemployed what Studs Terkel did for the employed. And he has done it well.

In 1976, Maurer spent several months traveling around the United States interviewing the unemployed. This book is the fruit of that effort and many of his more than four dozen portraits of the unemployed are not easily forgotten. A gifted interviewer, Maurer managed to get a wide spectrum of America's jobless to talk freely and frankly about themselves and what it's like to be jobless in a work-oriented society.

The book vividly illustrates that unemployment does not just hit blacks or those without skills or education. Even for those who seem to have "made it," employment security is often tenuous. Nor does education alone guarantee a place in today's job market. Some of the most memorable interviews are with "high level" or "professional" workers.

There is, for example, Grace Keaton, fired without warning from a high-level job in a New York publishing house after 12 years of service. No one will hire her for a high-level job—nor will they consider her for a lower level job.

There is particularly good coverage of the plight of the middle-aged jobless professional, a problem that receives less than its share of public concern. Take Martin Penn, a 57-year-old scholar with a Ph. D. in anthropology, the victim of a layoff from a prestigious think-tank beset with shrinking government contracts. Lowering his sights after years of futile search for an appropriate job, and almost prepared to deny he has a Ph. D., Penn wonders what's wrong with the country when a person has to be ashamed of having an education.

Well-educated young people often find no demand for their labor or are forced into unskilled jobs. Kristen Jacobs, a recent and disillusioned liberal arts graduate of

the University of Michigan, competes with 300 other applicants for a \$3.60-an-hour job.

The author paints just as clear a picture of what it's like for those who have always been on the bottom of the job ladder. Minority youths are not dismal statistics. They appear as people who are being assaulted and destroyed by unemployment—or by the low wages and unsteady jobs that may be available from time to time.

Some ghetto teenagers interviewed by Maurer are receiving training. But the problems are shown to persist beyond the teens. Maurer's young adult minority jobless scarcely fit the stereotype of the jobless and poor as lazy. Ken Dutton, a 21-year-old black veteran in Seattle, Wash., camps out from 10 p.m. in the desperate hope that he will be one of the lucky few to be interviewed by Alcoa the next morning. Micky Eldridge, a 23-year-old black man in the South—out of work for a year—survives by collecting discarded coke bottles and selling them for 5 cents apiece. Eddie Varga, a 24-year-old Los Angeles Chicano—graduate of a 2-year technical college—lives on unemployment insurance and hopes for the miracle of a \$3-an-hour job. While Willie Hawkins, a 23-year-old Birmingham black with hypertension, receives a call from an auto company for a same-day interview for a once-in-a-lifetime chance at a decent-paying job. In a frantic attempt to bring his blood pressure down quickly enough to pass the physical, he donates blood and takes large doses of Epsom salts just prior to the interview.

Maurer's people are real, with all the strengths and frailties of human beings. He has not canonized them, nor masked their shortcomings. Some are not eligible for unemployment benefits; others are too humiliated to take unemployment benefits; still others take them to survive, despite injured pride; some take them as a form of revenge; and a few abuse the system. For another few, all middle class, unemployment brings positive benefits. A teacher laid off during the New York fiscal crisis, for example, realizes that she had become a prisoner of a detested job. For her, being fired becomes a form of freedom.

This book also points to other problems. For in talking about not working, the jobless are also talking about working. The extent to which alienation and purposelessness exist in the workplace is hotly disputed. But among those in *Not Working*, it is commonplace.

The book also provides very useful insights into subtle aspects of the labor market, especially the secondary labor market. Like Elliot Liebow's *Tally*, we hear about the secondary labor market from those forced to spend their lives in it.

In *Unemployment in History*, John A. Garraty claims that, unlike the jobless of previous eras, today's unemployed are not plagued by psychological torment and feelings of self-blame. But Harry Maurer finds the opposite to be true. "What astonished me—more than any other discovery in the course of writing this book—was the degree to which unemployed people blame themselves." Even those made jobless by mass layoffs and other events clearly beyond their control tended to blame themselves. Unemployment, it turns out, means for many people psychological devastation, feelings of worthlessness, leisure turned to emptiness. Maurer's findings are consistent with the more structured research of Robert McKersie of Cornell University, who studied job loss among laid-off New York State civil servants, and M. Harvey Brenner's well-known study of the social costs of unemployment for the Joint Economic Committee.

If self-torment and guilt are as prevalent among all of the unemployed as among Maurer's group, the often observed lack of political protests by the jobless becomes more comprehensible. Self-blame effectively depoliticizes the victims of unemployment. The author feels that the jobless would do better to shift their attention to those who so willingly and unconcernedly want to increase unemployment.

There is, of course, no way of knowing just how representative Maurer's interviewees are of all the unemployed. He met the jobless in a variety of ways: some through organizational contacts; others directly in unemployment offices. Only a minority of the latter agreed to be interviewed. Were those who declined to be interviewed full of more self-blame than the others? Or less? Were they better off? Or worse off? Social scientists who want the answers to those questions will have to pick up where Maurer left off.

Some of Maurer's unemployed were hard hit by the last recession. In 1976, unemployment still averaged 7.7 percent. Though many ultimately may have found jobs, their scars are apt to remain. As Jim Hughes, a jobless Indiana Republican expressed it, "I'm always gonna look back on this and say, 'Hey, I've been through it. I know what it's like.' It's been rough. Human damage, you might say."

The unemployed deserve better. And there are still six million official jobless. So Harry Maurer's humanistic book should be of interest not only to economists, psychologists, sociologists, and others in the academic world but should be read by all who are concerned with current talk of increasing unemployment as a weapon

against inflation. The Humphrey-Hawkins Full Employment and Balanced Growth Act (Public Law 95-523) declares among other things that it is the continuing policy and responsibility of the Federal Government to "promote full employment." The act also recognizes the problem of inflation but, based on considerable evidence, it rejects the idea of an inevitable inverse relationship between unemployment and inflation. Thus, it aims to reduce inflation while pursuing full employment. By showing what unemployment does to those forced to bear its costs, *Not Working* may help to focus national attention on the need to implement that law with vigor.

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Working less and enjoying it more

Job Sharing: A New Pattern for Quality of Work and Life. By Gretl S. Meier. Kalamazoo, Mich., W. E. Upjohn Institute for Employment Research, 1979. 187 pp. \$4.50.

Job sharing (commonly defined as two workers or more sharing one full-time job) is designed to increase both the number and quality of part-time jobs. This new type of schedule is part of a trend toward more flexible work arrangements. It responds specifically, however, to two recent phenomena. One is the increasing reluctance of many workers to work below their skill level in exchange for shorter hours. The second is a slowdown in the long-term growth in the supply of traditional part-time jobs.

Gretl S. Meier's excellent book covers recent experiences and trends in job sharing. It examines different types of arrangements, the advantages, disadvantages, and problems of job sharing for both employees and employers, and emerging issues. Her own survey of about 240 job sharers and more than 80 lengthy interviews with job sharers and their supervisors furnish the basic materials for the book.

To fulfill the author's criteria for job sharing, the sharing must be voluntary, involve the deliberate conversion of a full-time position, and provide fringe benefits (although not all the arrangements described meet the second and third requirements). Some sharers work in close partnership—pooling resources and sharing decisions and responsibility for the whole job; others work more or less independently. In some instances, job sharers are husband and wife; in others they never meet, communicating by phone or note only. The many varia-

tions on the general theme have given rise to such special terms as split, paired, twinned, and tandem jobs. (Work-sharing, which is undertaken to avoid layoffs, is an altogether different phenomenon.)

Sharing a full-time job does provide some sharers with more highly skilled work than would most traditional part-time jobs. The survey group includes, for example, managers, teachers, counselors, researchers, and physicians. (However, in the large majority of cases the combined earnings of both partners did not exceed the ceiling on which the salary of one worker would be taxed under social security.) Most job sharers surveyed received such fringe benefits as vacations, holidays, and sick leave, prorated in many cases on the basis of hours. Health benefits varied widely, with some sharers receiving full coverage and others excluded.

The greatest reward perceived by job sharers is the opportunity to balance worklife with the rest of life. "Work is central in the lives of job sharers, but not the sole criterion for identity."

Meier acknowledges that at present job sharers represent an "infinitesimal proportion of all jobholders" and that "until a larger, more varied pool . . . exists, it will be difficult to assess the benefits as well as the costs of the new arrangements—either to the organization or the individuals." She urges, however, that choices in implementing new work schedules not rest solely on narrow cost-benefit calculations, but take into account the relation of work to the totality of life. Whatever the outcome for this particular work schedule, recent increases in the number of both working couples and single-parent families and growing concerns for employment opportunities for handicapped workers make the upgrading of part-time work options an important objective.

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Quick introduction to our way of life

Vietnamese Americans: Patterns of Resettlement and Socioeconomic Adaptation in the U.S. By Darrel Montero. Boulder, Colo., Westview Press, 1979. 218 pp., bibliography. \$17.50.

Refugee movements are by their very nature sudden, disruptive, often traumatic events. As such, receiving countries typically face a complex task in successfully resettling large numbers of homeless people without some strain on the domestic social fabric. Seldom is there adequate time or resources to gather detailed in-

formation on the newcomers' backgrounds, initial adjustment difficulties on arrival, and subsequent socioeconomic progress, despite the potential value of such information for better accommodating future refugees.

In the last 5 years, more than 170,000 Indochinese have fled to the United States, the largest single refugee group to enter this country in such a brief period. Nevertheless, the U.S. Department of Health, Education, and Welfare has managed to produce a rich longitudinal data source on them, and this volume, by Darrel Montero, gives a valuable first look at its main findings. In a book addressed primarily to immigration specialists, Montero sets himself two objectives: first, to provide a systematic description and analysis of the survey's methodology and central results; then, to construct a model which integrates these results with existing knowledge on the resettlement and employment patterns of earlier immigrants.

The book opens with a chapter on Vietnam, briefly scanning its history from the 10th century B.C. to the U.S. defeat in April 1975. One cannot help thinking that the author's desire to deepen our understanding of the refugees' backgrounds, motivations, and expectations would have been better served had he focused on the evolution and operation of social, educational, and labor market structures, particularly in the urban areas whence most refugees came. Instead, he presents a largely political survey of premodern Vietnam, devoting a single page to the two decades since the mid-1950's which most shaped the refugees' lives.

In the following chapter, however, Montero gives a lucid description of the resettlement process in the United States and initial adjustment problems. After an abrupt, ill-prepared departure, the refugee family was taken to a relocation center at Camp Pendleton, Calif., or 1 of 3 other military bases. To minimize the financial burden on war-weary taxpayers, the Federal Inter-agency Task Force in charge of resettlement adopted a policy of moving its charges out of the camps quickly and scattering them across the country in the care of sponsoring groups and families. This practice isolated the new arrivals from their countrymen and impeded the formation of the sort of indigenous ethnic communities which new immigrant groups have traditionally relied on for social, economic, and emotional support.

But, Montero argues, the relocation centers and private sponsors helped acclimate the Vietnamese and prepared them for eventual self-sufficiency. Food, shelter, medical care, English language courses, and vocational training were freely supplied in the camps and the subsequent sponsorships provided not only economic security, but closer contact with American society and culture and assistance in locating employment. The refugees' demographic characteristics count as additional advantages. Drawing on Immigration and Naturaliza-

tion Service data, the author notes that most refugees are young (nine-tenths under age 45), well educated, from relatively affluent urban families, and among their homeland's social and occupational elite.

How have they fared in the American labor market? To trace the refugees' socioeconomic adaptation, Montero presents the salient findings of five waves of national survey interviews conducted under the auspices of the Department of Health, Education, and Welfare between July 1975 and August 1977. The profile which emerges is one of "substantial progress" in which "the Vietnamese are moving steadily toward economic self-sufficiency." Employment rates are high for both men and women, more than 80 percent are working full time by Survey V, and income has steadily risen to a median annual level of \$9,600 in 1977.

At the same time, however, the refugees have suffered marked downward occupational mobility. One-third of household heads were professional workers in Vietnam, but fewer than 1 in 5 could find similar employment in the United States. Former managers and administrators encountered even greater difficulties. This pattern is in striking accord with that found for other immigrant groups in recent studies by Chiswick, North, and the reviewer.

To place the Vietnamese experience in a wider sociohistorical context, the author concludes by advancing what he dubs a model of "Spontaneous International Migration." Comparisons are drawn between the route taken by earlier Japanese and Chinese immigrants—from their homelands, to ethnic enclaves, thence toward assimilation—and the ongoing movement of the Vietnamese. Aided by their "anticipatory socialization" among American troops and employers in Vietnam as well as further preparation in the camps and sponsorships, the refugees will, it is predicted, have less need for ethnic concentrations and assimilate more rapidly than other immigrants. This is less a genuine theoretical model than a rough descriptive outline. Furthermore, comparisons with other refugee groups, like the Cubans who also had considerable premigration contact with Americans but remain concentrated in ethnic enclaves, would seem more relevant.

Nonetheless, *Vietnamese Americans* serves a clear need for more precise panel data on recent immigrant cohorts; in fact, more than half of its pages consist of statistical tables. Until the Department of Health, Education, and Welfare gives researchers access to the survey's original data tapes, this book will be a unique source of detailed information for immigration scholars.

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Publications received

Agriculture and natural resources

Burk, Monroe, "Economists and Ecologists: Dialogue of the Deaf," *Business*, College of Business Administration, Georgia State University, January–February 1980, pp. 47–52.

Duncan, Marvin and Ann Laing, "Western Water Resources: Coming Problems and the Policy Alternatives," *Economic Review*, Federal Reserve Bank of Kansas City, February 1980, pp. 14–22.

Lowinger, Thomas C., "U.S. Energy Policy: A Critical Assessment," *MSU Business Topics*, Winter 1980, pp. 15–22.

McKinnon, James E., "The Federal Water Pollution Control Act—Industrial Challenges to Effluent Limitations," *Boston College Environmental Affairs Law Review*, Vol. 7, No. 4, 1979, pp. 545–66.

The President's Commission on Coal, *The Acceptable Replacement of Imported Oil with Coal*. Washington, 1980, 66 pp.

Economic and social statistics

National Commission on Employment and Unemployment Statistics, *Concepts and Data Needs: Counting the Labor Force, Appendix Vol. 1*. Washington, 1979, 667 pp. Stock No. 052-003-00700-2. \$7.50, Superintendent of Documents, Washington 20402.

Tanzi, Vito, "Inflationary Expectations, Economic Activity, Taxes, and Interest Rates," *The American Economic Review*, March 1980, pp. 12–21.

The President's Commission on Coal, *Coal Data Book*. Washington, 1980, 235 pp.

Economic growth and development

Berkman, Neil G., "A Rational View of Rational Expectations," *New England Economic Review*, Federal Reserve Bank of Boston, January–February 1980, pp. 18–29.

Cluster, Dick and Nancy Rutter, *Shrinking Dollars, Vanishing Jobs: Why the Economy Isn't Working for You*. Boston, Mass., Beacon Press, 1980, 180 pp. \$11.95, cloth; \$5.95, paper.

Collins, Lora S., "Straightening Out the Phillips Curve," *Across the Board*, March 1980, pp. 11–16.

Economic Report of the President, Transmitted to the Congress January 1980, Together with the Annual Report of the Council of Economic Advisers. Washington, 1980, 329 pp. Stock No. 040-000-00407-6. \$4.75, Superintendent of Documents, Washington 20402.

Hein, John, "Revisited—Germany's 'Economic Miracle,'" *Across the Board*, March 1980, pp. 47–56.

Hymans, Saul H., Harold T. Shapiro, Joan P. Crary, "The U.S. Economic Outlook for 1980," *Economic Outlook USA*, Winter 1980, pp. 3–9.

Juster, F. Thomas, "The Recession of 1980: Real or Imaginary?" *Economic Outlook USA*, Winter 1980, pp. 15–16.

Lipset, Seymour Martin, "Futurology, Pt. I," *Across the Board*, March 1980, pp. 17–26.

- McCracken, Paul W., "The Uncertain 1980s," *Economic Outlook USA*, Winter 1980, pp. 10-11.
- Zarnowitz, Victor, "Forecasts for 1979 and 1980: An Assessment and a Survey," *Economic Outlook USA*, Winter 1980, pp. 12-14.

Health and safety

- Goldberg, Lawrence G. and Warren Greenberg, "The Competitive Response of Blue Cross to the Health Maintenance Organization," *Economic Inquiry*, January 1980, pp. 55-68.
- Taylor, Henry M., "Occupational Health Management—by Objectives," *Personnel*, January-February 1980, pp. 58-64.
- U.S. Bureau of Labor Statistics, *State Data on Occupational Injuries and Illnesses in 1976*. Washington, 1979, 55 pp. (Report 576.)

Industrial relations

- American Enterprise Institute for Public Policy Research, *Proposals for Ranking the Effectiveness of Government Programs*. Washington, American Enterprise Institute for Public Policy Research, 1980, 18 pp. (Legislative Analysis 14, 96th Cong., 2d sess.)
- Bloch, Howard R. and Robert L. Pennington, "Use of Applicant Flow Data in a Discrimination Suit," *Public Personnel Management*, January-February 1980, pp. 1-6.
- Bode, Edward L., "Auditing Affirmative Action Through Multiple Regression Analysis," *Labor Law Journal*, February 1980, pp. 115-20.
- Bohlander, George W., "Fair Representation: Not Just a Union Problem," *The Personnel Administrator*, March 1980, beginning on p. 36.
- Doherty, Robert E., *Industrial and Labor Relations Terms: A Glossary*. 4th ed., rev. Ithaca, N.Y., Cornell University, New York State School of Industrial and Labor Relations, 1979, 34 pp. (Bulletin 44.) \$2.50.
- Great Britain, Department of Employment, "The extent of closed shop arrangements in British industry," by John Gennard, Stephen Dunn, and Michael Wright, *Employment Gazette*, January 1980, pp. 16-22.
- Kovach, "The F.L.R.A. and Federal Employee Unionism," *Public Personnel Management*, January-February 1980, pp. 7-10.
- La Berge, Roy, "The Shell Chemical Plant at Sarnia," *The Canadian Personnel and Industrial Relations Journal*, January 1980, beginning on p. 12.
- Lester, Richard A., *Reasoning About Discrimination: The Analysis of Professional and Executive Work in Federal Antidiscrimination Programs*. Princeton, N.J., Princeton University Press, 1980, 384 pp., bibliography. \$17.50.
- McGarry, Stephen J., "Public Sector Collective Bargaining and the Contract Clause," *Labor Law Journal*, February 1980, pp. 67-75.
- Mulcahy, Robert W. and Dennis W. Rader, "Trends in Hospital Labor Relations," *Labor Law Journal*, February 1980, pp. 100-14.
- Peck, Cornelius J., "The Administrative Procedure Act and the NLRB General Counsel's Memorandum on Fair

Representation Cases: Invalid Rulemaking?" *Labor Law Journal*, February 1980, pp. 76-86.

- Pisapia, John Ralph, "Trilateral Bargaining Practices in Public School Contract Negotiations," *Journal of Collective Negotiations in the Public Sector*, Vol. 8, No. 4, 1979, pp. 339-46.
- Princeton University, *The Right to Privacy in the Employment Setting*. (Prepared by Kevin Barry.) Princeton, N.J., Princeton University, Industrial Relations Section, November 1979, 4 pp. (Selected References, 198.) 50 cents.
- Quinlan, Michael, "Australian Trade Unions and Postwar Immigration: Attitudes and Responses," *The Journal of Industrial Relations*, September 1979, pp. 265-80.
- Rand, James F., "Creative Problem-Solving Applied to Grievance/Arbitration Procedures," *The Personnel Administrator*, March 1980, pp. 50-52.
- Segal, David R. and Robert C. Kramer, "Orientations Toward Military Unions Among Combat Troops," *Journal of Collective Negotiations in the Public Sector*, Vol. 8, No. 4, 1979, pp. 309-18.
- Staudohar, Paul D. and A. L. Pakkala, "Canadian Profit Controls: More Harm Than Good?" *Labor Law Journal*, February 1980, pp. 121-26.
- Truesdale, John C., *The NLRB and Arbitration: Recent Developments*. Amherst, University of Massachusetts, Labor Relations and Research Center, 1979, 18 pp.
- U.S. Bureau of Labor Statistics, *Directory of National Unions and Employee Associations, 1977*. Washington, 1979, 141 pp. (Bulletin 2044.) Stock No. 027-001-02425-8. \$4.50, Superintendent of Documents, Washington 20402.
- Westin, Alan F., "What Should Be Done About Employee Privacy?" *The Personnel Administrator*, March 1980, pp. 27-30.
- White, Harold C. and William Gibney, "The Arizona Farm Labor Law: A Supreme Court Test," *Labor Law Journal*, February 1980, pp. 87-99.

Industry and government organization

- Morris, Seymour, Jr., "Managing Corporate External Affairs," *Management Review*, March 1980, pp. 48-53.
- Oster, Sharon M., "An Analysis of Some Causes of Interstate Differences in Consumer Regulations," *Economic Inquiry*, January 1980, pp. 39-54.
- Steiner, George A., "Can Business Survive Its New Environment?" *Business*, College of Business Administration, Georgia State University, January-February 1980, pp. 13-19.

International economics

- Blanpain, Roger, *The OECD Guidelines for Multinational Enterprises and Labour Relations 1976-1979: Experience and Review*. Deventer, The Netherlands, Kluwer, 1979, 309 pp. Distributed in the United States by Kluwer Law and Taxation Publishers, Hingham, Mass.
- "Latin American, 1980," *Current History*, February 1980, pp. 49-88.
- Marvel, Howard P., "Foreign Trade and Domestic Competition," *Economic Inquiry*, January 1980, pp. 103-22.
- U.S. Bureau of International Labor Affairs, *The Shape of*

Transnational Unionism: International Trade Secretariats. Washington, U.S. Department of Labor, Bureau of International Affairs, 1979, 52 pp. (Monograph, 3.) Stock No. 029-000-003885-8. \$2.50, Superintendent of Documents, Washington 20402.

U.S. Bureau of the Census, *A Compilation of Age-Specific Fertility Rates for Developing Countries.* Washington, U.S. Department of Commerce, Bureau of the Census, 1979, 154 pp. (International Research Document 7.) Stock No. 003-024-02131-5. \$4.75, Superintendent of Documents, Washington 20402.

Labor force

Freeman, Richard B., *The Evolution of the American Labor Market, 1948-1980.* Cambridge, Mass., National Bureau of Economic Research, 1980, 76 pp. (NBER Working Paper Series, 446.) \$1.

Fuller, Don, "To Work or Not to Work—the Case of Women," *The Journal of Industrial Relations*, September 1979, pp. 316-30.

Great Britain, Department of Employment, "The long-term unemployed: some new evidence," by Maureen Colledge and Richard Bartholomew, *Employment Gazette*, January 1980, pp. 9-12.

Hansen, W. L. and others, "Forecasting the Market for New Ph. D. Economists," *The American Economic Review*, March 1980, pp. 49-63.

Harmon, Frederick G., "Needed: 1,000,000,000 Jobs," *Management Review*, March 1980, pp. 19-24.

Moir, Hazel and Joy Selby Smith, "Industrial Segregation in the Australian Labour Market," *The Journal of Industrial Relations*, September 1979, pp. 281-91.

International Labor Organization, *Employment and Basic Needs in Portugal.* Geneva, International Labor Organization, 1979, 228 pp. \$14.95. Distributed in the United States by Washington Branch of ILO.

Princeton University, *Dual-Career Couples.* (Prepared by Kevin Barry.) Princeton, N.J., Princeton University, Industrial Relations Section, December 1979, 4 pp. (Selected References, 199.) 50 cents.

Solow, Robert M., "On Theories of Unemployment," *The American Economic Review*, March 1980, pp. 1-11.

Stern, Robert N., K. Haydn Wood, Tove Helland Hammer, *Employee Ownership in Plant Shutdowns: Prospects for Employment Stability.* Kalamazoo, Mich., W. E. Upjohn Institute for Employment Research, 1979, 219 pp. \$6, cloth; \$4, paper.

Management and organization theory

Allen, Robert F. and Frank J. Dyer, "A Tool for Tapping the Organizational Unconscious," *Personnel Journal*, March 1980, beginning on p. 192.

Alpander, Guvenc G., "Training First-Line Supervisors to Criticize Constructively," *Personnel Journal*, March 1980, pp. 216-21.

Bartolome, Fernando and Paul A. Lee Evans, "Must Success Cost So Much?" *Harvard Business Review*, March-April 1980, pp. 137-48.

Bobbitt, H. Randolph, Jr. and Jeffrey D. Ford, "Decision-Maker Choice as a Determinant of Organizational Struc-

ture," *Academy of Management Review*, January 1980, pp. 13-23.

Cawsey, T. F., "Why Line Managers Don't Listen to Their Personnel Departments," *Personnel*, January-February 1980, pp. 11-20.

Cooper, Michael R., Peter A. Gelfond, Patricia M. Foley, "Early Warning Signals—Growing Discontent Among Managers," *Business*, College of Business Administration, Georgia State University, January-February 1980, pp. 2-12.

Dagher, Samir P. and Peter H. Spader, "Improving Business Ethics . . . Poll of Top Managers Stresses Education and Leadership-by-Example as Strong Forces for Higher Standards," *Management Review*, March 1980, pp. 54-57.

Dalton, Dan R. and others, "Organization Structure and Performance: A Critical Review," *Academy of Management Review*, January 1980, pp. 49-64.

Delamontagne, Robert P. and James B. Weitzel, "Performance Alignment: The Fine Art of the Perfect Fit," *Personnel Journal*, February 1980, beginning on p. 115.

Gakenbach, Jayne I. and Stephen M. Auerbach, "On-the-Job Sex Discrimination," *Business*, College of Business Administration, Georgia State University, January-February 1980, pp. 24-30.

Hill, Alfred W., "How Organizational Philosophy Influences Management Development," *Personnel Journal*, February 1980, beginning on p. 118.

Hutchins, David, "QC Circles: An Introduction," *Industrial and Commercial Training*, January 1980, pp. 8-15.

Kets de Vries, Manfred F. R., "Organizational Stress: A Call for Management Action," *Sloan Management Review*, Fall 1979, pp. 3-14.

Kikoski, John F., "Communication: Understanding It, Improving It," *Personnel Journal*, February 1980, pp. 126-31.

Lynch, JoAn, "Reaching Troubled Workers Earlier," *The Canadian Personnel and Industrial Relations Journal*, January 1980, pp. 22-27.

Michaels, D. Trevor, "Seven Questions That Will Improve Your Managerial Hiring Decisions," *Personnel Journal*, March 1980, beginning on p. 199.

Nigro, Lloyd G. and Carl J. Bellone, "Participative Management: Making It Work," *The Bureaucrat*, Winter 1979-80, pp. 34-39.

Norgaard, Corine T., "Problems and Perspectives of Female Managers," *MSU Business Topics*, Winter 1980, pp. 23-28.

Pati, Gopal C. and Edward F. Hilton, Jr., "A Comprehensive Model for a Handicapped Affirmative Action Program," *Personnel Journal*, February 1980, pp. 99-108.

Sasser, W. Earl, Jr. and Frank S. Leonard, "Let First-Level Supervisors Do Their Job," *Harvard Business Review*, March-April 1980, pp. 113-21.

Sausser, William I., Jr., "Evaluating Employee Performance: Needs, Problems and Possible Solutions," *Public Personnel Management*, January-February 1980, pp. 11-18.

"SMR Forum: The Corporation in the Public Policy Process—A View Toward the 1980s," by James E. Post; "Pri-

vate Managers and Public Myths—Public Managers and Private Myths,” by James W. Driscoll, Gary L. Cowger and Robert J. Egan,” *Sloan Management Review*, Fall 1979, pp. 45–57.

Stead, Bette A., “The National Secretarial Shortage: A Management Concern,” *MSU Business Topics*, Winter 1980, pp. 43–47.

Tanaka, Hiroshi, “The Japanese Method of Preparing Today’s Graduate to Become Tomorrow’s Manager,” *Personnel Journal*, February 1980, pp. 109–12.

Terborg, James R., George S. Howard, Scott E. Maxwell, “Evaluating Planned Organizational Change: A Method for Assessing Alpha, Beta, and Gamma Change,” *Academy of Management Review*, January 1980, pp. 109–21.

Wren, Daniel A., “Scientific Management in the U.S.S.R., with Particular Reference to the Contribution of Walter N. Polakov,” *Academy of Management Review*, January 1980, pp. 1–11.

Monetary and fiscal policy

Greenwald, Carol S., “Tight Money Won’t Work,” *Harvard Business Review*, March–April 1980, pp. 122–29.

Murphy, J. Carter, *The International Monetary System: Beyond the First Stage of Reform*. Washington, American Enterprise Institute for Public Policy Research, 1979, 276 pp. (AEI Studies, 259.) \$6.75, paper.

Rhoades, Stephen A., “The Competitive Effects of Interstate Banking,” *Federal Reserve Bulletin*, January 1980, pp. 1–8.

Wilkins, Maurice G., Jr., “Financial Flexibility in the 1980s,” *Harvard Business Review*, March–April 1980, pp. 103–05.

Prices and living conditions

Able, Stephen L., “Inflation Uncertainty, Investment Spending, and Fiscal Policy,” *Economic Review*, Federal Reserve Bank of Kansas City, February 1980, pp. 3–13.

Bodie, Zvi, “Hedging Against Inflation,” *Sloan Management Review*, Fall 1979, pp. 15–24.

Braithwait, Steven D., “The Substitution Bias of the Laspeyres Price Index,” An Analysis Using Estimated Cost-of-Living Indexes,” *The American Economic Review*, March 1980, pp. 64–77.

Curtin, Richard T., “Buying Attitudes Decline,” *Economic Outlook USA*, Winter 1980, pp. 17–19.

International Labor Organization, *Household Income and Expenditure Statistics, 1968–1976, No. 3*. Geneva, International Labor Organization, 1979, 489 pp. Distributed in the United States by the Washington Branch of ILO.

Mullineaux, Donald J., “Inflation Expectations and Money Growth in the United States,” *The American Economic Review*, March 1980, pp. 149–61.

Myers, Peter, “Keeping Up With Inflation the Canadian Way,” *Across the Board*, March 1980, pp. 33–39.

Sachs, Jeffrey, “The Changing Cyclical Behavior of Wages and Prices: 1890–1976,” *The American Economic Review*, March 1980, pp. 78–90.

The President’s Commission on Coal, *The American Coal Miner: A Report on Community and Living Conditions in*

the Coalfields. Washington, 1980, 233 pp.

U.S. Bureau of Labor Statistics, *A Century of Change in Boston Family Consumption Patterns*. By Denis M. McSweeney. Boston, U.S. Department of Labor, Bureau of Labor Statistics, New England Regional Office, 1979, 44 pp. (Regional Report 79–5.)

Productivity and technological change

Glaser, Edward M., “Productivity Gains Through Worklife Improvement,” *Personnel*, January–February 1980, pp. 71–77.

Hekman, John S., “The Future of High Technology Industry in New England: A Case Study of Computers,” *New England Economic Review*, Federal Reserve Bank of Boston, January–February 1980, pp. 5–17.

“Modern Technology: Problem or Opportunity?” *Daedalus*, Journal of the American Academy of Arts and Sciences, Winter 1980, pp. 1–190.

Moore, Michael L., “Productivity Improvement in Government: The Effects of Departmental vs. Occupational Bargaining Unit Structures,” *Journal of Collective Negotiations in the Public Sector*, Vol. 8, No. 4, 1979, pp. 319–32.

U.S. Bureau of Labor Statistics, *Productivity Indexes for Selected Industries, 1979 Edition*. Washington, 1979, 190 pp. (Bulletin 2054.) Stock No. 029-001-02429-1. \$5.50, Superintendent of Documents, Washington 20402.

Social institutions and social change

Berk, Sarah Fenstermaker, ed., *Women and Household Labor*. Beverly Hills, Calif., Sage Publications, 1980, 295 pp. (Sage Yearbooks in Women’s Policy Studies, Vol. 5.) \$20, cloth; \$9.95, paper.

Schroeder, Richard C., *The Politics of Drugs: An American Dilemma*. 2d ed. Washington, Congressional Quarterly, Inc., 1980, 190 pp. \$6.95, paper.

Wages and compensation

Bartel, Ann P., “Earnings Growth on the Job and Between Jobs,” *Economic Inquiry*, January 1980, pp. 123–37.

Brennan, E. James, “The Problem with Salary Ranges (and a Realistic Solution),” *Personnel Journal*, March 1980, pp. 187–91.

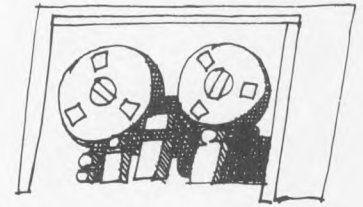
FitzGibbon, Geoff, “Flexible Working Hours: The Canadian Experience,” *The Canadian Personnel and Industrial Relations Journal*, January 1980, pp. 29–33.

National Commission on Unemployment Compensation, *Basic Structure of a Federal-State Unemployment Insurance Program and Related Supporting Provisions: Responses to the National Commission on Unemployment Compensation*. Arlington, Va., National Commission on Unemployment Compensation, 1979, 497 pp.

Petersen, Donald J., “Flexitime in the United States: The Lessons of Experience,” *Personnel*, January–February 1980, pp. 21–31.

Sachs, Jeffrey D., “Wages, Profits, and Macroeconomic Adjustment: A Comparative Study,” *Brookings Papers on Economic Activity*, 2, 1979, pp. 269–332.

Current Labor Statistics



Notes on Current Labor Statistics	66
Schedule of release dates for major BLS statistical series	66
Employment data from household survey. Definitions and notes	67
1. Employment status of noninstitutional population, selected years, 1950-79	67
2. Employment status by sex, age, and race, seasonally adjusted	68
3. Selected employment indicators, seasonally adjusted	69
4. Selected unemployment indicators, seasonally adjusted	70
5. Unemployment rates, by sex and age, seasonally adjusted	71
6. Unemployed persons, by reason for unemployment, seasonally adjusted	71
7. Duration of unemployment, seasonally adjusted	71
Employment, hours, and earnings data from establishment surveys. Definitions and notes	72
8. Employment by industry, 1950-79	73
9. Employment by State	73
10. Employment by industry division and major manufacturing group	74
11. Employment by industry division and major manufacturing group, seasonally adjusted	75
12. Labor turnover rates in manufacturing, 1977 to date	76
13. Labor turnover rates in manufacturing, by major industry group	76
14. Hours and earnings, by industry division, 1948-79	77
15. Weekly hours, by industry division and major manufacturing group	78
16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted	79
17. Hourly earnings, by industry division and major manufacturing group	80
18. Hourly Earnings Index, by industry division	80
19. Weekly earnings, by industry division and major manufacturing group	81
20. Gross and spendable weekly earnings in current and 1967 dollars, 1960 to date	82
Unemployment insurance data. Definitions and notes	83
21. Unemployment insurance and employment service operations	83
Price data. Definitions and notes	84
22. Consumer Price Indexes, 1967-79	85
23. Consumer Price Index, U.S. city average, general summary and selected items	85
24. Consumer Price Index, cross classification of region and population size class	91
25. Consumer Price Index, selected areas	92
26. Producer Price Indexes, by stage of processing	93
27. Producer Price Indexes, by commodity grouping	94
28. Producer Price Indexes, for special commodity groupings	96
29. Producer Price Indexes, by durability of product	96
30. Price indexes for the output of selected SIC industries	96
Productivity data. Definitions and notes	99
31. Indexes of productivity and related data, 1950-79	99
32. Annual percent change in productivity and related data, 1969-79	100
33. Indexes of productivity, hourly compensation, and unit costs	100
34. Percent change in productivity, hourly compensation, and unit costs	101
Labor-management data. Definitions and notes	102
35. Wage and benefit settlements in major collective bargaining units	102
36. Effective wage rate adjustments going into effect in major collective bargaining units	102
37. Work stoppages, 1947 to date	103

NOTES ON CURRENT LABOR STATISTICS

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

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

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), pp. 272-78, and *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967). Seasonally adjusted labor force data in tables 2-7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979).

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 was last introduced in the November 1979 issue of the *Review*. New seasonal factors for productivity data in

tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

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

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States and Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.

r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.

n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	May 2	April	June 6	May	1-11
Producer Price Indexes	May 9	April	June 6	May	26-30
Consumer Price Index	May 23	April	June 24	May	22-25
Real earnings	May 23	April	June 24	May	14-20
Productivity and costs (quarterly):					
Nonfinancial corporations	May 28	1st quarter	.....	.....	31-34
Work stoppages	May 28	April	June 30	May	37
Labor turnover in manufacturing	May 30	April	June 30	May	12-13

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

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

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

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

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

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

Notes on the data

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

Data in tables 2-7 are seasonally adjusted, based on the seasonal experience through December 1979.

Year	Total non-institutional population	Total labor force		Civilian labor force					Not in labor force	
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagri-cultural industries	Number		Percent of labor force
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	83,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

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

[Numbers in thousands]

Employment status	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
TOTAL															
Total noninstitutional population ¹	161,058	163,620	162,909	163,008	163,260	163,469	163,685	163,891	164,106	164,468	164,682	164,898	165,101	165,298	165,506
Total labor force	102,537	104,996	104,595	104,280	104,476	104,552	105,475	105,218	105,586	105,688	105,744	106,088	106,310	106,346	106,184
Civilian noninstitutional population ¹	158,941	161,532	160,819	160,926	161,182	161,393	161,604	161,801	162,013	162,375	162,589	162,809	163,020	163,211	163,416
Civilian labor force	100,420	102,908	102,505	102,198	102,398	102,476	103,093	103,128	103,494	103,595	103,652	103,999	104,229	104,260	104,094
Employed	94,373	96,945	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656
Agriculture	3,342	3,297	3,320	3,215	3,246	3,243	3,267	3,315	3,364	3,294	3,385	3,359	3,270	3,326	3,358
Nonagricultural industries	91,031	93,648	93,303	93,039	93,249	93,409	93,917	93,689	94,140	94,180	94,223	94,553	94,534	94,626	94,298
Unemployed	6,047	5,963	5,882	5,944	5,903	5,824	5,909	6,124	5,990	6,121	6,044	6,087	6,425	6,307	6,438
Unemployment rate	6.0	5.8	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2
Not in labor force	58,521	58,623	58,314	58,728	58,784	58,917	58,511	58,673	58,519	58,780	58,937	58,810	58,791	58,951	59,322
Men, 20 years and over															
Civilian noninstitutional population ¹	67,006	68,293	67,939	67,997	68,123	68,227	68,319	68,417	68,522	68,697	68,804	68,940	69,047	69,140	69,238
Civilian labor force	53,464	54,486	54,315	54,239	54,288	54,370	54,579	54,597	54,735	54,760	54,709	54,781	54,855	55,038	54,996
Employed	51,212	52,264	52,151	52,049	52,158	52,201	52,325	52,311	52,453	52,443	52,374	52,478	52,279	52,531	52,300
Agriculture	2,361	2,350	2,350	2,295	2,301	2,305	2,327	2,375	2,377	2,371	2,438	2,427	2,387	2,435	2,394
Nonagricultural industries	48,852	49,913	49,801	49,754	49,857	49,896	49,998	49,936	50,076	50,072	49,936	50,051	49,892	50,096	49,906
Unemployed	2,252	2,223	2,164	2,190	2,130	2,169	2,254	2,286	2,282	2,317	2,335	2,303	2,577	2,507	2,696
Unemployment rate	4.2	4.1	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9
Not in labor force	13,541	13,807	13,624	13,758	13,835	13,857	13,740	13,820	13,787	13,937	14,095	14,159	14,192	14,102	14,242
Women, 20 years and over															
Civilian noninstitutional population ¹	75,489	76,860	76,476	76,532	76,670	76,784	76,897	77,006	77,124	77,308	77,426	77,542	77,656	77,766	77,876
Civilian labor force	37,416	38,910	38,574	38,415	38,619	38,653	39,033	39,304	39,239	39,362	39,445	39,659	39,878	39,857	39,751
Employed	35,180	36,698	36,362	36,216	36,411	36,457	36,873	37,000	37,075	37,112	37,248	37,402	37,574	37,604	37,496
Agriculture	586	591	595	572	577	583	585	600	628	572	612	628	540	567	582
Nonagricultural industries	34,593	36,107	35,767	35,644	35,834	35,874	36,288	36,400	36,447	36,540	36,636	36,820	37,034	37,037	36,914
Unemployed	2,236	2,213	2,212	2,199	2,208	2,196	2,160	2,304	2,164	2,250	2,197	2,257	2,304	2,254	2,255
Unemployment rate	6.0	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7
Not in labor force	38,073	37,949	37,902	38,117	38,051	38,131	37,864	37,702	37,885	37,946	37,981	37,883	37,778	37,909	38,125
Both sexes, 16 - 19 years															
Civilian noninstitutional population ¹	16,447	16,379	16,404	16,397	16,389	16,381	16,387	16,377	16,367	16,370	16,360	16,326	16,317	16,305	16,302
Civilian labor force	9,540	9,512	9,616	9,544	9,491	9,453	9,481	9,227	9,520	9,473	9,498	9,559	9,497	9,365	9,346
Employed	7,981	7,984	8,110	7,989	7,926	7,994	7,986	7,693	7,976	7,919	7,986	8,032	7,952	7,818	7,859
Agriculture	395	356	375	348	368	355	355	340	359	351	335	350	344	325	381
Nonagricultural industries	7,586	7,628	7,735	7,641	7,558	7,639	7,631	7,353	7,617	7,568	7,651	7,682	7,608	7,493	7,478
Unemployed	1,559	1,528	1,506	1,555	1,565	1,459	1,495	1,534	1,544	1,554	1,512	1,527	1,545	1,547	1,487
Unemployment rate	16.3	16.1	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9
Not in labor force	6,907	6,867	6,788	6,853	6,898	6,928	6,906	7,150	6,847	6,897	6,862	6,767	6,820	6,940	6,956
White															
Civilian noninstitutional population ¹	139,580	141,614	141,063	141,123	141,331	141,492	141,661	141,822	141,981	142,296	142,461	142,645	142,806	142,951	143,115
Civilian labor force	88,456	90,602	90,260	89,996	90,120	90,215	90,659	90,759	91,082	91,147	91,242	91,579	91,852	91,977	91,821
Employed	83,836	86,025	85,754	85,497	85,632	85,775	86,120	85,976	86,425	86,454	86,571	86,894	86,895	87,081	86,822
Unemployed	4,620	4,577	4,506	4,499	4,488	4,440	4,539	4,783	4,657	4,693	4,671	4,685	4,957	4,896	4,999
Unemployment rate	5.2	5.1	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4
Not in labor force	51,124	51,011	50,648	51,200	51,313	51,213	51,107	51,161	50,900	51,149	51,219	51,066	50,954	50,975	51,294
Black and other															
Civilian noninstitutional population ¹	19,361	19,918	19,755	19,802	19,850	19,901	19,943	19,979	20,032	20,079	20,128	20,163	20,214	20,261	20,301
Civilian labor force	11,964	12,306	12,238	12,191	12,219	12,260	12,386	12,343	12,404	12,512	12,391	12,432	12,453	12,362	12,266
Employed	10,537	10,920	10,860	10,767	10,816	10,887	11,023	10,982	11,063	11,076	11,044	11,024	10,979	10,937	10,823
Unemployed	1,427	1,386	1,378	1,424	1,403	1,373	1,363	1,361	1,341	1,436	1,347	1,408	1,474	1,424	1,443
Unemployment rate	11.9	11.3	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8
Not in labor force	7,397	7,612	7,504	7,627	7,674	7,629	7,579	7,639	7,264	7,567	7,737	7,731	7,761	7,899	8,035

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

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656
Men	55,491	56,499	56,449	56,294	56,372	56,477	56,570	56,408	56,714	56,629	56,580	56,734	56,486	56,732	56,601
Women	38,882	40,446	40,174	39,960	40,123	40,175	40,614	40,596	40,790	40,845	41,028	41,178	41,318	41,221	41,051
Married men, spouse present	38,688	39,090	39,193	38,910	39,045	39,079	39,176	39,180	39,198	39,124	38,845	38,924	38,749	38,955	38,745
Married women, spouse present	21,881	22,724	22,605	22,376	22,547	22,664	22,908	22,869	22,937	22,919	22,940	23,027	23,111	23,178	23,202
OCCUPATION															
White-collar workers	47,205	49,342	48,996	49,061	49,136	49,192	49,536	49,663	49,816	49,738	49,912	49,911	50,313	50,448	50,302
Professional and technical	14,245	15,050	15,012	15,091	15,100	15,010	15,057	15,068	15,141	15,057	15,131	15,272	15,337	15,444	15,397
Managers and administrators, except farm	10,105	10,516	10,392	10,398	10,427	10,534	10,612	10,698	10,659	10,639	10,617	10,535	10,608	10,971	10,755
Salesworkers	5,951	6,163	6,055	6,084	6,101	6,103	6,163	6,145	6,181	6,261	6,362	6,346	6,452	6,185	6,113
Clerical workers	16,904	17,613	17,537	17,488	17,508	17,545	17,704	17,752	17,835	17,781	17,802	17,758	17,915	17,848	18,037
Blue-collar workers	31,531	32,066	32,041	31,705	31,904	31,992	32,051	31,849	32,209	32,205	32,110	32,302	31,882	31,754	31,670
Craft and kindred workers	12,386	12,880	12,792	12,703	12,820	12,944	12,876	12,761	12,993	13,001	12,925	13,041	12,814	12,728	12,767
Operatives, except transport	10,875	10,909	10,991	10,770	10,755	10,804	10,884	10,909	10,964	10,967	10,963	11,042	10,678	10,661	10,579
Transport equipment operatives	3,541	3,612	3,569	3,564	3,644	3,605	3,627	3,604	3,617	3,593	3,628	3,635	3,616	3,571	3,558
Nonfarm laborers	4,729	4,665	4,689	4,668	4,685	4,639	4,664	4,575	4,635	4,644	4,594	4,584	4,774	4,795	4,767
Service workers	12,839	12,834	12,847	12,907	12,772	12,805	12,766	12,621	12,859	12,937	12,899	12,970	12,979	13,080	12,981
Farmworkers	2,798	2,703	2,774	2,659	2,628	2,679	2,678	2,707	2,722	2,695	2,718	2,694	2,660	2,764	2,733
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,415	1,379	1,424	1,423	1,419	1,384	1,399	1,381	1,475	1,451	1,428	1,417	1,449
Self-employed workers	1,607	1,580	1,583	1,553	1,519	1,539	1,558	1,614	1,642	1,602	1,622	1,596	1,554	1,648	1,600
Unpaid family workers	316	304	314	291	283	291	291	310	325	313	310	310	293	283	300
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,439	86,105	86,232	86,309	86,454	86,421	86,912	86,982	87,020	87,384	87,578	87,419	87,221
Government	15,289	15,369	15,281	15,359	15,616	15,318	15,393	15,279	15,407	15,423	15,358	15,397	15,414	15,540	15,622
Private industries	68,966	71,171	71,158	70,746	70,616	70,991	71,061	71,142	71,505	71,559	71,662	71,987	72,163	71,879	71,599
Private households	1,363	1,240	1,262	1,172	1,195	1,235	1,219	1,211	1,313	1,261	1,221	1,228	1,132	1,178	1,115
Other industries	67,603	69,931	69,896	69,574	69,421	69,756	69,842	69,931	70,192	70,298	70,451	70,759	71,031	70,702	70,484
Self-employed workers	6,305	6,652	6,542	6,463	6,608	6,629	6,752	6,689	6,731	6,812	6,781	6,737	6,752	6,899	6,825
Unpaid family workers	472	455	446	465	460	474	519	450	449	430	417	409	379	397	376
PERSONS AT WORK¹															
Nonagricultural industries															
Full-time schedules	85,693	88,133	87,847	86,608	87,785	87,749	88,769	88,855	88,723	88,638	88,617	89,180	89,454	88,985	88,585
Part time for economic reasons	70,543	72,647	72,529	71,659	72,496	72,243	72,915	73,053	73,159	73,204	72,997	73,137	73,223	73,110	72,749
Part time for noneconomic reasons	3,216	3,281	3,211	3,279	3,283	3,284	3,274	3,298	3,167	3,315	3,392	3,519	3,513	3,406	3,418
Usually work full time	1,249	1,325	1,254	1,287	1,273	1,322	1,334	1,401	1,273	1,354	1,413	1,491	1,549	1,380	1,463
Usually work part time	1,967	1,956	1,957	1,992	2,010	1,962	1,940	1,897	1,894	1,961	1,979	2,028	1,964	2,026	1,955
Part time for noneconomic reasons	11,934	12,205	12,107	11,670	12,006	12,222	12,580	12,504	12,397	12,119	12,228	12,524	12,718	12,469	12,418

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

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2
Men, 20 years and over	4.2	4.1	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9
Women, 20 years and over	6.0	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7
Both sexes, 16-19 years	16.3	16.1	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9
White, total	5.2	5.1	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4
Men, 20 years and over	3.7	3.6	3.4	3.5	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7	4.1	4.0	4.4
Women, 20 years and over	5.2	5.0	5.0	5.0	5.0	4.9	4.8	5.2	4.8	5.0	4.9	5.0	5.1	5.2	4.9
Both sexes, 16-19 years	13.9	13.9	13.6	13.9	14.2	13.2	13.8	14.8	14.3	14.1	13.9	13.9	14.0	13.8	13.8
Black and other, total	11.9	11.3	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8
Men, 20 years and over	8.6	8.4	8.7	8.6	8.4	8.1	8.4	8.1	8.0	8.6	8.4	8.6	9.6	9.2	9.3
Women, 20 years and over	10.6	10.1	10.0	10.5	10.0	10.4	10.0	10.3	9.8	10.2	9.5	10.0	10.0	9.0	10.5
Both sexes, 16-19 years	36.3	33.5	31.5	34.3	36.1	33.5	31.5	32.6	32.3	35.1	32.8	34.3	34.6	37.9	33.0
Married men, spouse present	2.8	2.7	2.6	2.7	2.5	2.7	2.8	2.9	2.9	2.9	2.9	2.8	3.4	3.1	3.4
Married women, spouse present	5.5	5.1	5.2	5.2	5.2	5.1	4.9	5.3	4.8	5.2	4.8	5.0	5.2	5.4	5.3
Women who head families	8.5	8.3	8.2	8.3	8.6	9.0	8.1	7.9	7.7	8.4	8.4	8.4	9.2	8.5	8.7
Full-time workers	5.5	5.3	5.2	5.3	5.2	5.2	5.3	5.4	5.3	5.4	5.4	5.4	5.7	5.6	5.8
Part-time workers	9.0	8.7	9.0	8.7	9.3	8.6	8.3	8.8	8.4	8.9	8.3	8.5	8.7	8.9	8.3
Unemployed 15 weeks and over	1.4	1.2	1.3	1.2	1.2	1.1	1.0	1.1	1.1	1.2	1.1	1.2	1.3	1.2	1.3
Labor force time lost ¹	6.5	6.3	6.2	6.4	6.3	6.3	6.4	6.4	6.2	6.4	6.4	6.4	6.7	6.6	6.8
OCCUPATION															
White-collar workers	3.5	3.3	3.3	3.3	3.2	3.4	3.3	3.5	3.3	3.4	3.2	3.3	3.4	3.4	3.3
Professional and technical	2.6	2.4	2.2	2.3	2.1	2.5	2.5	2.5	2.4	2.7	2.4	2.3	2.2	2.3	2.3
Managers and administrators, except farm	2.1	2.1	2.1	2.3	2.2	2.1	2.0	2.3	2.2	2.2	1.9	2.0	1.9	2.2	2.4
Salesworkers	4.1	3.9	4.1	4.0	4.0	4.4	3.5	4.0	3.8	3.8	3.7	3.8	4.4	4.5	4.0
Clerical workers	4.9	4.6	4.8	4.5	4.5	4.6	4.5	4.9	4.5	4.7	4.4	4.6	4.8	4.7	4.5
Blue-collar workers	6.9	6.9	6.6	6.9	6.8	6.6	6.8	7.3	7.1	7.2	7.5	7.2	8.0	7.7	8.0
Craft and kindred workers	4.6	4.5	4.5	4.4	4.2	4.3	4.4	4.7	4.3	4.6	4.9	4.4	4.9	4.8	5.4
Operatives, except transport	8.1	8.4	7.8	8.5	8.2	7.7	8.3	8.9	9.0	9.1	9.0	9.0	9.9	9.2	9.3
Transport equipment operatives	5.2	5.4	5.2	5.9	5.4	5.7	5.1	6.2	6.1	5.6	5.2	5.0	6.9	6.7	6.6
Nonfarm laborers	10.7	10.8	10.2	10.6	11.1	10.6	11.0	11.3	11.0	10.7	12.2	12.2	12.3	12.0	13.0
Service workers	7.4	7.1	7.3	7.3	7.2	7.2	7.1	7.1	6.7	6.8	6.6	6.6	6.9	6.9	7.1
Farmworkers	3.8	3.8	3.3	3.4	3.6	3.2	4.2	3.9	4.1	4.3	4.5	4.3	4.4	3.9	4.0
INDUSTRY															
Nonagricultural private wage and salary workers ²	5.9	5.7	5.6	5.7	5.7	5.6	5.7	6.0	5.8	5.9	5.8	5.8	6.2	6.0	6.2
Construction	10.6	10.2	10.1	10.5	10.0	10.0	10.0	10.1	9.6	9.9	10.2	10.3	10.8	10.5	13.0
Manufacturing	5.5	5.5	5.2	5.3	5.4	5.4	5.7	5.9	6.0	6.0	5.9	5.9	6.7	6.4	6.5
Durable goods	4.9	5.0	4.4	4.7	4.4	4.9	5.4	5.4	5.3	5.5	5.6	5.5	6.7	6.3	6.4
Nondurable goods	6.3	6.4	6.4	6.3	6.9	6.3	6.2	6.8	7.1	6.8	6.3	6.4	6.8	6.7	6.7
Transportation and public utilities	3.7	3.7	3.9	3.0	3.6	3.1	3.8	3.7	4.0	3.8	4.2	4.1	4.4	4.4	3.8
Wholesale and retail trade	6.9	6.5	6.3	6.6	6.4	6.7	6.3	6.5	6.4	6.4	6.5	6.4	6.6	6.4	6.3
Finance and service industries	5.1	4.9	4.8	4.8	4.9	4.7	4.9	5.2	4.7	4.9	4.6	4.7	4.6	4.6	4.9
Government workers	3.9	3.7	4.1	3.7	3.6	3.6	3.6	3.7	3.3	4.0	3.6	3.6	3.8	4.0	4.2
Agricultural wage and salary workers	8.8	9.1	8.0	8.7	9.3	7.8	9.7	9.9	10.0	9.9	10.1	9.4	10.3	9.2	10.2

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: The monthly data in this table have been revised to reflect seasonal experience through 1979.

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

Sex and age	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Total, 16 years and over	6.0	5.8	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2
16 to 19 years	16.3	16.1	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9
16 to 17 years	19.3	18.1	18.5	18.7	18.9	17.5	17.3	18.5	16.9	18.4	17.3	18.0	19.0	18.7	17.4
18 to 19 years	14.2	14.6	13.5	14.3	15.0	14.4	14.5	15.4	15.6	15.0	14.7	14.5	14.0	15.1	14.7
20 to 24 years	9.5	9.0	8.8	8.6	8.9	8.9	9.1	9.3	9.2	9.6	8.8	9.8	10.1	9.5	9.7
25 years and over	4.0	3.9	3.9	4.0	3.9	3.9	3.9	4.0	3.9	4.0	4.0	3.8	4.2	4.1	4.4
25 to 54 years	4.2	4.1	4.1	4.2	4.0	4.1	4.0	4.2	4.1	4.2	4.3	4.1	4.4	4.5	4.7
55 years and over	3.2	3.0	3.1	3.1	3.1	2.9	3.2	3.1	2.9	3.0	2.7	2.7	3.5	2.8	2.8
Men, 16 years and over	5.2	5.1	5.0	5.1	5.0	4.9	5.1	5.2	5.2	5.2	5.2	5.2	5.7	5.5	5.7
16 to 19 years	15.7	15.8	15.8	16.0	16.1	14.5	15.4	16.3	16.1	15.7	15.8	15.6	16.2	15.6	14.8
16 to 17 years	19.2	17.9	18.9	17.9	18.9	16.8	16.1	18.0	16.7	17.1	17.8	17.9	19.0	18.0	15.9
18 to 19 years	13.2	14.2	13.6	14.1	14.0	14.0	14.8	15.1	15.3	14.4	14.0	13.6	13.9	14.1	14.0
20 to 24 years	9.1	8.6	8.3	8.0	8.2	8.3	8.8	8.8	8.8	9.5	8.4	9.4	10.4	9.9	10.4
25 years and over	3.3	3.3	3.2	3.3	3.1	3.2	3.3	3.4	3.3	3.4	3.5	3.2	3.7	3.6	3.9
25 to 54 years	3.4	3.4	3.3	3.3	3.2	3.2	3.4	3.5	3.6	3.5	3.8	3.4	3.8	3.8	4.2
55 years and over	3.1	2.9	2.8	3.0	2.8	3.1	3.3	3.1	2.8	2.8	2.6	2.6	3.5	2.6	2.7
Women, 16 years and over	7.2	6.8	6.8	6.9	6.9	6.8	6.6	7.0	6.6	6.9	6.6	6.8	6.8	6.8	6.8
16 to 19 years	17.0	16.4	15.5	16.6	16.9	16.5	16.2	17.0	16.4	17.2	16.1	16.4	16.3	17.6	17.3
16 to 17 years	19.5	18.3	18.0	19.6	18.8	18.3	18.6	19.0	17.2	19.8	16.7	18.0	19.1	19.5	19.2
18 to 19 years	15.3	15.0	13.3	14.5	16.0	14.9	14.2	15.7	15.9	15.6	15.5	15.5	14.2	16.2	15.6
20 to 24 years	10.1	9.6	9.5	9.4	9.7	9.7	9.4	9.8	9.6	9.7	9.3	10.2	9.8	9.1	9.0
25 years and over	5.1	4.8	4.9	4.9	4.9	4.8	4.7	4.9	4.6	4.9	4.7	4.7	4.9	4.9	5.0
25 to 54 years	5.4	5.2	5.3	5.3	5.2	5.2	5.0	5.3	5.0	5.2	5.0	5.1	5.2	5.4	5.5
55 years and over	3.3	3.2	3.6	3.2	3.6	2.8	3.1	3.2	2.9	3.4	2.9	2.9	3.4	3.0	2.9

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

[Numbers in thousands]

Reason for unemployment	1979											1980		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	
NUMBER OF UNEMPLOYED														
Lost last job	2,457	2,520	2,356	2,449	2,526	2,680	2,632	2,731	2,729	2,728	2,988	2,907	3,047	
On layoff	791	839	725	816	797	915	855	929	987	944	1,019	1,031	1,129	
Other job losers	1,666	1,681	1,631	1,633	1,729	1,765	1,777	1,802	1,742	1,784	1,969	1,876	1,918	
Left last job	864	847	940	857	846	875	825	835	845	800	779	813	788	
Reentered labor force	1,766	1,778	1,767	1,753	1,762	1,788	1,760	1,762	1,698	1,771	1,797	1,784	1,803	
Seeking first job	808	800	824	781	726	745	801	804	736	858	811	827	805	
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	41.7	42.4	40.0	41.9	43.1	44.0	43.7	44.5	45.4	44.3	46.9	45.9	47.3	
On layoff	13.4	14.1	12.3	14.0	13.6	15.0	14.2	15.2	16.4	15.3	16.0	16.3	17.5	
Other job losers	28.3	28.3	27.7	28.0	29.5	29.0	29.5	29.4	29.0	29.0	30.9	29.6	29.8	
Job leavers	14.7	14.2	16.0	14.7	14.4	14.4	13.7	13.6	14.1	13.0	12.2	12.8	12.2	
Reentrants	30.0	29.9	30.0	30.0	30.1	29.4	29.2	28.7	28.3	28.8	28.2	28.2	28.0	
New entrants	13.7	13.5	14.0	13.4	12.4	12.2	13.3	13.1	12.3	13.9	12.7	13.1	12.5	
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE														
Job losers	2.4	2.5	2.3	2.4	2.5	2.6	2.5	2.6	2.6	2.6	2.9	2.8	2.9	
Job leavers	.8	.8	.9	.8	.8	.8	.8	.8	.8	.8	.7	.8	.8	
Reentrants	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	
New entrants	.8	.8	.8	.8	.7	.7	.8	.8	.7	.8	.8	.8	.8	

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Less than 5 weeks	2,793	2,869	2,769	2,876	2,823	2,880	2,820	3,168	2,778	2,955	2,919	2,916	3,184	2,995	2,995
5 to 14 weeks	1,875	1,892	1,860	1,884	1,919	1,808	1,934	1,738	2,035	1,963	1,869	1,966	1,907	2,081	2,169
15 weeks and over	1,379	1,202	1,291	1,223	1,212	1,152	1,067	1,185	1,152	1,195	1,191	1,230	1,334	1,286	1,363
15 to 26 weeks	746	684	729	687	705	656	615	658	644	678	660	711	795	790	776
27 weeks and over	633	518	562	536	507	496	452	527	508	517	531	519	539	496	587
Average (mean) duration, in weeks	11.9	10.8	11.8	11.0	10.9	10.5	10.1	10.7	10.7	10.5	10.6	10.5	10.5	10.7	11.0

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1979.

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 162,000 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 service industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** 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 September 1979 data, published in the November 1979 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 June 1979 and seasonally adjusted data from January 1974 through June 1979) and in *Employment and Earnings, United States, 1909-78*, BLS Bulletin 1312-11 (for prior periods).

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

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

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978-80, see *Employment and Earnings*, March 1980, pp. 10-11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, 1950-79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959 ¹	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,423	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,079	2,727	12,352
1978	86,446	851	4,271	20,476	4,927	19,499	4,957	14,542	4,727	16,220	15,476	2,753	12,723
1979	89,482	957	4,644	20,972	5,154	20,137	5,170	14,966	4,963	17,043	15,612	2,773	12,839

¹Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Feb. 1979	Jan. 1980	Feb. 1980 ^P	State	Feb. 1979	Jan. 1980	Feb. 1980 ^P
Alabama	1,339.9	1,362.2	1,366.3	Montana	268.5	277.8	276.8
Alaska	155.1	158.0	159.5	Nebraska	606.6	616.9	617.7
Arizona	957.8	995.2	1,001.7	Nevada	365.1	388.6	391.1
Arkansas	727.0	744.9	746.2	New Hampshire ¹	...	375.0	...
California	9,412.2	9,726.2	9,728.2	New Jersey ¹	2,940.6	3,002.0	2,995.4
Colorado	1,178.9	1,232.7	1,237.1	New Mexico	445.9	462.9	466.2
Connecticut ¹	1,363.2	1,401.2	1,397.7	New York	7,010.5	7,086.8	7,104.3
Delaware	247.0	252.4	255.3	North Carolina	2,326.4	2,395.2	2,391.1
District of Columbia	602.5	611.5	611.9	North Dakota	230.4	240.2	239.4
Florida	3,339.2	3,498.9	3,525.7	Ohio	4,391.6	4,413.1	4,402.6
Georgia	2,080.2	2,123.4	2,132.4	Oklahoma	1,049.8	1,104.3	1,107.6
Hawaii	392.2	403.5	407.6	Oregon	1,011.7	1,042.7	1,047.9
Idaho	324.4	331.4	329.1	Pennsylvania	4,694.5	4,779.1	4,752.2
Illinois	4,859.3	4,674.8	4,684.7	Rhode Island	391.0	391.7	390.5
Indiana	2,206.9	2,207.8	2,195.4	South Carolina	1,149.1	1,184.1	1,186.8
Iowa	1,101.5	1,118.6	1,117.7	South Dakota	230.1	234.0	234.1
Kansas	920.1	947.7	943.2	Tennessee	1,734.7	1,777.6	1,775.9
Kentucky	1,207.8	1,229.8	1,216.8	Texas	5,447.5	5,711.1	5,711.2
Louisiana	1,476.2	1,511.8	1,508.3	Utah	532.8	563.0	563.0
Maine	397.5	406.7	407.7	Vermont	192.7	199.2	200.9
Maryland	1,572.8	1,599.2	1,600.4	Virginia	2,028.7	2,097.2	2,086.4
Massachusetts ¹	2,525.7	2,609.3	2,614.3	Washington ¹	...	1,589.0	...
Michigan	3,620.6	3,506.1	3,495.5	West Virginia	621.3	633.6	629.3
Minnesota ¹	1,702.1	1,762.0	1,766.2	Wisconsin	1,892.1	1,950.3	1,956.6
Mississippi	820.3	835.9	835.2	Wyoming	187.2	206.9	208.1
Missouri	1,942.0	1,961.4	1,959.7				

¹ Revised series; not strictly comparable with previously published data.

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. P	Mar. P
TOTAL	86,446	89,482	88,207	88,820	89,671	90,541	89,618	89,673	90,211	90,678	90,902	91,009	89,285	89,346	89,774
MINING	851	957	926	932	944	968	976	986	980	982	984	984	982	977	991
CONSTRUCTION	4,271	4,644	4,226	4,413	4,662	4,881	4,993	5,048	4,984	4,976	4,879	4,711	4,350	4,260	4,301
MANUFACTURING	20,476	20,972	20,887	20,907	20,988	21,234	20,965	20,996	21,192	21,094	20,966	20,902	20,699	20,645	20,667
Production workers	14,714	15,010	14,993	15,002	15,061	15,240	14,946	14,960	15,172	15,082	14,954	14,891	14,674	14,608	14,641
Durable goods	12,246	12,690	12,664	12,697	12,739	12,877	12,712	12,598	12,805	12,737	12,661	12,649	12,525	12,515	12,532
Production workers	8,786	9,053	9,081	9,105	9,129	9,223	9,031	8,907	9,116	9,058	8,983	8,971	8,825	8,808	8,827
Lumber and wood products	752.4	758.4	745.5	748.8	763.8	783.2	776.8	780.0	776.3	771.3	748.9	729.2	709.2	706.8	702.7
Furniture and fixtures	491.1	487.3	491.8	487.8	483.9	484.2	475.5	483.5	485.3	487.6	488.7	486.9	484.4	480.1	480.7
Stone, clay, and glass products	698.0	710.8	697.2	706.6	718.6	733.1	727.1	728.2	723.6	721.0	712.9	699.6	680.8	677.7	681.9
Primary metal industries	1,212.7	1,243.9	1,251.1	1,259.0	1,258.6	1,274.3	1,260.7	1,244.5	1,244.3	1,225.1	1,216.7	1,204.4	1,201.6	1,199.1	1,196.9
Fabricated metal products	1,673.4	1,727.2	1,719.8	1,723.7	1,727.8	1,749.0	1,715.7	1,716.1	1,735.3	1,738.3	1,738.2	1,730.4	1,703.8	1,705.9	1,708.9
Machinery, except electrical	2,319.2	2,462.5	2,459.5	2,468.0	2,463.6	2,491.2	2,485.1	2,467.1	2,496.4	2,447.2	2,440.9	2,455.8	2,522.5	2,522.8	2,526.9
Electric and electronic equipment	1,999.5	2,108.7	2,082.6	2,086.1	2,095.2	2,128.2	2,111.7	2,089.5	2,136.1	2,143.7	2,146.3	2,153.1	2,144.5	2,139.2	2,139.5
Transportation equipment	1,991.7	2,048.3	2,083.9	2,082.2	2,091.8	2,077.9	2,027.7	1,933.2	2,051.0	2,040.9	2,009.7	2,043.4	1,943.6	1,946.0	1,947.8
Instruments and related products	653.5	690.4	683.2	686.5	686.5	698.8	692.9	695.3	692.7	695.4	695.9	699.8	698.9	700.6	704.6
Miscellaneous manufacturing	454.0	452.4	449.0	448.0	448.9	457.4	438.6	460.6	463.8	466.9	462.8	446.4	435.9	437.2	442.2
Nondurable goods	8,230	8,283	8,223	8,210	8,249	8,357	8,253	8,398	8,387	8,357	8,305	8,253	8,174	8,130	8,135
Production workers	5,928	5,957	5,912	5,897	5,932	6,017	5,915	6,053	6,056	6,024	5,971	5,920	5,849	5,800	5,814
Food and kindred products	1,721.2	1,716.3	1,666.9	1,657.3	1,669.6	1,716.6	1,737.8	1,810.0	1,814.1	1,766.8	1,725.0	1,695.9	1,650.5	1,636.4	1,623.9
Tobacco manufactures	69.6	66.2	64.4	62.5	61.9	62.1	62.1	69.0	72.2	71.9	64.8	66.7	65.1	63.3	60.6
Textile mill products	900.2	891.9	894.4	890.4	892.5	900.4	875.5	890.4	888.9	889.8	893.9	893.5	887.4	887.7	889.9
Apparel and other textile products	1,332.5	1,313.1	1,326.6	1,323.7	1,327.5	1,333.1	1,278.7	1,308.9	1,309.1	1,317.0	1,306.2	1,292.0	1,284.4	1,306.8	1,317.3
Paper and allied products	700.9	714.1	708.8	710.8	712.7	724.6	719.6	723.3	718.5	717.7	715.9	714.0	711.8	710.1	710.1
Printing and publishing	1,193.1	1,242.9	1,229.5	1,231.0	1,234.7	1,243.4	1,245.8	1,245.4	1,246.1	1,254.5	1,265.6	1,272.0	1,269.5	1,274.0	1,277.4
Chemicals and allied products	1,096.3	1,112.7	1,103.9	1,106.7	1,110.9	1,126.6	1,123.0	1,121.2	1,114.9	1,115.0	1,115.2	1,115.6	1,113.9	1,114.3	1,117.1
Petroleum and coal products	208.7	213.8	208.3	210.8	212.9	216.8	218.0	218.3	218.1	218.1	217.2	214.9	213.1	162.3	161.7
Rubber and miscellaneous plastics products	751.9	767.5	774.4	772.0	777.0	779.4	767.4	765.8	762.0	762.6	757.6	747.5	742.2	737.4	738.4
Leather and leather products	255.6	243.8	245.7	245.1	249.2	253.7	224.7	245.8	243.1	243.1	243.2	240.7	236.1	237.8	238.1
TRANSPORTATION AND PUBLIC UTILITIES	4,927	5,154	5,060	4,989	5,125	5,231	5,200	5,210	5,242	5,244	5,255	5,254	5,149	5,124	5,140
WHOLESALE AND RETAIL TRADE	19,499	20,137	19,690	19,957	20,119	20,222	20,118	20,137	20,260	20,314	20,580	20,932	20,224	20,050	20,112
WHOLESALE TRADE	4,957	5,170	5,098	5,112	5,146	5,211	5,208	5,211	5,206	5,235	5,251	5,234	5,211	5,212	5,226
RETAIL TRADE	14,542	14,966	14,592	14,845	14,973	15,011	14,910	14,926	15,054	15,079	15,329	15,698	15,013	14,838	14,886
FINANCE, INSURANCE, AND REAL ESTATE	4,727	4,963	4,870	4,900	4,936	5,003	5,032	5,053	5,002	5,013	5,029	5,041	5,040	5,044	5,060
SERVICES	16,220	17,043	16,749	16,897	17,039	17,239	17,314	17,312	17,225	17,292	17,281	17,270	17,111	17,277	17,456
GOVERNMENT	15,476	15,612	15,799	15,825	15,858	15,763	15,020	14,931	15,326	15,763	15,928	15,915	15,730	15,969	16,047
Federal	2,753	2,773	2,740	2,750	2,773	2,824	2,838	2,844	2,751	2,756	2,760	2,770	2,763	2,803	2,805
State and local	12,723	12,839	13,059	13,075	13,085	12,939	12,182	12,087	12,575	13,007	13,168	13,145	12,967	13,166	13,242

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

[Nonagricultural payroll data, in thousands]

Industry division and group	1979										1980		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. P	Mar. P
TOTAL	89,039	89,036	89,398	89,626	89,713	89,762	89,803	89,982	90,100	90,241	90,652	90,774	90,634
MINING	940	940	944	949	956	968	973	979	983	991	1,000	1,000	1,006
CONSTRUCTION	4,614	4,559	4,648	4,662	4,688	4,674	4,671	4,694	4,714	4,783	4,893	4,830	4,695
MANUFACTURING	21,073	21,066	21,059	21,063	21,079	20,957	20,949	20,899	20,836	20,881	20,890	20,889	20,848
Production workers	15,153	15,134	15,112	15,096	15,090	14,956	14,957	14,894	14,829	14,865	14,848	14,821	14,792
Durable goods	12,751	12,752	12,739	12,760	12,786	12,714	12,737	12,650	12,587	12,615	12,601	12,648	12,616
Production workers	9,158	9,146	9,119	9,123	9,124	9,044	9,066	8,972	8,908	8,931	8,894	8,923	8,900
Lumber and wood products	769	761	762	757	753	752	758	760	751	740	737	736	724
Furniture and fixtures	493	490	487	485	488	484	480	482	483	483	484	481	482
Stone, clay, and glass products	718	714	715	715	711	710	708	709	704	706	708	709	702
Primary metal industries	1,259	1,260	1,254	1,257	1,256	1,245	1,236	1,226	1,223	1,208	1,208	1,210	1,204
Fabricated metal products	1,732	1,732	1,730	1,737	1,730	1,714	1,716	1,723	1,726	1,725	1,712	1,723	1,721
Machinery, except electrical	2,450	2,466	2,471	2,484	2,500	2,482	2,496	2,455	2,438	2,444	2,512	2,513	2,517
Electric and electronic equipment	2,093	2,101	2,106	2,124	2,131	2,092	2,117	2,125	2,125	2,140	2,149	2,148	2,150
Transportation equipment	2,094	2,084	2,077	2,057	2,073	2,079	2,086	2,025	1,994	2,019	1,938	1,976	1,958
Instruments and related products	685	689	688	693	694	695	692	696	694	698	700	702	707
Miscellaneous manufacturing	458	455	449	451	450	451	448	449	449	452	453	450	451
Nondurable goods	8,322	8,314	8,320	8,303	8,293	8,243	8,212	8,249	8,249	8,266	8,289	8,241	8,232
Production workers	5,995	5,988	5,993	5,973	5,966	5,912	5,891	5,922	5,921	5,934	5,954	5,898	5,892
Food and kindred products	1,736	1,728	1,725	1,720	1,707	1,696	1,691	1,707	1,710	1,715	1,707	1,706	1,692
Tobacco manufactures	69	69	70	69	68	64	65	65	60	62	64	65	65
Textile mill products	897	892	893	892	892	886	884	887	889	893	891	890	893
Apparel and other textile products	1,324	1,325	1,324	1,312	1,324	1,302	1,294	1,299	1,292	1,297	1,309	1,313	1,315
Paper and allied products	716	717	714	715	718	717	714	715	714	713	718	717	717
Printing and publishing	1,232	1,234	1,236	1,242	1,250	1,247	1,245	1,252	1,262	1,263	1,273	1,278	1,280
Chemicals and allied products	1,108	1,111	1,114	1,119	1,116	1,111	1,110	1,113	1,114	1,119	1,119	1,123	1,122
Petroleum and coal products	213	213	213	212	212	213	215	217	217	217	219	167	165
Rubber and miscellaneous plastics products	780	781	784	775	777	764	751	749	745	745	743	743	744
Leather and leather products	247	244	247	247	229	243	243	242	242	240	240	240	239
TRANSPORTATION AND PUBLIC UTILITIES	5,116	5,024	5,130	5,190	5,169	5,194	5,180	5,218	5,229	5,223	5,212	5,191	5,197
WHOLESALE AND RETAIL TRADE	20,054	20,088	20,129	20,116	20,122	20,126	20,169	20,243	20,308	20,254	20,428	20,530	20,499
WHOLESALE TRADE	5,134	5,138	5,156	5,180	5,182	5,185	5,190	5,209	5,235	5,218	5,248	5,265	5,263
RETAIL TRADE	14,920	14,950	14,973	14,936	14,940	14,941	14,979	15,034	15,073	15,036	15,180	15,265	15,236
FINANCE, INSURANCE, AND REAL ESTATE	4,899	4,915	4,936	4,958	4,972	5,003	4,997	5,018	5,039	5,056	5,081	5,085	5,091
SERVICES	16,833	16,880	16,954	17,051	17,092	17,141	17,191	17,257	17,298	17,357	17,442	17,505	17,544
GOVERNMENT	15,510	15,564	15,598	15,637	15,635	15,699	15,673	15,674	15,693	15,696	15,706	15,744	15,754
Federal	2,757	2,758	2,770	2,788	2,785	2,813	2,762	2,770	2,771	2,771	2,791	2,823	2,822
State and local	12,753	12,806	12,828	12,849	12,850	12,886	12,911	12,904	12,922	12,925	12,915	12,921	12,932

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	3.9	4.0	3.4	3.8	3.9	4.7	4.8	4.3	4.9	4.4	4.1	2.9	2.2
1980	...	3.8	P3.2	...	...	...	...	...	...	...	...	...	...
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	...	2.4	P2.1	...	...	...	...	...	...	...	...	...	...
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	.9	.8	.7	.5	.5
1980	...	1.1	P.9	...	...	...	...	...	...	...	...	...	...
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	4.8	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.6	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	P3.5	...	...	...	...	...	...	...	...	...	...
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	...	1.6	P1.4	...	...	...	...	...	...	...	...	...	...
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	1.0	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.8	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	P.12	...	...	...	...	...	...	...	...	...	...

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		
	Feb. 1979	Jan. 1980	Feb. 1980 P	Feb. 1979	Jan. 1980	Feb. 1980 P	Feb. 1979	Jan. 1980	Feb. 1980 P	Feb. 1979	Jan. 1980	Feb. 1980 P	Feb. 1979	Jan. 1980	Feb. 1980 P	Feb. 1979	Jan. 1980	Feb. 1980 P
MANUFACTURING	3.4	3.8	3.2	2.5	2.4	2.1	0.7	1.1	0.9	3.2	4.1	3.5	1.6	1.6	1.4	0.8	1.6	1.2
Seasonally adjusted	4.2	4.1	3.9	3.3	2.9	2.8	...	...	...	4.0	4.2	4.2	2.2	2.0	1.9	.9	1.3	1.3
Durable goods	3.2	3.5	3.0	2.4	2.1	1.9	.6	1.0	.8	2.9	3.9	3.2	1.4	1.4	1.2	.7	1.7	1.2
Lumber and wood products	4.6	4.7	4.7	3.6	2.9	2.8	.8	1.6	1.7	5.3	5.9	5.7	2.7	2.4	2.2	1.5	2.6	2.6
Furniture and fixtures	4.2	4.6	3.9	3.7	3.6	3.1	.4	.7	.7	4.6	5.0	4.0	2.7	2.5	2.2	.8	1.4	.8
Stone, clay, and glass products	3.6	3.6	3.3	2.3	1.9	1.8	1.1	1.6	1.4	3.5	4.8	3.9	1.4	1.4	1.2	1.2	2.6	1.9
Primary metal industries	2.5	3.1	2.1	1.7	1.2	.9	.5	1.6	.9	2.2	3.2	2.5	.7	.7	.6	.5	1.6	1.1
Fabricated metal products	3.5	4.0	3.4	2.8	2.5	2.2	.5	1.2	1.0	3.4	4.3	3.7	1.7	1.6	1.4	.9	1.8	1.4
Machinery, except electrical	2.7	2.9	2.4	2.3	2.1	1.8	.2	.5	.4	2.2	2.8	2.4	1.1	1.2	1.0	.3	.8	.6
Electric and electronic equipment	3.1	3.1	2.9	2.3	2.1	2.0	.4	.5	.5	2.8	3.4	2.8	1.4	1.4	1.2	.5	1.0	.7
Transportation equipment	3.2	3.3	2.9	2.0	1.5	1.4	.8	1.4	1.0	2.5	4.8	3.3	1.0	.9	.8	.7	3.0	1.6
Instruments and related products	2.7	2.9	2.9	2.2	2.3	2.5	.2	.3	.3	2.3	2.5	2.6	1.3	1.4	1.4	.3	.4	.4
Miscellaneous manufacturing	5.1	5.8	4.3	3.4	3.1	2.5	1.6	2.4	1.7	4.1	6.1	4.6	2.0	2.0	1.6	1.2	3.1	2.0
Nondurable goods	3.6	4.2	3.6	2.6	2.8	2.5	.8	1.2	.9	3.6	4.3	3.9	1.9	2.0	1.8	1.0	1.5	1.3
Food and kindred products	4.4	4.8	4.3	2.9	2.9	2.5	1.4	1.6	1.5	4.9	5.9	5.2	2.4	2.4	2.0	1.7	2.6	2.4
Tobacco manufacturers	1.8	3.5	1.7	.9	1.4	.7	.4	1.7	.9	4.2	4.0	4.7	.5	.9	.7	2.6	2.3	3.3
Textile mill products	3.9	4.5	3.9	2.9	3.5	3.0	.5	.7	.6	3.8	4.4	4.0	2.4	2.5	2.3	.5	.8	.7
Apparel and other products	4.9	6.8	5.6	3.2	4.0	3.7	1.4	2.6	1.7	4.9	5.8	5.1	2.5	2.9	2.7	1.6	2.0	1.5
Paper and allied products	2.2	2.7	2.1	1.5	1.5	1.4	.5	1.0	.6	2.4	2.7	2.5	1.0	1.0	.8	.7	.9	1.0
Printing and publishing	3.1	3.4	3.0	2.5	2.8	2.5	.4	.5	.4	2.7	3.3	3.0	1.7	1.9	1.8	.5	.8	.6
Chemicals and allied products	1.6	1.6	1.6	1.2	1.2	1.2	.3	.3	.3	1.5	1.6	1.5	.6	.7	.6	.3	.3	.4
Petroleum and coal products	1.9	1.9	1.7	1.5	1.5	1.3	.2	.2	.3	1.8	2.2	1.9	.5	.7	.7	.4	.6	.3
Rubber and miscellaneous plastics products	4.2	4.8	3.7	3.3	3.1	2.4	.5	1.5	1.0	4.0	5.4	4.5	2.2	2.1	1.8	.7	2.1	1.6
Leather and leather products	5.2	6.9	6.0	3.6	4.4	4.0	1.3	2.3	1.6	6.0	7.1	6.1	3.2	3.3	3.0	1.7	2.7	2.1

14. Hours and earnings, by industry division, 1948-79

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

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1948	\$49.00	40.0	\$1.225	\$65.56	39.4	\$1.664	\$65.27	38.1	\$1.713	\$53.12	40.0	\$1.328
1949	50.24	39.4	1.275	62.33	36.3	1.717	67.56	37.7	1.792	53.88	39.1	1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959 ¹	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.11	43.3	7.67	318.32	36.8	8.65	249.27	40.4	6.17
1979	219.91	35.7	6.16	364.64	43.0	8.48	341.69	36.9	9.26	268.94	40.2	6.69
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1948				\$40.80	40.4	\$1.010	\$45.48	37.9	\$1.200			
1949				42.93	40.5	1.060	47.63	37.8	1.260			
1950				44.55	40.5	1.100	50.52	37.7	1.340			
1951				47.79	40.5	1.18	54.67	37.7	1.45			
1952				49.20	40.0	1.23	57.08	37.8	1.51			
1953				51.35	39.5	1.30	59.57	37.7	1.58			
1954				53.33	39.5	1.35	62.04	37.6	1.65			
1955				55.16	39.4	1.40	63.92	37.6	1.70			
1956				57.48	39.1	1.47	65.68	36.9	1.78			
1957				59.60	38.7	1.54	67.53	36.7	1.84			
1958				61.76	38.6	1.60	70.12	37.1	1.89			
1959 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	178.36	36.4	4.90	163.67	32.8	4.99
1979	326.38	39.9	8.18	164.96	32.6	5.06	191.66	36.3	5.28	175.27	32.7	5.36

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		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ^P	Mar. ^P
TOTAL PRIVATE	35.8	35.7	35.7	35.1	35.5	35.9	36.0	36.0	35.8	35.7	35.6	35.9	35.1	35.1	35.2
MINING	43.3	43.0	42.9	42.6	42.8	43.3	41.7	43.1	43.5	43.7	43.7	43.9	43.4	43.0	43.4
CONSTRUCTION	36.8	36.9	37.0	35.5	37.2	37.9	37.7	38.0	37.9	37.6	36.5	37.1	35.1	35.6	35.5
MANUFACTURING	40.4	40.2	40.6	38.9	40.1	40.4	39.9	40.0	40.3	40.3	40.4	40.9	39.8	39.7	39.8
Overtime hours	3.6	3.3	3.6	2.5	3.3	3.4	3.2	3.3	3.6	3.4	3.4	3.4	3.0	2.9	3.0
Durable goods	41.1	40.8	41.4	39.3	40.8	41.0	40.4	40.4	40.8	40.8	40.8	41.6	40.3	40.2	40.3
Overtime hours	3.8	3.5	3.9	2.6	3.6	3.6	3.4	3.4	3.6	3.5	3.5	3.5	3.1	3.0	3.1
Lumber and wood products	39.8	39.5	39.7	39.1	39.6	40.2	39.4	39.9	40.1	39.8	38.8	39.2	38.1	38.3	38.1
Furniture and fixtures	39.3	38.6	39.0	37.5	38.2	38.8	38.0	38.6	39.0	39.3	39.2	39.9	38.4	38.2	38.2
Stone, clay, and glass products	41.6	41.5	41.8	41.1	41.9	42.1	41.5	41.7	41.7	41.7	41.7	41.8	40.1	40.0	40.4
Primary metal industries	41.8	41.4	41.9	41.7	41.4	41.6	41.3	40.8	41.3	40.9	40.7	40.9	40.7	40.5	40.6
Fabricated metal products	41.0	40.8	41.3	38.8	40.7	41.0	40.3	40.5	40.8	41.0	41.0	41.9	40.6	40.4	40.6
Machinery except electrical	42.0	41.8	42.6	40.3	41.7	42.0	41.2	41.3	41.9	41.6	41.9	42.8	41.5	41.5	41.5
Electric and electronic equipment	40.3	40.3	40.7	38.8	40.2	40.5	39.6	39.7	40.5	40.3	40.9	41.3	40.2	40.1	40.2
Transportation equipment	42.2	41.2	42.3	37.9	41.6	41.3	40.9	40.5	40.7	41.3	40.8	42.6	40.1	39.9	40.0
Instruments and related products	40.9	40.8	41.3	40.0	40.8	40.7	40.3	40.3	40.7	40.8	41.4	41.6	41.0	40.8	40.8
Miscellaneous manufacturing	38.8	38.9	39.2	37.6	38.5	39.0	38.7	38.9	39.3	39.3	39.6	39.7	39.1	38.7	38.8
Nondurable goods	39.4	39.3	39.3	38.2	39.1	39.4	39.2	39.4	39.6	39.4	39.6	39.9	39.0	38.9	38.9
Overtime hours	3.2	3.1	3.1	2.5	2.9	3.0	3.0	3.2	3.5	3.2	3.3	3.2	2.9	2.8	2.8
Food and kindred products	39.7	39.9	39.6	39.0	39.6	39.8	40.1	40.3	40.6	40.0	40.2	40.3	39.5	39.1	39.0
Tobacco manufactures	38.1	38.0	38.1	37.6	38.9	39.0	36.1	37.6	39.1	38.8	39.0	39.5	37.4	37.0	37.7
Textile mill products	40.4	40.3	40.4	38.6	40.1	40.6	39.9	40.3	40.8	40.8	41.3	41.5	40.9	40.8	40.7
Apparel and other textile products	35.6	35.2	35.4	33.9	35.1	35.6	35.4	35.6	35.4	35.5	35.6	35.9	35.2	35.4	35.4
Paper and allied products	42.9	42.6	42.6	41.6	42.4	42.8	42.5	42.6	42.7	42.6	42.9	43.5	42.6	42.3	42.4
Printing and publishing	37.6	37.5	37.7	36.8	37.3	37.4	37.4	37.9	37.9	37.5	37.9	38.1	37.2	37.0	37.3
Chemicals and allied products	41.9	41.8	41.9	41.9	41.8	41.8	41.7	41.8	41.8	41.7	42.1	42.2	41.7	41.6	41.8
Petroleum and coal products	43.6	43.8	43.8	43.9	43.7	43.4	44.1	43.6	44.7	44.1	44.8	43.4	36.1	39.6	38.8
Rubber and miscellaneous plastics products	40.9	40.5	41.4	39.4	40.5	40.7	40.2	40.0	40.5	40.5	40.3	40.7	40.3	39.9	40.1
Leather and leather products	37.1	36.5	35.9	35.3	36.4	37.1	36.9	36.6	36.8	36.5	36.8	37.3	36.7	36.9	36.3
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	39.8	39.0	39.6	40.0	40.0	40.3	39.9	39.9	40.2	40.0	39.5	39.7	39.8
WHOLESALE AND RETAIL TRADE	32.9	32.6	32.4	32.5	32.4	32.9	33.3	33.2	32.7	32.5	32.4	32.9	31.9	31.9	32.0
WHOLESALE TRADE	38.8	38.8	38.9	38.6	38.9	39.0	39.0	38.9	38.8	38.9	38.9	39.1	38.5	38.4	38.5
RETAIL TRADE	31.0	30.7	30.3	30.6	30.4	31.0	31.5	31.4	30.7	30.4	30.4	31.0	29.8	29.8	30.0
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.3	36.3	36.4	36.1	36.2	36.4	36.2	36.3	36.3	36.4	36.4	36.3	36.3	36.4
SERVICES	32.8	32.7	32.6	32.5	32.5	32.9	33.3	33.2	32.7	32.6	32.6	32.8	32.5	32.5	32.6

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

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

Industry division and group	1979										1980		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ^P	Mar. ^P
TOTAL PRIVATE	35.9	35.3	35.7	35.6	35.6	35.6	35.7	35.6	35.7	35.7	35.7	35.5	35.4
MINING	43.1	42.9	42.8	43.0	41.6	43.2	43.1	43.1	43.2	43.9	44.4	43.5	43.6
CONSTRUCTION	37.1	35.5	37.1	37.2	36.8	37.2	37.5	36.6	36.8	37.1	37.6	36.8	35.6
MANUFACTURING	40.6	39.1	40.2	40.1	40.2	40.1	40.2	40.2	40.1	40.2	40.3	40.0	39.8
Overtime hours	3.7	2.7	3.5	3.4	3.3	3.2	3.2	3.2	3.3	3.2	3.2	3.1	3.1
Durable goods	41.4	39.5	40.9	40.7	40.7	40.7	40.7	40.8	40.6	40.7	40.8	40.5	40.3
Overtime hours	4.0	2.7	3.8	3.6	3.5	3.3	3.3	3.3	3.4	^c 3.2	^c 3.2	3.1	3.1
Lumber and wood products	40.0	39.1	39.4	39.4	39.3	39.5	39.7	39.4	38.9	39.0	39.5	38.9	38.4
Furniture and fixtures	39.1	38.1	38.5	38.5	38.4	38.3	38.6	38.8	38.9	39.0	39.0	38.9	38.3
Stone, clay, and glass products	42.0	41.2	41.7	41.6	41.4	41.3	41.5	41.3	41.5	41.6	41.3	40.9	40.6
Primary metal industries	42.0	41.8	41.4	41.2	41.3	41.0	41.0	41.1	40.7	40.6	40.8	40.6	40.7
Fabricated metal products	41.3	39.1	40.7	40.7	40.8	40.6	40.7	40.9	40.7	41.0	40.9	40.8	40.6
Machinery, except electrical	42.4	40.5	42.0	42.0	41.9	41.6	41.9	41.6	41.6	41.6	41.7	41.5	41.3
Electric and electronic equipment	40.7	39.0	40.4	40.3	40.2	39.8	40.3	40.3	40.6	40.5	40.4	40.3	40.2
Transportation equipment	42.3	37.9	41.5	40.8	40.9	41.7	40.6	41.3	40.6	41.0	41.0	40.4	40.0
Instruments and related products	41.2	40.3	40.8	40.6	40.7	40.5	40.6	40.7	41.0	40.8	41.5	41.0	40.7
Miscellaneous manufacturing	39.0	37.6	38.6	38.9	39.3	39.1	39.1	39.1	39.1	39.2	39.5	39.1	38.6
Nondurable goods	39.4	38.6	39.2	39.2	39.2	39.2	39.3	39.3	39.4	39.4	39.5	39.3	39.0
Overtime hours	3.3	2.7	3.0	3.0	3.0	3.0	3.1	3.0	3.2	3.1	3.1	3.0	3.0
Food and kindred products	40.0	39.6	39.8	39.8	39.8	39.7	40.0	39.9	40.0	39.9	40.0	39.7	39.4
Tobacco manufactures	38.0	37.6	38.9	37.6	38.5	38.0	38.6	38.3	37.8	38.8	38.5	37.8	37.6
Textile mill products	40.3	38.8	40.0	40.1	40.1	40.1	40.6	40.8	41.1	41.0	41.7	41.1	40.6
Apparel and other textile products	35.4	34.2	35.2	35.2	35.5	35.3	35.3	35.3	35.3	35.6	35.9	35.9	35.4
Paper and allied products	42.8	41.8	42.6	42.5	42.5	42.6	42.4	42.6	42.7	42.9	42.8	42.8	42.6
Printing and publishing	37.7	37.1	37.4	37.4	37.5	37.7	37.5	37.4	37.6	37.4	37.8	37.4	37.3
Chemicals and allied products	41.9	41.7	41.9	41.7	41.9	42.0	41.7	41.7	41.9	41.7	42.0	41.9	41.8
Petroleum and coal products	44.0	43.9	43.7	43.3	43.6	43.7	44.1	43.7	44.4	43.5	36.6	40.4	39.0
Rubber and miscellaneous plastics products	41.3	39.7	40.9	40.7	40.6	40.2	40.3	40.3	40.0	39.9	40.6	39.9	40.0
Leather and leather products	36.3	35.6	36.1	36.4	36.6	36.5	37.0	36.5	36.7	36.9	37.2	37.4	36.7
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.2	39.8	39.8	39.7	39.9	39.9	39.9	40.2	39.8	39.9	39.8	40.0
WHOLESALE AND RETAIL TRADE	32.7	32.8	32.6	32.6	32.6	32.5	32.6	32.6	32.7	32.6	32.5	32.3	32.4
WHOLESALE TRADE	39.0	38.7	39.0	38.8	38.8	38.7	38.7	38.8	38.9	38.9	38.8	38.7	38.6
RETAIL TRADE	30.7	30.9	30.6	30.6	30.6	30.5	30.7	30.6	30.7	30.6	30.5	30.3	30.4
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.5	36.1	36.2	36.3	36.1	36.4	36.2	36.5	36.4	36.2	36.3	36.5
SERVICES	32.8	32.7	32.7	32.7	32.8	32.7	32.7	32.6	32.7	32.9	32.7	32.7	32.8

c = corrected.

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

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

Industry division and group	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ^P	Mar. ^P
TOTAL PRIVATE	\$5.69	\$6.16	\$6.02	\$6.03	\$6.09	\$6.12	\$6.16	\$6.19	\$6.31	\$6.32	\$6.35	\$6.39	\$6.42	\$6.46	\$6.50
MINING	7.67	8.48	8.27	8.54	8.45	8.49	8.52	8.48	8.57	8.57	8.70	8.73	8.85	8.92	9.01
CONSTRUCTION	8.65	9.26	8.97	9.02	9.14	9.13	9.24	9.32	9.51	9.49	9.50	9.57	9.47	9.62	9.64
MANUFACTURING	6.17	6.69	6.56	6.54	6.63	6.66	6.71	6.69	6.80	6.82	6.86	6.97	6.96	6.99	7.05
Durable goods	6.58	7.12	6.99	6.95	7.07	7.11	7.15	7.12	7.24	7.25	7.29	7.41	7.39	7.45	7.53
Lumber and wood products	5.60	6.08	5.84	5.90	5.97	6.16	6.23	6.23	6.32	6.24	6.23	6.25	6.22	6.33	6.36
Furniture and fixtures	4.68	5.06	4.95	4.94	4.97	5.05	5.04	5.10	5.18	5.20	5.23	5.27	5.27	5.33	5.37
Stone, clay, and glass products	6.32	6.84	6.64	6.73	6.78	6.85	6.89	6.90	6.98	7.00	7.07	7.10	7.05	7.13	7.26
Primary metal industries	8.20	8.97	8.75	8.92	8.83	8.91	9.04	9.10	9.16	9.10	9.26	9.28	9.30	9.43	9.51
Fabricated metal products	6.34	6.82	6.72	6.62	6.77	6.81	6.80	6.83	6.93	6.96	6.99	7.12	7.06	7.12	7.19
Machinery, except electrical	6.77	7.33	7.19	7.10	7.25	7.34	7.35	7.35	7.48	7.45	7.51	7.65	7.67	7.71	7.77
Electric and electronic equipment	5.82	6.31	6.16	6.11	6.21	6.25	6.27	6.36	6.46	6.48	6.51	6.64	6.67	6.71	6.75
Transportation equipment	7.91	8.53	8.42	8.26	8.56	8.53	8.55	8.44	8.59	8.67	8.68	8.90	8.78	8.85	9.02
Instruments and related products	5.71	6.17	6.04	6.03	6.11	6.11	6.16	6.14	6.21	6.32	6.39	6.49	6.57	6.58	6.64
Miscellaneous manufacturing	4.69	5.04	4.95	4.96	5.00	4.99	5.03	5.04	5.07	5.12	5.15	5.22	5.31	5.33	5.37
Nondurable goods	5.53	6.00	5.85	5.90	5.91	5.94	6.03	6.04	6.11	6.14	6.21	6.26	6.28	6.27	6.30
Food and kindred products	5.80	6.27	6.12	6.19	6.22	6.22	6.28	6.28	6.33	6.36	6.51	6.56	6.62	6.64	6.66
Tobacco manufactures	6.13	6.69	6.64	6.80	6.83	6.82	6.83	6.59	6.54	6.43	7.01	7.04	7.13	7.32	7.56
Textile mill products	4.30	4.66	4.52	4.48	4.52	4.54	4.65	4.77	4.82	4.83	4.86	4.87	4.90	4.90	4.91
Apparel and other textile products	3.94	4.24	4.19	4.19	4.20	4.21	4.23	4.21	4.28	4.32	4.32	4.39	4.45	4.46	4.51
Paper and allied products	6.52	7.12	6.88	6.92	6.96	7.05	7.17	7.22	7.32	7.34	7.42	7.48	7.48	7.50	7.53
Printing and publishing	6.50	6.91	6.77	6.72	6.83	6.88	6.90	6.94	7.04	7.06	7.09	7.17	7.20	7.26	7.30
Chemicals and allied products	7.01	7.59	7.36	7.50	7.47	7.53	7.60	7.65	7.73	7.82	7.87	7.91	7.96	7.99	8.05
Petroleum and coal products	8.63	9.37	9.31	9.44	9.39	9.32	9.39	9.35	9.51	9.49	9.57	9.49	9.48	9.21	9.11
Rubber and miscellaneous plastics products	5.52	5.96	5.86	5.82	5.90	5.91	5.95	5.94	6.03	6.12	6.14	6.21	6.25	6.26	6.31
Leather and leather products	3.89	4.23	4.17	4.18	4.18	4.19	4.19	4.22	4.29	4.31	4.34	4.36	4.46	4.48	4.51
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.18	7.90	7.88	7.94	8.03	8.23	8.32	8.45	8.45	8.52	8.55	8.56	8.60	8.62
WHOLESALE AND RETAIL TRADE	4.67	5.06	4.98	5.00	5.00	5.02	5.05	5.06	5.13	5.15	5.18	5.18	5.34	5.36	5.38
WHOLESALE TRADE	5.88	6.39	6.23	6.30	6.29	6.34	6.39	6.41	6.51	6.51	6.57	6.68	6.72	6.74	6.80
RETAIL TRADE	4.20	4.53	4.47	4.49	4.49	4.50	4.51	4.52	4.58	4.59	4.62	4.61	4.78	4.78	4.80
FINANCE, INSURANCE, AND REAL ESTATE	4.90	5.28	5.16	5.23	5.22	5.22	5.29	5.29	5.38	5.37	5.42	5.49	5.55	5.60	5.68
SERVICES	4.99	5.36	5.26	5.29	5.27	5.27	5.29	5.30	5.45	5.48	5.54	5.60	5.65	5.69	5.72

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

[Seasonally adjusted data: 1967 = 100]

Industry	1979											1980			Feb. 1980 to Mar. 1980	Mar. 1979 to Mar. 1980
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ^P	Mar. ^P			
TOTAL PRIVATE (in current dollars) ..	225.2	226.8	227.5	229.0	230.9	232.2	234.3	234.9	237.3	239.5	240.5	242.5	245.0	1.0	8.8	
Mining	256.1	264.1	262.7	264.9	266.9	265.6	266.1	268.0	271.6	273.2	274.0	276.2	279.9	1.3	9.3	
Construction	216.5	218.1	220.4	220.4	222.1	223.1	224.4	224.0	225.8	227.6	225.1	230.0	231.2	5	6.8	
Manufacturing	228.7	231.0	232.3	233.9	235.4	236.9	238.7	240.0	242.1	244.3	245.3	248.0	250.2	9	9.4	
Transportation and public utilities	243.1	241.7	243.7	246.4	251.3	252.6	255.6	255.8	258.9	260.7	261.2	263.0	265.7	1.0	9.3	
Wholesale and retail trade	219.4	220.9	221.0	222.6	223.8	225.4	227.0	227.4	229.5	231.3	234.7	235.4	237.6	9	8.3	
Finance, insurance, and real estate	204.8	207.5	207.0	208.0	210.8	211.5	214.4	213.1	216.2	218.5	218.6	220.7	225.8	2.3	10.3	
Services	223.3	225.0	224.3	225.7	227.0	228.4	231.5	232.3	234.7	237.7	238.0	239.7	242.1	1.0	8.4	
TOTAL PRIVATE (in constant dollars) ..	107.3	107.0	106.3	105.8	105.6	105.1	104.9	104.1	104.1	103.8	102.8	102.2	(¹)	(¹)	(¹)	

¹ Not available.

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

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

Industry division and group	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ^P	Mar. ^P
TOTAL PRIVATE	\$203.70	\$219.91	\$214.91	\$211.65	\$216.20	\$219.71	\$221.76	\$222.84	\$225.90	\$225.62	\$226.06	\$229.40	\$225.34	\$226.75	\$228.80
MINING	332.11	364.64	354.78	363.80	361.66	367.62	355.28	365.49	372.80	374.51	380.19	383.25	384.09	383.56	391.03
CONSTRUCTION	318.32	341.69	331.89	320.21	340.01	346.03	348.35	354.16	360.43	356.82	346.75	355.05	332.40	342.47	342.22
MANUFACTURING	249.27	268.94	266.34	254.41	265.86	269.06	267.73	267.60	274.04	274.85	277.14	285.07	277.01	277.50	280.59
Durable goods	270.44	290.50	289.39	273.14	288.46	291.51	288.86	287.65	295.39	295.80	297.43	308.26	297.82	299.49	303.46
Lumber and wood products	222.88	240.16	231.85	230.69	236.41	247.63	245.46	248.58	253.43	248.35	241.72	245.00	236.98	242.44	242.32
Furniture and fixtures	183.92	195.32	193.05	185.25	189.85	195.94	191.52	196.86	202.02	204.36	205.02	210.27	202.37	203.61	205.13
Stone, clay, and glass products	262.91	283.86	277.55	276.60	284.08	288.39	285.94	287.73	291.07	291.90	294.82	296.78	282.71	285.20	293.30
Primary metal industries	342.76	371.36	366.63	371.96	365.56	370.66	373.35	371.28	378.31	372.19	376.88	379.55	378.51	381.92	386.11
Fabricated metal products	259.94	278.26	277.54	256.86	275.54	279.21	274.04	276.62	282.74	285.36	286.59	298.33	286.64	287.65	291.91
Machinery except electrical	284.34	306.39	306.29	286.13	302.33	308.28	302.82	303.56	313.41	309.92	314.67	327.42	318.31	319.97	322.46
Electric and electronic equipment	234.55	254.29	250.71	237.07	249.64	253.13	248.29	252.49	261.63	261.14	266.26	274.23	268.13	269.07	271.35
Transportation equipment	333.80	351.44	356.17	313.05	356.10	352.29	349.70	341.82	349.61	358.07	354.14	379.14	352.08	353.12	360.80
Instruments and related products	233.54	251.74	249.45	241.20	249.29	248.68	248.25	247.44	252.75	257.86	264.55	269.98	269.37	268.46	270.91
Miscellaneous manufacturing	181.97	196.06	194.04	186.50	192.50	194.61	194.66	196.06	199.25	201.22	203.94	207.23	207.62	206.27	208.36
Nondurable goods	217.88	235.80	229.91	225.38	231.08	234.04	236.38	237.98	241.96	241.92	245.92	249.77	244.92	243.90	245.07
Food and kindred products	230.26	250.17	242.35	241.41	246.31	247.56	251.83	253.08	257.00	254.40	261.70	264.37	261.49	259.62	259.74
Tobacco manufactures	233.55	254.22	252.98	255.68	265.69	265.98	246.56	247.78	255.71	249.48	273.39	278.08	266.66	270.84	285.01
Textile mill products	173.72	187.80	182.61	172.93	181.25	184.32	185.54	192.23	196.66	197.06	200.72	202.11	200.41	199.92	199.84
Apparel and other textile products	140.26	149.25	148.33	142.04	147.42	149.88	149.74	149.88	151.51	153.36	153.79	157.60	156.64	157.88	159.65
Paper and allied products	279.71	303.31	293.09	287.87	295.10	302.74	304.73	307.57	312.56	312.68	318.32	325.38	318.65	317.25	319.27
Printing and publishing	244.40	259.13	255.23	247.30	254.76	257.31	258.06	263.03	266.82	264.75	268.71	273.18	267.84	268.62	272.29
Chemicals and allied products	293.72	317.26	308.38	314.25	312.25	314.75	316.92	319.77	323.11	326.09	331.33	333.80	331.93	332.38	336.49
Petroleum and coal products	376.27	410.41	407.78	414.42	410.34	404.49	414.10	407.66	425.10	418.51	428.74	411.87	342.23	364.72	353.47
Rubber and miscellaneous plastics products	225.77	241.38	242.60	229.31	238.95	240.54	239.19	237.60	244.22	247.86	247.44	252.75	251.88	249.77	253.03
Leather and leather products	144.32	154.40	149.70	147.55	152.15	155.45	154.61	154.45	157.87	157.32	159.71	162.63	163.68	165.31	163.71
TRANSPORTATION AND PUBLIC UTILITIES	302.80	326.38	314.42	307.32	314.42	321.20	329.20	335.30	337.16	337.16	342.50	342.00	338.12	341.42	343.08
WHOLESALE AND RETAIL TRADE	153.64	164.96	161.35	162.50	162.00	165.16	168.17	167.99	167.75	167.38	167.83	170.42	170.35	170.98	172.16
WHOLESALE TRADE	228.14	247.93	242.35	243.18	244.68	247.26	249.21	249.35	252.59	253.24	255.57	261.19	258.72	258.82	261.80
RETAIL TRADE	130.20	139.07	135.44	137.39	136.50	139.50	142.07	141.93	140.61	139.54	140.45	142.91	142.44	142.44	144.00
FINANCE, INSURANCE, AND REAL ESTATE	178.36	191.66	187.31	190.37	188.44	188.96	192.56	191.50	195.29	194.93	197.29	199.84	201.47	203.28	206.75
SERVICES	163.67	175.27	171.48	171.93	171.28	173.38	176.16	175.96	178.22	178.65	180.60	183.68	183.63	184.93	186.47

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

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

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	\$80.67	\$90.95	\$65.59	\$73.95	\$72.96	\$82.25	\$89.72	\$101.15	\$72.57	\$81.82	\$80.11	\$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.91	101.02	178.00	81.76	194.82	89.49	268.94	123.54	212.43	97.58	232.07	106.60
1979: March	214.91	102.68	174.35	83.30	190.93	91.22	266.34	127.25	210.65	100.65	230.10	109.94
April	211.65	99.93	171.98	81.20	188.39	88.95	254.41	120.12	202.32	95.52	221.05	104.37
May	216.20	100.89	175.29	81.80	191.93	89.56	265.86	124.06	210.04	98.14	229.74	107.20
June	219.71	101.30	177.85	82.00	194.67	89.75	269.06	124.05	212.51	97.98	232.17	107.04
July	221.76	101.08	179.35	81.75	196.26	89.45	267.73	122.03	211.61	96.45	231.16	105.36
August	222.84	100.60	180.13	81.32	197.11	88.99	267.60	120.81	211.52	95.49	231.06	104.32
September	225.90	100.98	182.36	81.52	199.42	89.15	274.04	122.50	215.89	96.51	235.94	105.47
October	225.62	100.01	182.16	80.74	199.21	88.30	274.85	121.83	216.44	95.94	236.56	104.86
November	226.06	99.32	182.48	80.18	199.54	87.67	277.14	121.77	217.99	95.78	238.30	104.70
December	229.40	99.74	184.84	80.37	202.08	87.86	285.07	123.94	223.38	97.12	244.31	106.22
1980: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February ^P	226.75	95.88	182.98	77.37	200.07	84.60	277.50	117.34	218.24	92.28	238.57	100.88
March ^P	228.80	(¹)	184.42	(¹)	201.62	(¹)	280.59	(¹)	220.34	(¹)	240.91	(¹)

¹Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers.

These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," *Employment and Earnings and Monthly Report on the Labor Force*, February 1969, pp. 6-13. See also "Spendable Earnings Formulas, 1978-80," *Employment and Earnings*, March 1980, pp. 10-11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

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

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

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

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

21. Unemployment Insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979												1980	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
All programs:														
Insured unemployment	3,209	2,921	2,610	2,230	2,119	2,429	2,377	2,164	2,236	2,559	3,047	3,740	3,730	
State unemployment insurance program: ¹														
Initial claims ²	1,576	1,396	1,589	1,309	1,400	1,978	1,545	1,219	1,641	1,827	2,263	2,835	.....
Insured unemployment (average weekly volume)	3,053	2,750	2,440	2,078	1,991	2,300	2,245	2,024	2,057	2,384	2,864	3,537	3,518	
Rate of insured unemployment	4.0	3.6	3.1	2.6	2.5	2.8	2.7	2.4	2.4	2.8	3.4	4.1	4.1	
Weeks of unemployment compensated	10,762	11,105	8,956	8,442	7,197	7,889	8,830	6,993	7,638	8,107	9,171	13,766	.....
Average weekly benefit amount for total unemployment	\$90.31	\$90.28	\$89.25	\$88.37	\$87.25	\$86.40	\$88.56	\$89.07	\$90.59	\$92.39	\$94.54	\$95.42	.....
Total benefits paid	\$915,146	\$975,641	\$777,699	\$725,229	\$610,269	\$665,687	\$767,025	\$606,095	\$673,965	\$728,370	\$843,869	\$1,281,495	.....
Unemployment compensation for ex-servicemen: ³														
Initial claims ¹	21	21	20	20	24	28	28	23	26	24	24	25	.....
Insured unemployment (average weekly volume)	53	52	48	45	45	51	52	52	52	54	56	60	58	
Weeks of unemployment compensated	219	241	207	214	193	216	234	211	236	232	233	299	.....
Total benefits paid	\$20,489	\$22,794	\$19,617	\$20,440	\$18,623	\$20,965	\$23,861	\$19,634	\$23,325	\$23,093	\$23,093	\$29,615	.....
Unemployment compensation for Federal civilian employees: ⁴														
Initial claims	13	12	12	12	13	16	13	13	18	15	15	19	.....
Insured unemployment (average weekly volume)	35	33	27	24	23	2.5	25	25	28	29	31	34	32	
Weeks of unemployment compensated	133	143	112	106	91	96	107	91	109	118	118	150	.....
Total benefits paid	\$12,256	\$13,168	\$10,345	\$9,330	\$8,341	\$8,802	\$9,829	\$8,453	\$10,093	\$11,063	\$11,047	\$14,099	.....
Railroad unemployment insurance:														
Applications	6	5	3	3	9	15	8	13	11	10	11	22	7	
Insured unemployment (average weekly volume)	24	23	18	10	8	11	12	21	18	20	19	40	39	
Number of payments	50	23	40	29	19	20	26	32	51	36	41	80	71	
Average amount of benefit payment	\$200.54	\$204.72	\$195.55	\$177.39	\$183.13	\$190.10	\$195.61	\$189.08	\$189.61	\$183.38	\$197.22	\$199.01	\$208.73	
Total benefits paid	\$9,871	\$10,538	\$7,276	\$5,681	\$3,314	\$3,699	\$3,767	\$5,747	\$8,003	\$6,462	\$8,085	\$14,967	\$14,573	
Employment service: ⁵														
New applications and renewals	.....	8,059	9,180	10,452	11,907	13,186	14,479	15,525	.....	.....	.....	.....	.....
Nonfarm placements	.....	1,991	2,291	2,616	3,051	3,482	3,935	4,349	.....	.....	.....	.....	.....

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

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

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

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

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

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

PRICE DATA

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

Definitions

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

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

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

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

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

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

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

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

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

Notes on the data

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

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

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

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

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

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967-79

[1967 = 100]

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

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
All items	207.1	223.4	225.4	227.5	229.9	233.2	236.4	207.1	223.7	225.6	227.6	230.0	233.3	236.5
Food and beverages	222.4	231.0	232.1	233.1	235.5	237.5	238.6	222.6	231.2	232.3	233.1	235.7	237.8	239.0
Housing	215.6	234.6	237.7	240.8	243.6	247.3	250.5	215.4	234.5	237.7	240.7	243.6	247.3	250.5
Apparel and upkeep	161.4	169.8	171.0	171.7	172.2	171.0	171.9	161.6	169.3	170.8	171.3	171.4	169.8	171.5
Transportation	195.6	221.4	222.7	224.9	227.7	233.5	239.6	196.1	222.4	223.4	225.7	228.3	234.1	240.2
Medical care	232.6	243.7	245.9	248.0	250.7	253.9	257.9	232.1	244.7	247.2	249.1	251.7	254.9	258.7
Entertainment	183.2	191.1	192.0	192.8	193.4	195.3	197.8	182.4	190.2	191.4	192.0	192.3	193.9	196.2
Other goods and services	191.9	201.7	202.3	202.9	204.0	206.3	208.1	191.9	200.6	201.4	202.0	203.0	206.0	207.7
Commodities	198.3	214.1	215.6	217.4	219.4	222.4	225.2	198.5	214.4	215.8	217.4	219.4	222.3	225.3
Commodities less food and beverages	184.8	203.3	204.9	206.9	208.8	212.0	215.5	184.7	203.5	205.0	206.9	208.7	212.0	215.7
Nondurables less food and beverages	184.2	213.2	214.9	216.6	219.0	224.6	231.8	184.7	214.8	216.6	218.1	220.5	226.3	234.1
Durables	183.6	194.5	196.0	198.4	199.8	201.3	202.1	183.2	193.5	194.8	196.9	198.2	199.6	200.3
Services	223.3	240.7	243.6	246.2	249.3	253.1	256.8	223.2	241.0	244.0	246.7	249.6	253.6	257.3
Rent, residential	171.0	179.0	181.4	182.1	182.9	184.1	185.6	170.9	178.9	181.2	181.9	182.7	183.9	185.5
Household services less rent	251.0	276.7	280.7	284.6	289.2	295.1	300.2	251.4	278.2	282.3	286.3	291.1	297.2	302.4
Transportation services	205.5	216.6	218.5	221.5	224.2	226.8	229.6	206.1	216.8	218.6	221.5	224.0	226.6	229.3
Medical care services	250.4	262.8	265.3	267.6	270.7	274.4	279.0	249.6	263.8	266.8	268.8	271.8	275.6	279.8
Other services	193.6	204.7	205.7	206.5	207.1	209.0	211.1	193.9	204.9	206.4	207.3	207.4	209.3	211.4
Special indexes:														
All items less food	201.8	219.6	221.8	224.1	226.4	229.9	233.5	201.6	219.8	222.0	224.2	226.4	230.0	233.7
All items less mortgage interest costs	202.3	216.7	218.3	219.8	221.7	224.3	227.1	202.5	217.2	218.7	220.1	222.0	224.7	227.6
Commodities less food	183.7	201.8	203.4	205.4	207.2	210.4	213.8	183.6	202.0	203.5	205.4	207.1	210.3	214.0
Nondurables less food	182.2	209.6	211.3	212.9	215.2	220.5	227.3	182.7	211.0	212.9	214.4	216.7	222.1	229.4
Nondurables less food and apparel	196.2	232.7	234.8	236.8	240.1	248.6	258.2	196.5	234.2	236.3	238.2	241.5	250.2	260.1
Nondurables	204.0	223.1	224.5	225.8	228.2	232.0	236.3	204.5	223.9	225.3	226.5	229.0	232.9	237.4
Services less rent	232.9	252.1	255.1	258.2	261.6	266.1	270.2	232.9	252.6	255.7	258.8	262.1	266.7	270.8
Services less medical care	219.0	236.7	239.6	242.3	245.3	249.2	252.7	219.0	236.9	239.9	242.6	245.5	249.5	253.1
Domestically produced farm foods	218.5	223.7	224.1	224.5	227.5	229.2	229.1	218.6	223.6	224.0	224.4	227.5	229.0	229.2
Selected beef cuts	244.8	255.3	257.3	256.5	263.2	265.7	267.2	246.9	258.0	259.1	259.2	265.2	268.1	270.3
Energy	235.0	304.3	307.5	307.8	313.7	327.9	344.6	235.3	307.0	310.2	310.7	317.0	331.5	348.7
All items less energy	205.2	217.3	219.2	221.4	223.6	225.9	228.0	205.3	217.0	218.8	221.0	223.0	225.3	227.3
All items less food and energy	198.8	211.5	213.6	216.1	218.1	220.6	222.8	198.5	211.0	213.0	215.4	217.3	219.6	221.8
Commodities less food and energy	178.7	188.2	189.6	191.4	192.6	193.7	194.9	178.5	187.5	188.7	190.4	191.4	192.4	193.5
Energy commodities	231.1	325.3	329.0	332.5	340.0	361.5	385.0	231.5	326.5	330.2	333.8	341.5	362.8	386.4
Services less energy	222.0	238.4	241.3	244.6	247.6	251.6	255.2	221.9	238.7	241.7	245.1	248.0	252.2	257.7
Purchasing power of the consumer dollar, 1967 = \$1	\$0.483	\$0.448	\$0.444	\$0.440	\$0.435	\$0.429	\$0.423	\$0.483	\$0.447	\$0.443	\$0.439	\$0.435	\$0.429	\$0.423

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

[1967=100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
FOOD AND BEVERAGES	222.4	231.0	232.1	233.1	235.5	237.5	238.6	222.6	231.2	232.3	233.1	235.7	237.8	239.0
Food	228.2	237.1	238.2	239.1	241.7	243.8	244.9	228.5	237.3	238.3	239.1	241.8	244.0	245.2
Food at home	228.0	234.7	235.4	236.0	238.7	240.6	241.3	227.9	234.2	234.8	235.4	238.3	240.1	241.1
Cereals and bakery products	212.2	225.6	227.0	228.7	231.6	234.2	236.8	212.9	226.6	227.9	229.7	232.3	234.7	237.4
Cereals and cereal products (12/77 = 100)	113.2	120.0	120.8	121.1	122.9	125.0	125.8	113.6	120.6	121.4	122.1	123.8	126.1	127.2
Flour and prepared flour mixes (12/77 = 100)	114.0	123.4	124.0	122.8	123.8	125.7	125.7	115.1	125.0	124.6	125.1	126.9	126.9	127.3
Cereal (12/77 = 100)	113.3	118.8	119.2	119.7	122.8	123.7	124.9	113.6	118.7	119.3	119.9	122.9	124.2	125.5
Rice, pasta, and cornmeal (12/77 = 100)	112.4	118.6	120.4	121.6	122.2	126.4	127.4	112.2	119.1	120.8	122.7	123.9	127.9	129.2
Bakery products (12/77 = 100)	112.0	119.2	119.9	121.0	122.4	123.5	125.1	112.4	119.7	120.3	121.3	122.7	123.6	125.1
White bread	185.8	200.7	202.5	204.5	207.4	208.6	210.7	185.7	200.5	202.3	203.9	206.6	207.4	209.7
Other breads (12/77 = 100)	111.9	119.6	120.5	121.3	123.3	123.8	124.6	113.5	122.5	123.8	124.2	126.0	126.9	127.5
Fresh biscuits, rolls, and muffins (12/77 = 100)	112.9	119.0	119.4	121.2	123.1	124.8	126.2	112.9	118.6	118.7	120.8	122.3	123.1	124.3
Fresh cakes and cupcakes (12/77 = 100)	109.8	116.7	117.6	119.4	120.3	121.7	122.8	110.6	116.8	118.1	119.1	120.1	120.8	122.2
Cookies (12/77 = 100)	112.4	115.9	116.6	117.1	117.8	119.7	122.8	113.5	117.8	118.3	118.4	119.6	121.5	124.0
Crackers and bread and cracker products (12/77 = 100)	111.3	114.8	115.0	114.5	116.2	117.5	119.9	110.6	114.9	115.0	116.1	116.3	118.4	121.0
Fresh sweetrolls, coffee cake, and donuts (12/77 = 100)	110.4	118.8	118.9	119.9	121.5	122.2	123.8	112.4	121.6	120.7	121.9	123.4	124.1	125.4
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	112.6	121.7	122.5	123.7	124.8	125.7	127.2	111.0	118.6	118.8	120.8	121.4	122.5	123.8
Meats, poultry, fish, and eggs	232.3	231.0	230.3	230.2	235.5	238.0	236.2	232.2	230.5	229.7	230.0	235.1	237.5	236.4
Meats, poultry, and fish	236.6	236.0	235.9	235.2	239.8	243.0	242.6	236.4	235.4	235.0	235.0	239.2	242.5	242.8
Meats	238.6	238.1	238.6	237.4	242.3	244.1	244.1	238.3	237.7	238.1	237.3	241.8	243.7	244.3
Beef and veal	243.4	254.2	256.2	255.5	262.2	264.6	266.2	245.3	256.4	255.5	257.7	263.7	266.7	268.9
Ground beef other than canned	255.5	261.4	263.4	264.2	271.2	271.4	273.3	255.9	265.5	265.8	266.0	273.0	272.7	276.2
Chuck roast	259.1	261.0	263.3	263.1	268.1	274.7	277.7	267.9	267.9	268.3	273.1	274.2	286.6	288.7
Round roast	220.9	229.2	230.3	229.1	238.1	241.9	244.5	222.7	231.0	233.0	232.7	240.5	245.1	245.8
Round steak	224.8	239.2	242.2	241.9	247.5	249.8	252.3	224.3	235.7	239.4	239.7	246.2	249.4	250.5
Sirloin steak	226.1	251.0	250.4	247.0	250.8	250.9	251.1	226.0	253.9	249.6	247.4	253.5	253.5	253.0
Other beef and veal (12/77 = 100)	137.3	145.6	147.1	146.3	150.2	151.8	152.2	138.0	146.6	147.0	146.6	149.9	151.9	152.8
Pork	232.3	206.5	204.3	201.0	205.0	206.4	202.8	231.9	206.1	204.7	201.5	205.6	206.8	204.1
Bacon	227.2	194.0	190.5	186.3	193.6	194.5	190.1	229.1	195.6	194.4	188.7	195.8	195.3	193.8
Pork chops	224.6	198.1	195.1	188.8	187.8	192.1	189.7	226.7	196.1	194.9	188.1	189.1	194.8	191.0
Ham other than canned (12/77 = 100)	106.8	95.2	94.8	95.9	102.5	99.1	95.7	105.6	94.3	94.0	95.4	100.9	96.5	95.2
Sausage	282.2	258.4	257.6	254.5	256.5	256.6	255.1	278.9	258.4	258.1	255.8	258.3	260.3	257.0
Canned ham	236.6	216.6	218.2	214.8	218.9	220.8	219.5	235.7	215.3	215.8	214.6	219.1	219.3	218.9
Other pork (12/77 = 100)	131.2	117.4	115.2	112.9	112.6	116.2	114.3	130.4	117.5	115.1	112.7	112.7	116.2	114.6
Other meats	229.6	240.2	240.7	242.0	243.0	243.2	244.7	226.4	236.6	238.0	238.5	239.5	239.3	240.9
Frankfurters	226.8	235.9	236.8	238.9	239.3	239.0	242.7	224.7	236.1	237.7	238.2	238.7	239.5	242.1
Bologna, liverwurst, and salami (12/77 = 100)	126.3	133.2	134.2	133.4	134.4	134.1	135.6	123.8	129.5	130.7	130.4	130.8	130.5	132.3
Other luncheon meats (12/77 = 100)	119.4	121.6	120.3	121.6	121.5	121.2	120.7	117.0	119.0	118.8	119.5	119.4	118.7	118.6
Lamb and organ meats (12/77 = 100)	124.3	135.6	137.7	138.3	140.0	141.6	142.4	124.8	136.9	138.8	139.8	141.7	142.5	143.4
Poultry	185.8	174.8	170.3	171.6	176.2	187.8	182.6	184.3	172.8	168.3	170.1	173.9	184.3	181.1
Fresh whole chicken	185.3	169.9	159.7	166.7	175.2	191.1	183.6	181.9	165.8	157.7	163.3	169.8	183.8	178.9
Fresh and frozen chicken parts (12/77 = 100)	118.6	111.8	110.1	110.8	112.3	120.7	116.8	119.0	110.9	108.4	110.7	111.8	118.7	117.0
Other poultry (12/77 = 100)	122.5	119.2	120.3	115.9	116.9	119.3	118.8	121.9	119.8	119.8	116.0	117.4	120.1	119.4
Fish and seafood	293.0	309.7	311.5	312.2	312.6	316.7	320.4	290.8	304.4	306.5	307.5	309.1	315.4	317.9
Canned fish and seafood (12/77 = 100)	107.9	113.9	115.2	116.8	117.1	118.5	120.3	107.3	113.5	114.5	116.0	116.5	118.4	119.7
Fresh and frozen fish and seafood (12/77 = 100)	113.8	120.4	120.7	120.1	120.2	121.9	123.0	112.9	117.5	118.1	117.8	118.5	121.2	122.0
Eggs	182.1	170.7	161.3	170.1	185.9	178.2	157.2	182.4	170.5	160.3	169.6	186.6	177.0	156.7
Dairy Products	200.6	211.3	213.3	216.0	216.9	218.4	219.5	201.1	212.0	214.0	216.3	217.4	218.9	219.8
Fresh milk and cream (12/77 = 100)	113.5	119.0	120.3	121.9	122.7	123.2	123.7	113.7	119.5	120.4	121.8	122.6	123.2	123.6
Fresh whole milk	186.0	195.4	197.6	200.4	201.2	202.3	203.2	186.3	195.6	197.4	199.7	200.9	201.8	202.7
Other fresh milk and cream (12/77 = 100)	113.2	118.1	119.2	120.6	122.0	122.1	122.7	113.3	119.3	119.8	121.1	122.2	122.8	123.0
Processed dairy products (12/77 = 100)	113.2	120.1	120.9	122.3	122.5	123.8	124.5	113.6	120.5	121.7	123.0	123.3	124.5	125.1
Butter	193.3	209.9	213.3	214.4	214.0	216.9	218.3	194.6	212.3	216.6	217.1	216.6	219.8	220.9
Cheese (12/77 = 100)	113.9	120.1	121.0	122.7	122.6	123.5	124.2	113.8	120.2	121.1	122.5	122.7	123.6	124.4
Ice cream and related products (12/77 = 100)	112.7	120.1	120.4	121.4	122.6	124.0	124.6	113.7	120.7	121.9	123.4	124.3	125.6	125.6
Other dairy products (12/77 = 100)	110.2	115.5	116.4	117.8	117.9	119.8	120.9	110.6	115.6	116.9	118.2	118.3	120.4	121.3
Fruits and vegetables	226.5	231.8	232.0	229.5	230.2	229.8	228.3	225.4	229.6	230.2	226.7	228.3	227.2	225.9
Fresh fruits and vegetables	232.7	234.7	235.5	230.1	230.1	227.2	223.1	231.9	232.9	233.6	226.7	228.5	224.9	220.6
Fresh fruits	217.5	271.6	260.4	242.7	234.9	233.6	235.8	215.2	271.2	260.6	238.3	233.3	232.7	234.7
Apples	212.9	244.7	212.7	207.2	221.8	230.4	239.6	209.4	243.1	212.9	207.7	220.2	230.1	237.6
Bananas	188.4	210.3	206.6	209.0	225.2	221.9	238.5	188.1	208.4	199.7	206.5	222.0	219.5	234.6
Oranges	254.3	312.3	306.7	293.9	256.7	236.2	231.1	245.1	291.8	290.3	283.3	249.5	231.3	228.4
Other fresh fruits (12/77 = 100)	109.6	147.1	143.9	127.5	121.1	122.5	121.4	109.9	152.3	149.7	125.7	121.6	122.7	121.3
Fresh vegetables	246.9	200.3	212.2	218.4	225.7	221.2	211.2	247.0	198.4	209.4	216.4	224.2	217.9	207.9
Potatoes	194.8	199.3	191.1	195.7	207.0	203.8	203.3	197.8	193.4	183.8	191.7	199.6	200.9	198.8
Lettuce	341.2	219.6	262.9	244.2	227.5	197.6	198.7	341.6	222.9	264.2	239.0	231.3	193.2	191.7
Tomatoes	195.0	178.5	194.4	225.3	227.9	216.7	184.9	199.0	179.2	194.1	225.4	224.8	213.2	184.3
Other fresh vegetables (12/77 = 100)														

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
FOOD AND BEVERAGES—Continued														
Food—Continued														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77=100)	111.0	114.7	113.6	113.4	114.4	114.5	115.2	110.2	112.6	111.9	111.8	113.0	112.7	113.4
Other canned and dried vegetables (12/77=100)	105.3	110.1	109.9	110.0	110.9	112.9	113.9	104.3	108.7	108.5	108.1	109.1	110.4	111.9
Other foods at home	261.9	276.0	278.0	279.6	281.1	283.5	288.0	261.5	274.7	276.5	278.3	279.9	282.6	287.3
Sugar and sweets	270.2	282.0	283.1	283.2	284.6	289.8	297.5	270.2	281.2	282.2	281.9	284.1	289.6	297.1
Candy and chewing gum (12/77=100)	113.5	119.7	119.9	120.1	120.1	121.3	122.4	113.8	119.3	119.6	119.8	119.9	121.2	122.2
Sugar and artificial sweeteners (12/77=100)	114.3	115.9	119.0	116.2	117.2	122.2	131.5	114.5	116.4	116.9	116.2	117.6	122.7	131.6
Other sweets (12/77=100)	109.4	115.3	115.9	116.4	117.5	118.7	119.5	108.2	114.0	114.8	114.6	116.6	117.5	118.5
Fats and oils (12/77=100)	219.2	231.5	231.9	232.3	233.0	233.9	235.9	219.8	230.7	231.9	232.8	233.7	234.9	236.5
Margarine	235.2	245.5	244.4	246.2	247.7	248.3	247.9	235.2	242.8	244.9	246.7	247.8	248.8	247.9
Nondairy substitutes and peanut butter (12/77=100)	109.1	114.6	115.1	115.1	115.7	115.3	116.4	109.1	114.5	114.6	115.0	115.8	116.1	117.2
Other fats, oils, and salad dressings (12/77=100)	113.2	120.6	121.1	121.0	121.1	121.9	123.6	113.8	120.4	120.1	121.3	121.5	122.3	123.8
Nonalcoholic beverages	347.8	367.7	372.1	374.3	375.4	378.5	384.5	347.0	365.0	368.2	370.7	372.3	375.6	383.0
Cola drinks, excluding diet cola	233.6	242.7	246.4	247.5	247.2	249.5	255.9	230.7	240.1	242.0	243.6	243.4	246.5	253.6
Carbonated drinks, including diet cola (12/77=100)	113.3	117.9	118.5	118.4	118.7	119.9	122.3	111.9	115.7	116.1	115.6	116.4	116.4	120.2
Roasted coffee	357.5	425.9	432.4	438.1	440.7	443.2	439.6	357.4	418.2	424.4	430.8	435.3	440.1	436.8
Freeze dried and instant coffee	335.0	359.9	366.5	370.2	374.3	378.2	382.2	335.3	358.9	365.3	369.3	372.9	376.8	380.4
Other noncarbonated drinks (12/77=100)	112.1	114.0	114.8	115.7	116.3	116.8	118.3	111.5	112.7	113.5	114.8	115.5	116.2	117.5
Other prepared foods	201.8	212.6	213.4	215.3	217.4	218.8	221.8	201.9	212.4	213.4	215.7	217.2	219.1	221.7
Canned and packaged soup (12/77=100)	108.8	113.1	113.4	114.3	115.9	116.5	118.1	108.9	113.3	113.3	114.8	116.3	116.8	117.9
Frozen prepared foods (12/77=100)	113.2	123.1	123.1	124.5	125.6	126.0	126.6	112.9	121.1	122.0	122.9	123.9	125.1	125.5
Snacks (12/77=100)	110.9	118.4	119.6	120.4	121.3	121.8	123.4	111.9	119.0	120.6	121.7	122.2	122.8	124.7
Seasonings, olives, pickles, and relish (12/77=100)	113.6	117.4	118.8	118.9	120.1	121.4	123.6	113.0	116.3	117.6	118.2	119.0	121.1	123.1
Other condiments (12/77=100)	110.4	115.9	115.8	116.8	119.5	120.8	123.7	110.8	117.5	117.0	118.5	120.2	121.4	124.6
Miscellaneous prepared foods (12/77=100)	112.2	116.8	117.2	119.0	118.9	119.6	120.7	112.0	116.3	116.7	118.6	118.7	119.7	120.5
Other canned and packaged prepared foods (12/77=100)	112.4	116.7	116.7	117.7	118.6	119.4	121.2	111.7	116.7	116.9	118.0	118.6	119.5	120.3
Food away from home	233.4	247.6	249.6	251.3	253.4	256.1	258.3	234.3	249.3	251.3	252.7	255.1	258.0	260.1
Lunch (12/77=100)	113.9	120.7	121.3	122.3	123.3	124.6	125.9	114.2	121.7	122.2	123.2	124.0	125.7	126.7
Dinner (12/77=100)	113.1	120.3	121.6	122.4	123.4	124.8	125.8	113.2	120.9	122.4	123.0	124.2	125.6	126.8
Other meals and snacks (12/77=100)	112.3	118.6	119.5	120.2	121.4	122.5	123.2	113.3	119.9	120.5	120.9	122.5	123.7	124.4
Alcoholic beverages	167.7	174.2	176.0	177.4	178.0	179.3	180.4	167.7	174.9	176.9	178.0	178.7	179.7	181.1
Alcoholic beverages at home (12/77=100)	108.9	113.3	114.6	115.6	116.0	116.8	117.4	109.6	114.3	115.7	116.5	117.0	117.6	118.3
Beer and ale	163.6	172.3	175.1	176.9	177.8	179.0	179.9	164.0	171.8	175.2	176.9	177.6	178.8	179.9
Whiskey	124.5	129.0	129.4	130.7	130.8	131.6	132.6	125.9	130.4	131.0	131.9	132.0	132.9	133.8
Wine	188.7	195.2	198.0	198.1	199.1	201.6	202.5	190.9	202.7	203.0	201.5	204.0	203.8	206.1
Other alcoholic beverages (12/77=100)	104.5	105.5	105.9	107.0	106.9	107.1	107.3	103.6	105.3	105.9	106.2	106.4	106.4	106.7
Alcoholic beverages away from home (12/77=100)	111.6	115.1	115.9	116.4	116.8	118.0	119.2	108.8	113.4	114.2	114.9	115.2	115.9	117.6
HOUSING														
Shelter	225.9	247.4	251.5	255.9	259.4	264.0	267.2	226.2	248.2	252.4	256.9	260.4	265.1	268.3
Rent, residential	171.0	179.0	181.4	182.1	182.9	184.1	185.6	170.9	178.9	181.2	181.9	182.7	183.9	185.5
Other rental costs	224.8	239.3	241.6	243.1	244.9	251.1	255.7	224.7	238.6	241.3	242.6	244.4	251.1	255.6
Lodging while out of town	235.1	251.8	254.2	256.2	258.4	267.0	272.8	234.3	249.9	253.0	254.6	256.9	266.1	271.6
Tenants' insurance (12/77=100)	106.3	113.7	114.1	114.6	115.1	116.2	117.8	106.6	114.1	114.7	115.0	115.5	116.8	118.5
Homeownership	245.6	271.9	276.7	282.4	286.9	292.5	296.3	246.2	273.3	278.3	284.1	288.7	294.6	298.4
Home purchase	210.9	229.8	233.4	237.3	239.9	242.1	243.0	210.8	230.0	233.6	237.7	240.2	242.3	243.0
Financing, taxes, and insurance	283.5	323.0	330.5	340.1	348.3	359.8	367.7	285.0	325.6	333.5	343.5	351.6	363.4	371.6
Property insurance	297.4	316.7	319.9	320.8	323.1	327.7	333.7	297.6	318.5	321.9	322.6	324.5	328.8	335.2
Property taxes	180.8	184.7	185.1	185.1	186.0	186.7	188.2	186.1	186.5	186.6	187.4	188.2	189.9	
Contracted mortgage interest cost	338.1	396.7	408.1	423.1	435.3	452.8	464.0	338.1	397.1	408.8	424.2	436.1	453.7	465.0
Mortgage interest rates	157.6	169.7	172.0	175.4	178.3	183.7	187.5	157.7	169.7	172.0	175.6	178.4	183.8	187.8
Maintenance and repairs	245.9	262.5	264.7	266.4	268.3	270.6	273.7	245.7	263.4	265.3	266.5	268.9	271.9	274.4
Maintenance and repair services	265.7	284.4	287.0	288.8	290.4	293.2	297.1	265.8	287.2	289.4	290.3	292.8	295.9	299.3
Maintenance and repair commodities	199.9	211.5	212.5	214.0	216.6	217.6	218.9	200.4	210.8	211.9	213.6	215.8	218.4	219.5
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	110.3	117.0	117.4	118.8	121.6	122.5	123.5	111.3	116.1	116.6	118.1	120.3	122.2	122.3
Lumber, awnings, glass, and masonry (12/77=100)	108.9	115.2	116.0	115.5	115.4	115.9	115.8	109.5	115.7	116.2	117.2	118.1	118.6	119.3
Plumbing, electrical, heating, and cooling supplies (12/77=100)	105.7	111.9	112.8	113.4	114.7	114.7	115.3	106.0	112.6	113.8	114.0	114.5	117.0	117.9
Miscellaneous supplies and equipment (12/77=100)	107.9	112.9	113.3	113.8	114.3	114.4	116.4	106.1	111.2	111.9	112.2	112.3	113.2	114.5
Fuel and other utilities	223.3	251.2	252.9	252.0	255.1	258.6	263.8	223.5	251.7	253.4	252.4	255.7	259.2	264.4
Fuels	259.3	306.6	310.3	307.0	311.8	318.0	327.1	259.3	306.6	310.1	306.9	311.8	318.1	327.0
Fuel oil, coal, and bottled gas	326.1	461.6	470.8	477.4	488.0	514.0	539.1	326.4	462.5	471.7	478.2	489.0	515.1	540.3
Fuel oil	330.4	482.5	491.2	497.2	507.3	534.4	561.9	330.7	483.3	491.9	497.7	508.1	534.9	562.5
Other fuels (6/78=100)	99.5	114.4	118.5	121.7	126.0	132.7	136.6	99.6	114.6	118.8	122.2	126.6	133.7	137.9
Gas (piped) and electricity	241.2	270.1	272.5	267.3	270.8	273.0	278.8	241.0	269.9	272.2	267.1	270.7	273.0	278.5
Electricity	205.7	230.6	228.7	221.5	224.7	226.6	233.8	205.9	231.1	228.8	221.5	224.9	226.8	233.9
Utility (piped) gas	284.1	317.5	329.1	328.9	332.6	335.1	336.8	283.0	315.8	327.4	327.8	331.1	333.8	335.4

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers					Urban Wage Earners and Clerical Workers (revised)								
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	159.0	159.8	158.8	161.0	161.9	161.5	161.3	159.1	159.8	158.9	160.9	161.8	161.5	161.4
Telephone services	132.2	132.4	131.2	133.3	134.3	133.4	132.8	132.3	132.4	131.3	133.3	134.2	133.4	132.8
Local charges (12/77 = 100)	100.5	100.4	98.7	101.8	103.2	102.6	102.7	100.6	100.5	98.8	101.8	103.2	102.6	102.7
Interstate toll calls (12/77 = 100)	98.4	98.4	98.4	98.4	98.4	97.7	97.4	98.5	98.4	98.4	98.4	98.4	97.7	97.5
Intrastate toll calls (12/77 = 100)	100.7	101.4	101.7	101.5	101.5	100.8	98.8	100.6	101.3	101.5	101.3	101.3	100.6	98.7
Water and sewerage maintenance	240.6	245.3	245.6	247.1	247.2	250.0	252.3	241.1	245.5	245.8	247.2	247.3	250.5	253.0
Household furnishings and operations	186.0	192.2	193.3	195.1	195.8	196.9	199.0	184.8	190.6	191.7	193.2	193.9	194.9	196.8
Housefurnishings	160.0	164.1	165.2	166.6	166.9	167.6	169.3	159.4	163.5	164.4	165.5	165.9	166.5	167.9
Textile housefurnishings	169.2	175.3	177.8	178.9	178.6	176.7	182.9	170.4	174.9	177.2	178.4	177.3	175.3	181.2
Household linens (12/77 = 100)	103.1	106.7	107.7	108.8	108.3	105.4	110.1	103.4	106.3	107.4	108.3	107.2	106.0	109.8
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	108.0	112.0	114.2	114.4	114.6	115.1	118.2	109.5	112.2	114.1	114.5	114.4	113.2	116.6
Furniture and bedding	172.1	178.3	180.0	182.2	182.8	184.0	185.2	171.5	178.5	180.3	182.1	182.7	183.6	184.3
Bedroom furniture (12/77 = 100)	108.8	114.8	116.4	117.7	118.3	119.1	120.5	107.8	113.0	114.8	115.9	116.0	116.8	117.5
Sofas (12/77 = 100)	103.8	107.1	107.3	107.9	108.2	108.2	108.5	103.8	108.6	109.6	111.7	111.6	110.6	110.3
Living room chairs and tables (12/77 = 100)	102.9	105.1	106.2	107.7	108.1	108.9	110.0	103.8	106.7	107.5	108.6	109.2	109.4	111.2
Other furniture (12/77 = 100)	110.5	113.9	115.0	116.8	117.1	118.1	118.3	109.7	114.2	114.7	115.3	115.9	117.8	117.5
Appliances including TV and sound equipment	134.5	136.2	136.9	137.5	137.5	137.8	138.3	134.0	135.7	135.7	136.2	136.9	137.2	137.8
Television and sound equipment (12/77 = 100)	103.7	104.7	104.9	105.0	105.3	105.3	105.4	103.0	104.4	104.1	104.4	104.8	104.9	104.9
Television	102.9	102.9	103.4	103.6	103.6	103.7	103.7	101.6	101.9	102.0	102.4	102.2	102.2	102.3
Sound equipment (12/77 = 100)	105.5	107.5	107.4	107.4	107.8	107.8	108.1	105.2	107.4	106.9	107.1	108.0	108.2	108.2
Household appliances	153.4	155.8	156.9	158.2	157.9	158.5	159.4	153.1	155.2	155.6	156.2	157.1	157.7	158.8
Refrigerators and home freezer	151.3	154.1	155.3	156.0	156.7	156.7	156.5	154.3	156.5	157.9	158.1	159.0	159.4	159.7
Laundry equipment (12/77 = 100)	107.7	110.9	112.1	113.1	113.6	114.1	115.0	107.1	111.2	111.3	112.2	112.8	113.8	114.7
Other household appliances (12/77 = 100)	108.3	109.1	109.8	110.8	109.9	110.5	111.3	107.1	107.2	107.2	107.6	108.2	108.6	109.5
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	109.1	108.6	109.0	109.7	108.6	110.0	110.8	108.2	107.7	106.9	107.1	108.1	109.2	110.5
Office machines, small electric appliances, and air conditioners (12/77 = 100)	107.5	109.7	110.7	112.1	111.4	111.1	112.0	105.8	106.8	107.6	108.2	108.3	107.8	108.4
Other household equipment (12/77 = 100)	107.9	110.9	111.2	112.4	113.0	114.6	115.9	107.3	110.3	110.8	111.6	111.8	113.3	114.4
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	107.3	111.1	109.8	111.1	111.7	113.1	114.5	103.1	105.8	105.5	107.7	107.4	108.9	109.4
Clocks, lamps, and decor items (12/77 = 100)	104.1	108.0	108.6	110.0	110.1	111.6	112.7	104.9	107.0	107.1	108.2	107.3	109.4	109.8
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	111.8	114.7	115.4	116.8	117.2	119.9	121.4	109.9	114.5	114.7	115.2	115.2	117.3	118.9
Lawn equipment, power tools, and other hardware (12/77 = 100)	105.8	107.6	108.5	109.0	110.3	110.6	111.7	107.9	109.5	111.0	111.1	112.5	113.0	114.2
Housekeeping supplies	216.9	224.1	224.8	228.3	229.2	231.1	235.0	216.3	222.6	223.9	226.7	227.2	228.8	232.8
Soaps and detergents	210.0	215.1	217.9	220.6	221.2	224.1	228.9	208.4	214.5	216.3	218.2	219.7	222.2	226.5
Other laundry and cleaning products (12/77 = 100)	108.1	112.3	113.7	114.1	114.7	116.1	117.2	108.1	112.4	113.5	113.7	114.5	115.6	117.1
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	114.1	116.4	117.2	119.2	120.5	120.6	121.2	114.1	117.1	117.9	119.6	120.9	121.8	123.4
Stationery, stationery supplies, and gift wrap (12/77 = 100)	106.1	109.9	109.5	111.3	111.9	111.6	112.7	105.4	108.3	108.6	109.2	109.3	109.0	112.3
Miscellaneous household products (12/77 = 100)	109.7	113.3	114.3	115.6	116.9	117.7	119.4	108.2	111.6	112.7	114.1	114.7	115.0	116.6
Lawn and garden supplies (12/77 = 100)	107.3	112.7	110.0	113.8	112.5	114.4	119.4	108.2	109.9	108.8	113.2	109.9	111.3	113.3
Housekeeping services	241.4	253.4	254.6	256.6	258.1	260.0	261.6	240.5	252.1	253.9	255.9	257.5	259.2	261.1
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.2	257.2	257.2
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	110.7	118.1	118.8	120.4	121.2	122.9	124.2	111.6	118.6	119.7	121.2	122.3	123.3	124.6
Appliance and furniture repair (12/77 = 100)	107.0	111.7	112.3	112.9	113.4	114.0	114.7	106.2	111.1	112.1	112.9	113.4	114.4	115.5
APPAREL AND UPKEEP	161.4	169.8	171.0	171.7	172.2	171.0	171.9	161.6	169.3	170.8	171.3	171.4	169.8	171.5
Apparel commodities	156.3	164.2	165.2	165.9	166.1	164.3	165.1	156.7	163.9	165.3	165.7	165.7	163.6	165.2
Apparel commodities less footwear	154.1	161.5	162.3	162.9	163.0	161.1	161.8	154.7	161.2	162.4	162.7	162.6	160.2	161.9
Men's and boys'	156.7	162.7	164.2	165.4	165.4	162.8	162.7	157.6	163.2	164.4	165.3	165.0	162.4	162.9
Men's (12/77 = 100)	99.2	102.7	103.5	104.3	104.3	102.6	102.3	100.2	103.2	103.8	104.5	104.2	102.3	102.4
Suits, sport coats, and jackets (12/77 = 100)	96.3	100.0	101.6	101.2	100.9	98.8	98.2	95.5	98.3	99.1	98.7	96.8	94.9	94.4
Coats and jackets (12/77 = 100)	94.0	96.5	97.8	98.1	98.0	95.5	93.6	97.8	99.1	99.5	99.7	99.1	95.6	92.2
Furnishings and special clothing (12/77 = 100)	105.3	110.6	109.9	112.4	112.3	112.2	112.7	104.1	108.6	109.1	110.0	109.9	109.3	111.1
Shirts (12/77 = 100)	102.2	107.2	108.5	109.7	110.5	108.6	109.3	102.6	107.1	108.3	109.4	111.5	108.3	109.4
Dungarees, jeans, and trousers (12/77 = 100)	98.0	99.0	99.5	100.5	100.4	98.2	97.7	100.4	102.5	102.8	104.0	103.4	102.2	102.2
Boys' (12/77 = 100)	99.7	104.8	106.3	106.6	106.6	105.6	106.3	99.0	103.9	105.3	105.6	105.8	104.7	105.9
Coats, jackets, sweaters, and shirts (12/77 = 100)	92.5	102.7	103.9	103.2	102.4	99.3	99.9	91.3	102.0	103.8	103.4	103.1	99.8	101.9
Furnishings (12/77 = 100)	105.2	109.4	110.8	111.5	111.9	111.5	110.9	105.2	108.8	110.1	109.7	110.2	109.7	109.5
Suits, trousers, sport coats, and jackets (12/77 = 100)	103.2	104.5	106.5	107.4	107.8	108.2	109.5	102.7	103.5	104.7	105.8	106.2	106.6	107.7
Women's and girls'	147.7	155.9	155.5	155.1	154.6	151.5	151.1	147.7	154.4	154.8	154.5	153.5	149.9	151.3
Women's (12/77 = 100)	99.0	103.9	103.4	103.0	102.8	100.8	100.8	99.4	103.0	103.3	103.0	102.3	100.1	101.4
Coats and jackets	161.0	174.1	173.9	173.3	170.0	166.4	163.1	163.5	175.7	174.1	172.4	167.9	165.0	162.4
Dresses	160.5	171.1	167.2	164.3	165.3	161.3	160.6	158.6	158.5	159.1	156.8	155.7	150.0	151.2
Separates and sportswear (12/77 = 100)	98.1	99.8	99.6	99.2	98.6	96.1	97.1	96.7	100.4	100.4	100.7	99.5	97.1	99.2
Underwear, nightwear, and hosiery (12/77 = 100)	103.6	106.2	106.6	108.1	108.2	108.6	110.2	104.1	107.4	107.9	108.9	109.3	109.1	110.6
Suits (12/77 = 100)	86.6	96.7	97.1	95.2	95.8	91.0	88.2	91.5	98.1	99.9	97.5	98.1	94.0	96.8
Girls' (12/77 = 100)	94.6	102.4	103.6	103.9	102.8	100.5	98.9	93.4	101.1	101.5	101.7	101.4	97.9	97.3
Coats, jackets, dresses, and suits (12/77 = 100)	92.8	102.8	102.8	102.2	100.3	97.5	95.7	90.9	98.5	97.9	97.7	97.1	91.9	92.6
Separates and sportswear (12/77 = 100)	92.0	100.3	102.5	103.6	102.6	99.9	98.2	91.8	102.1	103.5	104.3	102.9	99.8	98.1
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	102.2	105.7	106.7	107.2	107.3	106.7	105.6	100.5	103.5	103.9	104.2	104.4	104.4	103.5

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers					Urban Wage Earners and Clerical Workers (revised)								
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
APPAREL AND UPKEEP — Continued														
Apparel commodities — Continued														
Apparel commodities less footwear — Continued														
Infants' and toddlers'	213.7	223.4	224.8	226.3	227.1	224.9	226.6	214.6	226.0	228.7	228.7	230.5	229.1	232.7
Other apparel commodities	164.8	172.6	175.5	177.8	180.9	184.4	191.4	167.5	174.9	178.7	179.8	182.9	185.5	191.8
Sewing materials and notions (12/77 = 100)	100.6	102.3	102.2	100.8	102.4	103.2	106.3	100.2	100.4	100.8	99.7	100.8	101.2	105.7
Jewelry and luggage (12/77 = 100)	109.2	115.6	118.3	121.0	123.1	126.1	131.2	112.0	118.9	122.3	123.8	126.2	128.4	132.3
Footwear	168.9	180.1	182.6	183.8	184.3	183.7	184.6	167.8	179.4	181.9	183.2	183.8	183.3	183.9
Men's (12/77 = 100)	106.8	115.0	116.7	117.7	117.3	117.8	118.3	106.7	116.3	118.0	119.1	119.4	119.3	119.4
Boys' and girls' (12/77 = 100)	106.6	111.6	113.0	114.0	115.8	117.3	117.9	105.8	111.6	113.0	114.5	114.7	116.9	118.0
Womens' (12/77 = 100)	104.5	112.0	113.5	113.9	113.8	111.6	112.1	103.4	109.6	111.1	111.2	111.8	109.4	109.5
Apparel services	197.3	210.2	212.5	214.2	216.6	220.7	222.9	196.8	208.7	210.8	212.0	213.4	216.9	219.8
Laundry and drycleaning other than coin operated (12/77 = 100)	114.6	123.6	125.2	126.3	127.1	129.3	130.6	114.2	123.2	124.7	125.7	126.6	129.0	130.6
Other apparel services (12/77 = 100)	108.6	113.0	114.0	114.7	117.0	119.6	120.7	108.9	112.3	112.9	113.3	113.7	115.1	116.9
TRANSPORTATION	195.6	221.4	222.7	224.9	227.7	233.5	239.6	196.1	222.4	223.4	225.7	228.3	234.1	240.2
Private	195.5	222.0	223.1	225.0	227.5	233.5	239.8	195.9	222.7	223.7	225.7	228.2	234.1	240.4
New cars	162.3	166.1	167.5	170.6	171.7	173.9	175.3	162.0	165.9	167.4	170.9	171.7	174.1	175.4
Used cars	193.4	202.9	199.9	198.4	198.2	197.2	195.3	193.4	202.9	199.9	198.4	198.3	197.2	195.3
Gasoline	213.0	301.0	303.8	306.9	313.9	334.6	357.6	213.4	302.3	305.2	308.3	315.6	335.9	359.0
Automobile maintenance and repair	233.9	247.1	249.1	250.8	252.6	255.1	258.2	234.3	247.5	249.4	251.1	253.4	256.2	259.2
Body work (12/77 = 100)	112.0	119.4	120.6	121.6	123.3	125.0	126.5	112.9	119.2	120.4	121.7	123.1	124.3	126.1
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	112.1	118.1	119.4	120.1	120.6	121.8	123.2	112.9	119.0	120.2	120.8	121.8	123.6	124.8
Maintenance and servicing (12/77 = 100)	110.8	116.9	117.5	118.4	119.2	120.2	121.3	110.1	116.8	117.3	118.2	119.3	120.4	121.3
Power plant repair (12/77 = 100)	110.5	116.7	117.8	118.5	119.2	120.4	122.5	111.0	117.0	118.0	118.6	119.6	120.9	123.1
Other private transportation	192.5	201.7	203.7	205.5	207.5	209.8	212.6	193.1	202.3	204.0	206.3	208.4	210.6	213.6
Other private transportation commodities	167.9	177.7	182.0	183.4	185.6	188.4	191.2	170.2	178.7	181.6	183.9	186.4	188.0	191.7
Motor oil, coolant, and other products (12/77 = 100)	106.2	114.4	115.9	117.4	118.1	120.9	123.9	106.8	114.5	115.9	118.1	119.3	122.4	124.0
Automobile parts and equipment (12/77 = 100)	108.9	114.9	117.9	118.7	120.3	121.9	123.5	110.5	115.7	117.6	119.0	120.6	121.4	123.9
Tires	150.0	156.4	160.7	161.5	163.8	165.8	168.5	152.1	158.1	161.1	163.0	165.7	166.3	170.6
Other parts and equipment (12/77 = 100)	109.6	119.1	121.8	123.0	124.4	126.6	127.3	111.4	118.6	120.0	121.5	122.4	124.0	126.5
Other private transportation services	200.9	210.1	211.4	213.4	215.3	217.6	220.4	201.1	210.6	211.9	214.3	216.3	218.7	221.5
Automobile insurance	222.2	233.5	233.8	233.9	235.3	237.1	240.2	222.2	233.5	233.7	233.9	235.2	236.8	239.7
Automobile finance charges (12/77 = 100)	112.1	117.7	120.4	124.6	127.2	129.9	132.1	111.3	117.0	119.4	124.1	125.5	129.4	131.3
Automobile rental, registration, and other fees (12/77 = 100)	105.1	107.8	107.9	108.3	108.5	109.1	109.8	105.5	108.4	108.6	108.9	109.2	109.8	110.9
State registration	143.9	144.0	144.0	144.1	144.1	144.2	145.2	143.7	143.9	143.9	144.0	144.0	144.1	145.3
Drivers' license (12/77 = 100)	104.5	104.5	104.5	104.5	104.5	104.7	104.8	104.3	104.3	104.2	104.2	104.2	104.5	104.5
Vehicle inspection (12/77 = 100)	112.0	114.6	114.6	115.6	117.5	119.0	112.8	115.5	115.5	116.5	116.5	118.3	118.3	119.7
Other vehicle related fees (12/77 = 100)	109.8	116.1	116.4	117.1	117.6	118.8	119.6	112.3	120.3	120.8	121.3	122.2	123.8	125.4
Public	190.7	205.2	209.1	216.5	223.0	226.8	229.5	191.4	204.1	207.3	214.0	219.1	221.9	223.9
Airline fare	191.3	214.1	220.6	232.1	245.5	251.1	255.4	190.8	214.2	220.7	232.4	245.8	251.0	255.2
Inter-city bus fare	246.4	268.0	276.0	279.8	282.2	284.7	288.5	246.5	268.0	275.5	279.9	282.3	284.8	288.2
Intracity mass transit	186.4	190.5	191.3	195.6	196.4	198.5	199.7	186.2	190.2	191.0	195.1	195.7	196.7	197.6
Taxi fare	208.9	228.5	233.6	237.0	238.5	243.1	244.0	213.2	233.9	238.7	242.4	243.9	248.9	249.3
Inter-city train fare	192.8	221.0	221.1	231.0	236.3	237.2	237.2	192.7	221.3	221.4	232.1	236.6	237.1	237.0
MEDICAL CARE	232.6	243.7	245.9	248.0	250.7	253.9	257.9	232.1	244.7	247.2	249.1	251.7	254.9	258.7
Medical care commodities	150.1	155.8	156.6	157.8	159.2	160.5	162.1	150.7	156.7	157.4	158.5	159.9	161.0	162.7
Prescription drugs	138.4	143.5	144.5	145.5	146.4	147.9	149.8	139.1	144.4	145.2	146.2	147.4	148.8	150.7
Anti-infective drugs (12/77 = 100)	109.1	113.1	113.5	113.9	114.6	115.8	117.2	110.5	114.1	114.8	115.5	116.8	118.2	119.8
Tranquillizers and sedatives (12/77 = 100)	112.2	114.9	115.8	117.1	118.4	119.9	121.3	112.1	115.0	115.6	116.9	118.3	119.7	121.0
Circulatories and diuretics (12/77 = 100)	106.1	109.3	109.7	111.0	111.4	112.4	113.4	106.9	110.0	110.6	111.6	112.3	113.0	114.2
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	114.9	120.9	122.5	123.2	123.8	126.0	128.7	114.7	120.8	122.2	122.6	123.1	124.8	127.8
Pain and symptom control drugs (12/77 = 100)	110.0	114.8	115.6	116.8	117.8	118.8	119.7	110.3	116.0	116.3	117.5	118.2	119.0	120.1
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	107.4	110.9	111.3	111.9	112.1	112.6	113.7	108.4	112.2	112.6	112.8	113.7	114.2	115.2
Nonprescription drugs and medical supplies (12/77 = 100)	107.8	112.0	112.5	113.4	114.6	115.3	116.3	108.3	112.8	113.2	114.0	115.1	115.6	116.6
Eyeglasses (12/77 = 100)	105.1	109.2	110.2	110.9	110.9	111.5	112.9	105.5	109.3	110.0	110.4	110.5	111.4	112.6
Internal and respiratory over-the-counter drugs	166.2	173.0	173.7	175.4	177.9	179.1	180.4	167.3	174.7	175.2	176.6	178.5	179.0	180.8
Nonprescription medical equipment and supplies (12/77 = 100)	107.2	110.8	111.0	111.8	113.1	113.8	114.6	107.4	111.2	111.8	112.7	114.2	115.0	115.6
Medical care services	250.4	262.8	265.3	267.6	270.7	274.4	279.0	249.6	263.8	266.8	268.8	271.8	275.6	279.8
Professional services	220.7	230.3	231.6	233.0	235.9	238.9	242.9	220.9	233.1	234.9	235.9	238.3	241.7	245.5
Physicians' services	236.3	248.4	249.7	250.8	252.5	256.0	260.2	236.2	251.5	254.4	255.5	256.5	260.3	264.1
Dental services	209.4	217.2	218.5	220.7	224.5	227.4	231.5	210.9	220.7	221.2	222.7	226.1	229.5	233.4
Other professional services (12/77 = 100)	108.8	112.4	112.7	112.8	115.1	116.6	118.1	107.6	111.7	112.1	112.2	114.8	115.9	117.4
Other medical care services	286.4	302.0	306.2	309.5	312.8	317.4	322.7	284.5	301.3	305.9	309.3	313.0	317.3	322.1
Hospital and other medical services (12/77 = 100)	114.0	119.6	121.3	122.6	123.8	125.6	127.8	113.3	118.9	120.5	121.8	123.2	124.9	126.8
Hospital room	359.3	376.4	380.2	385.1	389.4	395.3	403.4	356.8	374.1	379.4	383.6	388.7	393.9	398.8
Other hospital and medical care services	113.0	118.8	120.8	122.0	122.9	124.7	126.5	112.3	118.0	119.5	120.8	122.1	123.8	125.9

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1979					1980	1979					1980		
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
ENTERTAINMENT	183.2	191.1	192.0	192.8	193.4	195.3	197.8	182.4	190.2	191.4	192.0	192.3	193.9	196.2
Entertainment commodities	184.0	192.0	193.1	194.0	195.2	197.6	200.4	182.6	189.9	190.7	191.3	192.4	194.2	196.9
Reading materials (12/77 = 100)	107.1	111.9	113.8	114.5	115.1	116.7	117.4	106.8	111.4	113.3	114.2	114.8	116.2	117.0
Newspapers	208.3	214.5	217.7	222.4	223.5	226.8	227.7	208.0	214.2	217.4	222.2	223.3	226.4	227.3
Magazines, periodicals, and books (12/77 = 100)	108.5	115.0	117.2	116.0	116.8	118.1	119.2	108.3	114.8	117.2	115.8	116.6	117.8	118.9
Sporting goods and equipment (12/77 = 100)	105.8	111.3	111.2	111.7	112.2	113.8	115.9	103.9	107.5	106.7	106.9	107.7	108.6	110.8
Sport vehicles (12/77 = 100)	106.2	111.5	111.5	112.9	112.9	112.9	117.4	103.9	104.6	104.6	105.8	105.8	109.1	109.1
Indoor and warm weather sport equipment (12/77 = 100)	104.0	106.1	107.5	107.8	107.5	107.6	108.3	102.2	104.7	106.0	106.1	106.3	106.4	107.8
Bicycles	155.6	165.6	167.1	167.1	167.1	170.5	174.5	154.9	164.7	166.9	167.4	167.0	170.5	174.9
Other sporting goods and equipment (12/77 = 100)	104.4	109.3	110.0	110.3	111.0	111.8	112.4	103.8	108.5	109.8	110.2	111.3	111.9	112.6
Toys, hobbies and other entertainment (12/77 = 100)	106.4	110.4	110.8	111.2	112.1	113.2	115.1	106.0	110.4	111.0	111.2	111.8	112.6	114.3
Toys, hobbies and music equipment (12/77 = 100)	107.2	110.4	110.7	110.5	111.2	112.1	114.1	105.7	109.6	110.1	109.8	109.9	110.9	112.3
Photographic supplies and equipment (12/77 = 100)	105.7	108.9	109.4	109.9	109.7	110.8	114.1	105.6	108.8	109.3	109.6	110.1	111.2	114.2
Pet supplies and expense (12/77 = 100)	105.4	111.6	112.1	113.5	115.5	116.8	117.6	106.9	112.9	113.9	114.6	116.1	116.7	117.9
Entertainment services	182.4	190.2	190.8	191.5	191.1	192.5	194.5	183.1	191.8	193.5	194.3	193.0	194.4	196.0
Fees for participant sports (12/77 = 100)	107.3	113.0	113.2	113.8	113.8	114.6	116.0	107.3	113.4	114.9	115.2	115.0	115.6	116.3
Admissions (12/77 = 100)	111.4	115.2	115.7	116.1	116.6	117.9	118.3	111.5	116.3	116.8	117.3	117.8	119.4	119.7
Other entertainment services (12/77 = 100)	105.8	109.4	110.0	110.0	108.6	109.1	111.4	106.3	110.9	111.4	112.0	109.0	109.3	111.8
OTHER GOODS AND SERVICES	191.9	201.7	202.3	202.9	204.0	206.3	208.1	191.9	200.6	201.4	202.0	203.0	206.0	207.7
Tobacco products	185.2	190.9	191.3	191.5	192.1	196.7	198.1	185.4	190.9	191.2	191.4	192.1	197.1	198.3
Cigarettes	187.9	193.6	193.8	194.0	194.7	199.7	200.9	188.2	193.7	193.9	194.1	194.8	200.3	201.3
Other tobacco products and smoking accessories (12/77 = 100)	107.9	112.2	113.0	112.8	113.2	113.9	115.6	107.4	111.0	112.3	112.4	112.7	113.4	114.8
Personal care	190.4	199.0	199.8	200.9	203.0	204.2	206.5	190.4	198.4	199.4	200.5	202.3	204.4	206.6
Toilet goods and personal care appliances	184.2	191.4	192.5	193.1	195.8	196.4	198.6	184.7	191.0	191.6	192.4	194.5	196.2	198.3
Products for the hair, hairpieces and wigs (12/77 = 100)	107.2	111.6	111.9	112.2	113.0	114.2	116.1	105.7	110.6	111.1	111.4	112.4	114.0	114.9
Dental and shaving products (12/77 = 100)	109.0	114.3	114.1	115.6	117.3	117.8	118.6	108.6	112.5	112.7	113.9	114.7	115.3	116.8
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	105.7	110.4	110.7	111.4	113.0	112.9	114.2	106.5	110.6	110.1	110.2	112.1	112.9	114.0
Other toilet goods and small personal care appliances (12/77 = 100)	106.7	108.6	110.9	109.9	112.1	112.1	112.9	108.9	110.3	111.7	112.3	113.1	114.0	115.6
Personal care services	196.4	206.4	207.0	208.5	210.0	211.6	214.2	196.3	205.8	207.3	208.6	210.2	212.7	215.0
Beauty parlor services for women	198.3	207.7	208.3	210.3	212.1	213.3	216.1	198.9	207.4	209.1	210.2	212.0	214.2	216.6
Haircuts and other barber shop services for men (12/77 = 100)	109.2	115.5	115.9	116.1	116.8	118.1	119.3	108.4	114.7	115.4	116.3	117.1	118.8	120.0
Personal and educational expenses	207.8	223.3	224.0	224.2	224.6	226.3	228.0	208.2	223.5	224.2	224.4	224.8	226.2	227.8
School books and supplies	191.2	201.5	202.3	202.3	202.5	206.0	206.5	193.7	205.0	205.8	205.9	206.0	209.8	210.4
Personal and educational services	212.1	228.6	229.4	229.6	229.9	231.4	233.3	212.1	228.4	229.0	229.3	229.7	230.6	232.5
Tuition and other school fees	108.5	117.7	118.1	118.1	118.1	118.3	118.5	108.4	117.9	118.2	118.2	118.2	118.4	118.6
College tuition (12/77 = 100)	108.7	116.9	117.3	117.3	117.3	117.6	117.8	108.7	116.8	117.3	117.3	117.3	117.6	117.8
Elementary and high school tuition (12/77 = 100)	107.5	120.9	120.9	120.9	120.9	120.9	120.9	107.4	120.7	120.7	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	109.9	115.1	115.8	116.3	117.3	120.1	124.4	110.0	114.4	114.9	115.5	116.3	117.7	121.4
Special indexes:														
Gasoline, motor oil, coolant and other products	211.3	297.1	299.8	302.9	309.7	329.9	352.5	211.7	298.3	301.2	304.3	311.4	331.3	353.8
Insurance and finance	254.0	283.5	288.9	296.0	302.1	310.5	316.7	253.9	283.1	228.5	295.8	301.6	310.0	316.2
Utilities and public transportation	203.8	219.3	220.7	220.5	223.5	225.0	227.9	204.1	219.5	220.7	220.3	223.0	224.4	227.2
Housekeeping and home maintenance services	260.6	276.6	278.7	280.6	282.2	284.7	287.6	260.2	277.8	279.9	281.3	283.4	286.0	288.7

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)		
	1979		1980	1979		1980	1979		1980	1979		1980
	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.
Northeast												
EXPENDITURE CATEGORY												
All items	117.3	119.0	122.1	120.2	122.2	125.6	123.0	125.7	129.1	119.2	121.8	124.2
Food and beverages	119.2	120.6	122.1	119.6	121.9	124.3	121.9	123.2	126.0	119.4	121.2	123.4
Housing	117.9	119.8	122.9	121.3	123.7	126.7	127.7	132.1	135.5	119.9	123.2	124.8
Apparel and upkeep	107.7	108.9	109.5	109.2	109.0	107.1	107.8	108.5	107.3	108.3	109.8	106.8
Transportation	121.1	123.7	129.9	125.0	127.6	135.0	124.9	127.0	133.1	124.5	127.3	133.5
Medical care	115.4	117.3	120.6	118.5	120.0	121.6	117.0	118.9	121.3	116.3	119.0	121.4
Entertainment	111.4	111.5	114.4	113.6	113.5	115.7	110.0	109.8	112.2	114.1	115.1	118.9
Other goods and services	111.7	112.7	114.4	114.1	114.3	116.5	115.6	116.3	119.2	112.5	113.1	114.8
COMMODITY AND SERVICE GROUP												
Commodities	118.6	120.5	124.1	121.8	123.7	127.5	122.8	125.1	128.5	120.0	122.5	125.6
Commodities less food and beverages	118.3	120.4	123.3	122.8	124.6	129.1	123.2	126.0	129.7	120.4	123.2	126.6
Services	115.6	117.2	119.5	117.8	119.9	122.5	123.3	126.6	129.9	117.9	120.7	122.2
North Central												
EXPENDITURE CATEGORY												
All items	123.2	126.3	129.6	122.3	124.6	127.2	121.9	123.7	126.4	122.0	123.0	125.8
Food and beverages	121.2	123.2	124.9	119.2	120.2	122.6	121.6	123.4	124.8	122.8	124.8	126.9
Housing	128.7	133.1	136.7	125.7	128.3	131.5	124.5	125.9	127.6	124.0	123.6	125.9
Apparel and upkeep	105.3	105.6	105.2	109.9	110.9	107.1	107.4	109.0	109.0	110.0	111.9	110.4
Transportation	125.0	127.9	133.5	125.2	127.5	133.4	126.0	129.1	135.8	124.3	127.3	132.6
Medical care	115.9	119.6	123.2	118.6	119.3	122.2	117.5	119.7	124.5	119.1	121.8	126.8
Entertainment	112.6	113.9	116.9	110.7	111.0	111.5	112.7	114.4	116.2	112.7	113.8	115.9
Other goods and services	112.5	113.6	115.4	117.8	117.7	119.4	112.3	114.0	115.5	115.7	116.1	119.1
COMMODITY AND SERVICE GROUP												
Commodities	122.5	125.4	128.1	120.8	122.5	124.5	121.7	123.5	125.9	121.1	122.5	124.3
Commodities less food and beverages	123.0	126.4	129.6	121.5	123.5	125.2	121.7	123.6	126.4	120.4	121.6	123.1
Services	124.3	127.7	131.8	124.7	128.0	131.6	122.2	124.1	127.1	123.3	123.8	128.2
South												
EXPENDITURE CATEGORY												
All items	120.7	123.1	127.1	122.4	124.6	128.0	122.1	124.3	127.9	120.6	122.5	125.9
Food and beverages	122.2	123.5	125.0	121.3	122.9	124.4	122.1	123.9	126.0	121.0	122.5	124.0
Housing	122.0	125.0	129.1	125.8	128.4	131.9	125.9	128.4	131.8	121.6	123.9	127.7
Apparel and upkeep	111.2	112.3	112.5	110.8	110.3	109.6	106.4	105.7	105.5	103.9	104.8	100.9
Transportation	124.2	127.6	135.7	124.5	127.8	134.7	123.2	126.4	133.7	124.4	126.3	133.1
Medical care	116.0	117.7	119.7	116.9	118.3	121.6	117.6	120.7	124.8	122.5	124.9	129.0
Entertainment	109.4	109.5	114.5	113.2	113.9	115.4	113.6	113.8	115.9	117.1	119.4	121.6
Other goods and services	114.4	115.8	118.5	114.0	115.1	117.7	114.2	115.5	117.5	117.3	118.3	121.5
COMMODITY AND SERVICE GROUP												
Commodities	120.5	122.6	126.7	121.2	123.1	125.9	120.7	122.7	126.4	120.2	121.9	124.7
Commodities less food and beverages	119.8	122.2	127.5	121.2	123.2	126.6	120.1	122.2	126.5	119.9	121.6	125.0
Services	121.0	123.8	127.7	124.3	126.8	131.1	124.2	126.7	130.2	121.1	123.5	127.7
West												
EXPENDITURE CATEGORY												
All items	120.8	124.8	129.6	123.6	126.6	130.6	122.2	124.5	128.1	122.8	124.3	127.1
Food and beverages	121.2	123.4	124.2	123.1	125.8	126.9	121.1	122.9	123.8	121.5	123.7	125.7
Housing	121.2	127.0	132.9	126.2	130.2	134.6	124.8	127.8	131.0	124.8	125.4	127.1
Apparel and upkeep	107.9	110.0	113.6	111.0	111.5	112.4	104.4	104.4	104.2	114.0	114.9	114.7
Transportation	127.2	129.9	137.4	126.7	128.8	135.8	126.3	129.0	137.1	124.6	128.2	134.8
Medical care	119.8	121.9	125.6	117.8	121.3	124.8	118.4	119.9	124.6	120.7	122.7	126.2
Entertainment	109.3	111.1	113.5	115.6	115.9	118.6	113.8	114.9	117.8	117.8	119.2	123.6
Other goods and services	115.2	115.5	119.2	115.3	116.5	120.3	113.0	113.6	116.3	116.0	116.4	119.7
COMMODITY AND SERVICE GROUP												
Commodities	120.5	123.1	127.0	123.1	125.3	128.8	121.7	123.6	126.7	120.7	123.0	126.7
Commodities less food and beverage	120.2	123.0	128.1	123.1	125.1	129.6	121.9	123.8	127.8	120.4	122.7	127.2
Services	121.3	126.9	133.2	124.4	128.4	133.0	122.8	125.9	130.0	125.9	126.3	127.6

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)							
	1979					1980	1979					1980		
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
U.S. city average ²	207.1	223.4	225.4	227.5	229.9	233.2	236.4	207.1	223.7	225.6	227.6	230.0	233.3	236.5
Anchorage, Alaska (10/67 = 100)	...	213.2	...	213.7	...	218.2	...	...	210.9	...	211.8	...	215.9	...
Atlanta, Ga.	201.8	...	220.8	...	223.3	...	230.3	202.7	...	223.5	...	227.0	...	233.5
Baltimore, Md.	...	224.9	...	227.2	...	234.4	...	...	224.9	...	227.9	...	234.5	...
Boston, Mass.	...	218.1	...	222.7	...	227.3	...	...	217.9	...	222.5	...	226.9	...
Buffalo, N.Y.	203.0	...	218.7	...	221.2	...	227.9	203.1	...	218.6	...	220.7	...	227.9
Chicago, Ill.—Northwestern Ind.	202.6	221.3	221.8	225.9	228.4	230.3	232.7	202.4	220.6	221.7	225.6	227.8	229.9	232.5
Cincinnati, Ohio-Ky.-Ind.	...	229.0	...	233.4	...	239.5	...	...	230.8	...	235.6	...	241.0	...
Cleveland, Ohio	210.1	...	224.7	...	232.5	...	243.5	211.0	...	225.5	...	233.2	...	244.1
Dallas-Ft. Worth, Tex.	205.8	...	228.2	...	234.1	...	241.7	206.3	...	228.0	...	233.3	...	240.9
Denver-Boulder, Colo.	...	240.8	...	245.9	...	247.3	...	...	243.6	...	248.6	...	250.9	...
Detroit, Mich.	208.8	223.7	227.2	231.3	233.2	237.2	240.4	208.8	223.5	226.9	230.8	232.2	236.4	239.9
Honolulu, Hawaii	196.2	...	210.5	...	214.8	...	220.9	196.0	...	211.1	...	215.5	...	221.3
Houston, Tex.	224.2	...	244.2	...	248.7	...	255.9	223.1	...	241.8	...	246.0	...	251.9
Kansas City, Mo.-Kansas	204.6	...	229.9	...	233.7	...	238.7	204.2	...	227.9	...	232.4	...	236.6
Los Angeles-Long Beach, Anaheim, Calif.	201.9	220.7	221.8	224.2	228.0	232.6	237.6	202.3	223.0	224.0	225.8	229.9	235.0	240.0
Miami, Fla. (11/77 = 100)	...	117.4	...	119.4	...	123.3	...	...	118.7	...	120.5	...	124.9	...
Milwaukee, Wis.	...	226.0	...	229.8	...	236.4	...	...	228.7	...	232.5	...	240.8	...
Minneapolis-St. Paul, Minn.-Wis.	211.8	...	231.2	...	234.0	...	237.9	212.5	...	233.0	...	234.8	...	239.6
New York, N.Y.—Northeastern N.J.	205.2	218.1	219.9	221.3	222.9	226.1	228.0	204.7	217.8	219.3	220.7	222.4	225.5	227.7
Northeast, Pa. (Scranton)	...	215.4	...	220.0	...	224.4	...	...	217.1	...	221.1	...	225.8	...
Philadelphia, Pa.-N.J.	204.1	219.5	220.1	222.4	223.7	227.2	231.1	205.8	220.3	221.3	223.8	224.6	228.0	231.6
Pittsburgh, Pa.	209.2	...	226.0	...	229.2	...	235.5	208.6	...	226.1	...	229.7	...	235.9
Portland, Ore.-Wash.	...	232.2	...	236.6	...	244.6	...	...	232.6	...	236.7	...	243.5	...
St. Louis, Mo.-Ill.	...	222.2	...	225.7	...	232.7	...	...	222.5	...	226.3	...	233.5	...
San Diego, Calif.	...	240.4	...	247.8	...	254.0	...	...	237.7	...	244.8	...	251.0	...
San Francisco-Oakland, Calif.	203.9	...	221.5	...	230.2	...	240.7	204.2	...	220.8	...	229.0	...	240.0
Seattle-Everett, Wash.	...	222.6	...	227.6	...	236.0	...	...	221.0	...	225.5	...	233.8	...
Washington, D.C.-Md.-Va.	...	222.9	...	225.4	...	231.9	...	...	224.4	...	226.7	...	233.0	...

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 1978	1979										1980		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ¹	Dec.	Jan.	Feb.	Mar.
FINISHED GOODS														
Finished goods	194.6	209.1	211.4	212.7	213.7	216.2	217.3	220.7	224.2	226.3	227.8	232.1	235.4	238.2
Finished consumer goods	192.6	207.9	210.2	211.6	212.7	215.6	217.5	221.7	224.7	227.1	228.8	233.2	237.3	240.6
Finished consumer foods	206.7	226.3	227.8	226.6	223.6	224.9	223.5	228.1	226.7	230.5	232.0	231.4	231.6	233.0
Crude	215.5	244.6	241.8	226.7	227.1	224.9	231.7	214.0	215.5	228.1	227.8	225.9	220.0	230.8
Processed	204.1	222.8	224.6	224.4	221.3	222.8	220.7	227.0	225.5	228.6	230.1	229.7	230.4	231.0
Other nondurable goods	195.4	209.8	213.1	217.1	221.7	227.1	233.4	239.0	243.3	245.5	247.8	254.4	263.0	270.8
Durable goods	165.8	176.8	178.4	179.5	180.4	181.6	181.6	182.9	189.0	190.0	191.2	198.2	200.7	199.7
Capital Equipment	199.1	211.7	214.0	215.1	215.8	217.2	216.5	217.8	222.8	223.9	225.1	229.1	230.3	231.8
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	215.5	231.5	235.8	238.2	240.3	244.6	247.5	251.0	255.0	256.3	258.4	265.6	271.1	273.2
Materials and components for manufacturing	208.3	224.5	229.0	230.9	232.1	236.0	238.0	240.7	244.3	245.5	247.5	255.2	259.2	259.0
Materials for food manufacturing	202.3	219.6	222.2	222.5	222.3	226.7	225.1	228.9	225.5	227.8	230.5	225.8	245.1	239.8
Materials for nondurable manufacturing	195.8	208.7	213.7	216.7	218.1	222.5	225.3	227.6	231.4	233.4	235.1	240.6	243.3	246.6
Materials for durable manufacturing	237.2	260.0	266.0	267.2	268.9	273.3	275.2	278.8	284.7	284.6	287.5	303.5	305.9	301.1
Components for manufacturing	189.1	200.3	203.1	204.5	205.3	207.7	209.3	211.3	213.2	214.8	215.9	218.9	222.7	225.2
Materials and components for construction	224.4	241.3	244.5	245.2	245.6	247.4	249.2	252.5	254.7	254.0	253.6	257.5	261.6	265.1
Processed fuels and lubricants	296.4	312.9	323.9	336.8	349.5	364.8	384.6	399.4	410.6	416.5	424.6	443.9	464.3	481.1
Manufacturing industries	270.4	275.4	280.7	287.4	293.8	304.0	311.2	317.2	322.5	325.2	332.3	340.6	352.2	357.4
Nonmanufacturing industries	320.0	348.9	365.9	385.5	404.9	425.5	458.8	483.0	500.6	510.0	518.8	549.8	579.7	608.9
Containers	212.5	229.3	231.8	234.5	234.9	235.4	237.6	237.9	242.6	243.8	246.1	250.9	250.8	253.3
Supplies	196.9	211.1	212.8	213.7	216.1	219.6	219.6	221.2	224.9	226.4	228.4	232.2	238.3	239.9
Manufacturing industries	183.6	197.4	199.4	201.5	202.7	204.2	208.6	209.4	212.2	213.7	215.3	220.9	222.0	223.3
Nonmanufacturing industries	204.0	218.4	219.9	220.3	223.2	227.8	225.4	227.5	231.7	233.3	235.3	238.2	247.0	248.7
Manufactured animal feeds	200.2	219.3	219.5	214.6	226.2	241.3	220.8	224.0	228.9	226.9	230.8	224.2	223.3	219.1
Other supplies	201.9	215.0	216.8	218.3	219.2	221.5	223.1	224.9	228.9	231.2	232.9	237.8	248.6	251.6
CRUDE MATERIALS														
Crude materials for further processing	240.1	276.6	279.9	282.3	283.0	287.1	281.7	288.3	289.5	290.8	296.7	296.9	308.3	303.3
Foodstuffs and feedstuffs	215.3	247.4	251.5	251.9	248.2	254.1	243.7	248.7	247.5	246.4	249.7	243.0	252.6	245.9
Nonfood materials	286.7	331.6	333.3	339.6	348.7	349.3	353.6	363.1	368.9	374.9	385.8	399.0	413.9	412.2
Nonfood materials except fuel	235.4	275.5	276.5	276.6	286.6	285.2	286.1	293.3	298.1	304.6	311.5	329.9	341.5	339.4
Manufacturing industries	240.8	283.8	284.8	284.7	295.9	294.0	294.9	302.8	307.8	314.9	322.5	342.0	354.7	352.1
Construction	185.7	201.9	203.6	204.5	205.4	207.2	208.6	209.9	212.6	214.8	216.6	225.7	228.3	229.7
Crude fuel	463.7	525.2	529.2	556.8	563.1	570.7	586.2	604.0	612.9	617.4	641.8	637.2	663.5	663.3
Manufacturing industries	481.9	555.4	560.0	593.8	601.3	610.4	629.2	651.8	662.5	667.8	697.7	691.7	724.4	723.5
Nonmanufacturing industries	459.6	512.1	515.8	538.8	544.3	550.7	563.6	577.8	585.5	589.3	609.7	606.2	627.7	627.9
SPECIAL GROUPINGS														
Finished goods excluding foods	188.9	201.7	204.2	206.3	208.5	211.4	213.2	216.2	221.3	222.8	224.3	230.1	234.3	237.4
Finished consumer goods excluding foods	183.7	196.7	199.3	202.1	205.2	208.4	212.3	216.3	220.6	223.1	225.0	231.8	237.8	242.0
Intermediate materials, supplies, and components, excluding intermediate materials for food manufacturing and manufactured animal feeds	216.4	232.3	236.7	238.8	241.3	245.4	249.0	252.5	256.8	258.1	260.1	268.1	273.2	275.7
Intermediate foods and feeds	201.0	218.9	220.7	219.3	223.0	231.0	223.1	226.6	226.0	226.9	230.0	224.7	237.1	232.3
Crude materials for further processing excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco	316.6	370.6	372.4	379.2	389.5	391.7	396.9	408.6	417.0	424.1	437.1	453.0	468.8	468.4

¹ Data for November 1979 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.

27. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1979										1980		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
	All commodities	209.3	226.7	230.0	232.0	233.5	236.9	238.3	242.0	245.6	247.2	249.4	254.7	259.8	261.5
	All commodities (1957-59 = 100)	222.1	240.5	243.7	245.7	247.7	251.4	252.8	256.7	260.6	262.3	264.6	270.2	275.6	277.5
	Farm products and processed foods and feeds	206.6	229.0	244.0	230.8	229.0	232.2	227.5	231.8	230.6	232.3	234.5	231.9	236.9	234.9
	Industrial commodities	209.4	225.4	229.0	231.6	234.0	237.5	240.6	244.2	249.0	250.6	252.8	260.3	265.4	268.2
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	212.5	242.8	223.3	245.4	242.8	246.8	238.5	241.0	239.6	240.2	242.5	236.4	242.3	239.3
01-1	Fresh and dried fruits and vegetables	216.5	235.7	234.7	228.2	226.4	226.7	241.7	208.3	218.0	216.5	210.5	218.9	220.5	218.3
01-2	Grains	182.5	192.0	198.3	210.3	218.7	247.4	229.1	224.4	229.0	226.6	227.9	214.6	223.3	217.9
01-3	Livestock	220.1	275.8	284.0	280.7	264.0	256.0	240.2	256.4	251.7	248.3	252.5	247.8	257.2	251.8
01-4	Live poultry	199.8	217.6	209.4	216.3	182.9	183.8	171.9	173.5	162.0	195.5	194.7	195.2	184.6	180.1
01-5	Plant and animal fibers	193.4	197.8	197.8	207.6	219.5	207.6	207.9	211.3	212.9	215.4	222.0	239.0	269.5	254.9
01-6	Fluid milk	219.7	243.7	242.4	242.0	243.8	247.6	250.0	258.5	260.8	262.5	264.0	262.3	263.8	263.1
01-7	Eggs	158.6	199.9	185.5	163.8	170.7	167.6	166.8	175.4	155.9	178.7	198.4	165.6	150.4	184.2
01-8	Hay, hayseeds, and oilseeds	215.8	249.5	248.3	240.7	258.4	260.1	251.9	240.9	235.6	229.8	230.3	218.1	224.7	215.9
01-9	Other farm products	274.9	254.6	255.1	264.1	281.0	311.9	310.8	315.9	313.6	318.3	319.4	301.1	304.7	311.5
02	Processed foods and feeds	202.6	220.5	222.3	222.0	220.6	223.3	220.5	225.8	224.8	227.1	229.2	228.5	233.1	231.5
02-1	Cereal and bakery products	190.3	200.1	203.0	204.9	206.3	212.4	216.0	218.7	219.8	222.5	223.7	225.4	229.7	231.3
02-2	Meats, poultry, and fish	217.1	250.6	253.0	250.4	241.4	237.7	225.5	239.9	234.2	239.3	242.8	239.5	239.5	239.2
02-3	Dairy products	188.4	204.9	207.1	207.9	208.4	209.0	215.2	218.3	218.1	219.3	219.6	221.4	221.2	223.3
02-4	Processed fruits and vegetables	202.6	219.6	220.5	221.4	221.5	223.6	224.6	225.1	223.4	222.4	222.3	222.8	223.1	223.6
02-5	Sugar and confectionery	197.8	208.4	208.7	207.6	211.1	215.7	218.3	217.2	218.9	222.9	234.4	234.8	287.1	263.6
02-6	Beverages and beverage materials	200.0	201.2	201.5	205.3	208.5	214.1	216.5	217.9	218.9	221.2	221.9	224.1	224.7	226.0
02-7	Fats and oils	225.3	238.6	246.2	241.8	243.6	253.2	251.7	253.3	246.0	241.9	235.8	224.9	225.9	222.4
02-8	Miscellaneous processed foods	199.0	217.5	219.3	220.2	211.1	212.7	217.6	219.0	220.8	222.2	222.0	225.4	223.5	224.7
02-9	Manufactured animal feeds	197.4	215.7	215.6	210.8	220.5	234.9	216.2	219.2	224.0	222.4	225.3	219.5	219.8	216.8
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	159.8	165.2	166.4	167.2	168.4	169.3	170.5	171.3	172.0	172.8	172.8	174.9	176.5	178.9
03-1	Synthetic fibers (12/75 = 100)	109.6	113.6	115.1	117.4	118.5	119.5	120.6	123.6	124.7	124.2	124.5	126.9	127.1	129.4
03-2	Processed yarns and threads (12/75 = 100)	102.4	107.0	106.8	107.8	108.6	109.5	110.6	111.7	112.1	112.5	113.1	114.4	117.3	118.9
03-3	Gray fabrics (12/75 = 100)	118.6	123.1	124.5	124.7	125.4	128.3	128.7	129.7	129.7	130.7	132.5	132.2	131.7	133.7
03-4	Finished fabrics (12/75 = 100)	103.8	105.4	105.9	107.0	107.6	108.2	109.0	109.1	108.9	109.7	109.3	109.8	110.8	113.1
03-81	Apparel	152.4	158.3	159.8	159.8	160.2	160.3	161.4	161.6	162.2	163.1	162.3	165.3	167.3	168.3
03-82	Textile housefurnishings	178.6	187.4	188.0	188.0	189.3	189.9	190.5	193.9	196.3	196.5	197.0	199.2	200.0	201.2
04	Hides, skins, leather, and related products	200.0	253.3	258.9	269.6	268.0	261.9	257.9	251.1	253.9	248.9	248.9	255.3	251.0	246.8
04-1	Hides and skins	360.5	639.6	642.2	666.9	611.0	566.5	511.9	465.3	478.8	447.6	443.9	468.8	404.8	348.7
04-2	Leather	238.6	371.9	393.6	429.4	414.6	385.2	365.9	330.0	343.6	319.8	324.8	347.6	340.3	311.0
04-3	Footwear	183.0	209.9	212.0	216.3	221.1	221.8	225.4	226.9	227.5	227.9	227.3	228.5	228.1	231.8
04-4	Other leather and related products	177.0	195.9	200.4	209.1	212.3	212.1	210.9	210.1	209.7	208.4	208.1	213.2	214.9	217.9
05	Fuels and related products and power	322.5	350.9	361.5	377.6	393.7	411.8	432.8	454.8	468.5	476.9	488.7	507.8	533.0	553.5
05-1	Coal	430.0	445.3	447.1	450.8	452.0	452.5	454.2	452.5	454.6	455.1	457.8	458.1	458.7	460.7
05-2	Coke	411.8	428.5	430.1	430.6	430.6	430.6	430.6	430.6	431.2	431.2	431.2	430.6	430.6	430.6
05-3	Gas fuels ¹	428.7	471.0	477.4	507.2	522.3	548.4	572.4	603.4	619.9	637.0	670.5	679.6	719.8	720.3
05-4	Electric power	250.6	257.3	260.6	265.9	269.9	274.8	278.8	280.5	283.5	281.9	287.2	290.7	299.5	305.7
05-61	Crude petroleum ²	300.1	324.2	326.2	335.7	356.4	370.6	385.7	422.1	436.7	450.4	470.8	513.6	515.1	522.8
05-7	Petroleum products, refined ³	321.0	360.3	378.6	400.0	423.6	449.8	482.8	513.7	533.7	545.4	554.8	582.4	620.3	657.9
06	Chemicals and allied products	198.8	209.9	215.1	218.0	219.2	225.0	228.5	230.8	234.2	236.0	238.1	245.5	247.6	251.6
06-1	Industrial chemicals ⁴	225.6	239.7	248.2	255.6	259.3	270.4	277.1	280.0	285.7	288.4	291.6	302.6	306.7	310.7
06-21	Prepared paint	192.3	202.3	203.3	201.3	201.3	205.3	205.3	206.0	206.7	209.4	210.7	223.1	223.3	223.3
06-22	Paint materials	212.7	227.0	231.6	236.1	239.5	246.7	247.9	252.0	253.6	256.6	255.4	258.9	262.7	266.2
06-3	Drugs and pharmaceuticals	148.1	156.6	157.5	157.7	159.0	159.2	159.6	161.0	162.8	163.0	164.4	166.5	167.7	168.9
06-4	Fats and oils, inedible	315.8	398.5	448.7	418.3	374.1	381.6	376.4	379.9	366.9	344.3	327.1	325.6	302.2	299.9
06-5	Agricultural chemicals and chemical products	198.4	206.3	209.8	210.0	209.2	211.2	215.3	219.4	224.3	229.5	232.7	238.1	242.8	256.0
06-6	Plastic resins and materials	199.8	210.9	220.6	228.5	230.1	244.5	250.1	252.0	260.0	261.4	262.7	270.0	271.1	273.9
06-7	Other chemicals and allied products	181.8	186.5	186.9	188.9	190.5	191.8	194.4	195.8	197.0	198.8	201.9	209.6	211.0	214.5
07	Rubber and plastic products	174.8	185.9	188.8	190.8	193.1	195.5	198.8	200.7	203.0	204.9	205.7	208.2	210.9	212.7
07-1	Rubber and rubber products	185.3	199.4	201.2	202.6	204.8	209.5	214.6	217.1	220.3	223.7	223.9	227.1	232.2	232.3
07-11	Crude rubber	187.2	204.8	211.6	214.2	222.0	226.1	233.0	232.2	236.5	237.2	239.4	251.9	263.1	254.9
07-12	Tires and tubes	179.2	195.0	196.1	197.3	198.9	206.2	211.6	215.0	218.3	223.1	222.7	224.7	231.2	231.2
07-13	Miscellaneous rubber products	189.6	200.3	201.3	202.6	203.5	205.4	209.4	211.9	214.7	217.1	217.4	219.1	220.4	223.4
07-2	Plastic products (6/78 = 100)		105.7	108.0	109.5	111.0	111.2	112.2	113.0	114.0	114.3	115.2	116.2	116.5	118.6
08	Lumber and wood products	276.0	300.5	304.9	302.8	299.8	300.1	304.7	309.7	308.8	298.9	289.8	290.0	294.8	295.7
08-1	Lumber	322.4	350.5	355.4	354.8	354.8	355.0	365.3	373.9	370.3	355.6	338.9	336.3	341.5	340.6
08-2	Millwork	235.4	257.8	266.0	261.6	258.9	252.5	249.6	250.9	255.6	252.3	250.3	254.1	258.0	264.7
08-3	Plywood	235.6	254.7	252.4	249.3	238.6	249.7	254.3	257.9	254.0	242.2	237.7	238.2	243.0	240.0
08-4	Other wood products	211.8	232.2	235.5	238.4	238.5	237.6	237.4	238.0	237.7	239.9	240.5	242.2	243.4	243.1

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity groups and subgroups	Annual average 1978	1979										1980		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ⁵	Dec.	Jan.	Feb.	Mar.
INDUSTRIAL COMMODITIES—Continued															
09	Pulp, paper, and allied products	195.6	212.3	215.0	216.2	216.6	218.3	222.2	223.0	227.5	229.5	231.0	237.4	238.9	241.6
09-1	Pulp, paper, and products, excluding building paper and board	195.6	213.2	216.0	217.2	217.8	219.6	223.6	224.3	229.0	231.1	232.6	239.1	240.5	243.1
09-11	Woodpulp	266.5	294.3	303.8	306.9	308.3	320.3	320.6	320.6	337.5	338.0	339.9	358.8	358.5	359.0
09-12	Wastepaper	191.2	203.2	206.5	206.2	207.2	207.9	206.6	206.7	220.0	221.2	222.7	223.2	224.9	
09-13	Paper	206.1	223.3	226.3	227.2	227.5	228.2	229.5	230.3	238.7	241.8	243.0	245.5	247.5	250.5
09-14	Paperboard	179.6	192.9	197.9	199.2	199.8	201.7	206.4	209.6	211.3	212.8	215.4	221.8	223.4	225.9
09-15	Converted paper and paperboard products	185.6	204.1	205.8	207.0	207.6	209.0	214.4	214.6	217.3	219.0	220.3	227.5	228.7	231.3
09-2	Building paper and board	187.4	182.6	183.4	183.3	180.8	178.0	179.1	182.6	183.5	183.6	184.4	186.0	191.1	198.7
10	Metals and metal products	227.1	251.7	256.0	256.2	258.2	260.8	261.8	263.7	269.6	271.1	273.5	284.5	288.6	286.3
10-1	Iron and steel	253.6	279.9	280.2	279.5	283.2	286.8	286.1	285.5	289.2	292.0	292.7	297.3	300.2	301.6
10-13	Steel mill products	254.5	272.5	275.0	276.7	277.3	284.6	284.7	284.8	288.3	288.8	289.3	293.7	294.2	295.6
10-2	Nonferrous metals	207.8	246.6	259.6	258.2	259.7	262.3	263.1	269.3	283.1	284.1	291.2	326.1	336.5	320.9
10-3	Metal containers	243.4	264.5	270.1	268.5	267.3	267.2	268.4	268.7	279.9	280.9	280.7	283.3	283.3	287.8
10-4	Hardware	200.4	214.2	215.8	216.9	217.1	218.5	220.1	221.5	224.0	225.5	226.5	228.4	229.4	230.5
10-5	Plumbing fixtures and brass fittings	199.1	209.7	212.0	213.8	217.0	219.6	222.4	223.0	223.5	225.4	226.4	229.7	236.6	242.4
10-6	Heating equipment	174.4	183.4	183.8	185.5	185.2	186.0	188.1	191.3	192.2	193.1	195.2	197.3	199.9	202.0
10-7	Fabricated structural metal products	226.4	241.3	243.8	247.0	248.2	250.5	252.2	253.7	256.3	256.7	257.7	258.8	259.5	262.9
10-8	Miscellaneous metal products	212.0	225.2	227.0	228.5	230.1	231.8	235.6	236.7	238.5	238.6	239.9	241.5	242.5	245.1
11	Machinery and equipment	196.1	207.9	209.8	211.4	212.4	214.8	216.0	217.7	220.0	221.3	222.9	227.1	229.2	231.9
11-1	Agricultural machinery and equipment	213.1	224.8	226.4	228.3	229.4	231.2	233.3	237.4	240.0	243.4	243.2	247.6	249.1	250.4
11-2	Construction machinery and equipment	232.9	248.7	251.7	253.7	254.0	257.0	258.5	258.9	263.9	265.4	268.2	275.4	277.5	278.4
11-3	Metalworking machinery and equipment	217.0	233.0	235.3	237.6	239.1	241.4	243.5	246.4	249.6	252.2	254.6	258.7	261.3	264.1
11-4	General purpose machinery and equipment	216.6	230.4	232.6	234.0	235.1	237.1	238.3	240.2	242.8	244.2	246.1	249.6	252.0	255.7
11-6	Special industry machinery and equipment	223.0	239.1	243.4	245.1	246.1	249.8	251.0	251.2	253.8	254.9	256.2	260.7	262.9	265.6
11-7	Electrical machinery and equipment	164.9	173.8	175.0	176.5	177.6	179.9	181.2	182.5	184.3	184.9	186.5	190.5	194.2	195.9
11-9	Miscellaneous machinery	194.7	204.0	205.4	207.1	207.4	209.7	209.7	212.0	213.6	214.9	215.7	220.0	220.8	222.7
12	Furniture and household durables	160.4	168.3	168.7	169.6	170.2	170.7	171.5	172.7	175.1	176.4	177.0	182.1	183.4	184.6
12-1	Household furniture	173.5	181.8	182.7	184.8	185.3	185.8	186.2	188.5	190.1	193.0	194.3	195.4	196.5	196.9
12-2	Commercial furniture	201.5	221.2	221.7	221.9	221.8	222.7	222.7	222.7	223.3	223.3	225.1	227.1	230.1	232.8
12-3	Floor coverings	141.6	144.0	144.4	146.0	146.5	149.1	150.0	150.4	152.1	152.8	152.9	159.8	159.4	160.7
12-4	Household appliances	153.0	158.8	158.7	159.3	160.0	161.1	162.2	162.7	163.2	164.5	165.2	166.6	168.7	169.7
12-5	Home electronic equipment	90.2	92.3	92.3	92.4	92.8	90.2	90.2	90.3	90.3	90.3	88.1	88.5	88.7	88.8
12-6	Other household durable goods	203.1	217.9	218.6	219.5	220.6	223.7	226.6	231.0	245.6	248.2	252.1	283.1	284.2	287.6
13	Nonmetallic mineral products	222.8	240.8	243.4	245.6	246.9	249.5	249.9	254.6	256.2	257.4	259.2	268.0	272.6	276.1
13-11	Flat glass	172.8	183.1	183.1	183.1	184.0	184.1	184.1	184.5	184.7	185.4	186.4	190.9	190.9	191.4
13-2	Concrete ingredients	217.7	239.8	242.0	242.5	243.3	245.1	245.9	246.7	248.3	249.6	249.9	263.5	265.2	266.0
13-3	Concrete products	214.0	237.8	240.5	241.6	243.7	245.2	246.3	248.7	250.1	250.6	253.2	264.9	266.2	268.6
13-4	Structural clay products excluding refractories	197.2	212.8	214.8	215.7	216.5	220.3	222.3	223.7	221.1	221.8	226.8	229.6	231.1	231.5
13-5	Refractories	216.5	228.3	228.4	228.5	232.6	240.8	241.7	242.4	244.6	247.4	248.7	249.3	251.9	254.8
13-6	Asphalt roofing	292.0	303.1	316.4	317.9	323.0	328.4	325.9	333.0	337.5	347.4	342.9	356.5	372.3	387.6
13-7	Gypsum products	229.1	251.0	252.2	248.8	251.3	251.8	252.3	254.9	255.3	256.2	255.0	255.4	262.2	267.6
13-8	Glass containers	244.4	250.7	250.7	265.2	265.2	265.2	265.2	265.2	265.2	265.2	273.6	274.5	274.6	274.6
13-9	Other nonmetallic minerals	275.6	294.5	300.0	303.0	302.0	310.5	309.9	336.0	341.2	342.2	342.2	351.6	374.3	386.9
14	Transportation equipment (12/68 = 100)	173.5	183.8	186.8	187.2	187.5	188.4	185.9	186.6	194.2	194.8	195.1	198.3	198.1	198.8
14-1	Motor vehicles and equipment	176.0	186.1	189.4	189.8	190.1	190.8	187.8	188.6	197.1	197.4	197.6	200.3	199.9	200.8
14-4	Railroad equipment	252.8	268.9	271.7	271.6	274.7	280.6	280.9	281.6	286.3	288.2	289.0	295.0	299.3	301.3
15	Miscellaneous products	184.3	200.6	201.4	203.3	205.2	207.0	208.9	213.1	218.9	221.4	227.2	242.2	261.8	256.2
15-1	Toys, sporting goods, small arms, ammunition	163.2	171.5	173.2	174.3	174.7	176.9	177.6	179.8	181.1	181.2	183.5	190.4	193.2	194.2
15-2	Tobacco products	198.5	214.0	214.4	214.4	214.4	214.8	221.3	221.9	222.1	222.2	226.3	236.3	236.9	237.1
15-3	Notions	182.0	190.2	190.2	190.6	190.6	192.0	191.9	191.9	195.7	195.8	197.0	203.1	203.2	207.2
15-4	Photographic equipment and supplies	145.7	150.2	150.1	150.6	151.6	152.0	152.2	154.3	157.4	161.2	164.5	166.0	218.7	219.4
15-51	Mobile Homes (12/74 = 100)	126.4	133.8	135.2	137.2	137.9	138.2	139.5	140.7	142.9	144.0	143.6	144.2	146.0	146.6
15-9	Other miscellaneous products	210.6	245.5	246.1	250.6	255.8	261.4	261.4	272.5	288.3	293.3	307.9	349.7	375.3	352.3

¹ Prices for natural gas are lagged 1 month.

² Includes only domestic production.

³ Most prices for refined petroleum products are lagged 1 month.

⁴ Some prices for industrial chemicals are lagged 1 month.

⁵ Data for November 1979 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.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1978	1979										1980		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ¹	Dec.	Jan.	Feb.	Mar.
All commodities — less farm products	208.4	224.7	228.0	230.1	232.0	235.4	237.5	241.4	245.3	247.0	249.2	255.4	260.5	262.6
All foods	206.4	225.9	227.7	226.4	223.8	225.4	224.7	228.5	226.9	230.0	232.1	231.1	235.7	234.7
Processed foods	206.7	225.6	227.8	227.5	224.7	226.4	224.8	230.8	228.9	231.8	234.1	233.3	238.5	236.8
Industrial commodities less fuels	197.2	211.9	214.7	216.0	217.0	219.0	220.3	222.0	225.9	228.1	234.3	237.5	238.4	
Selected textile mill products (Dec. 1975 = 100)	108.8	111.6	112.3	112.8	113.5	114.0	115.1	115.8	116.4	117.0	118.8	119.4	121.1	
Hosiery	106.3	110.5	112.5	112.5	112.7	114.1	113.0	112.7	113.3	114.6	115.3	119.5	119.6	119.9
Underwear and nightwear	158.9	167.1	167.3	167.7	168.3	168.5	170.8	170.8	171.2	171.6	172.9	175.7	177.8	181.8
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	190.5	200.0	204.1	207.6	209.5	215.0	218.6	220.9	224.3	226.3	228.6	235.8	238.2	242.1
Pharmaceutical preparations	140.6	149.4	150.0	150.1	151.7	151.7	152.0	153.6	155.6	155.4	156.9	159.2	160.4	161.7
Lumber and wood products, excluding millwork and other wood products	298.3	323.7	326.4	325.1	321.7	325.3	333.9	341.0	337.3	323.3	310.3	308.6	314.0	312.2
Special metals and metal products	209.6	228.2	232.7	232.4	233.7	235.5	234.9	236.4	243.4	244.5	245.9	253.5	255.7	254.8
Fabricated metal products	216.2	230.6	232.9	234.6	235.7	237.4	239.8	241.1	244.0	244.6	245.6	247.3	248.3	251.3
Copper and copper products	155.6	197.9	212.1	199.0	193.0	191.9	197.1	200.5	212.2	213.8	216.1	227.2	258.2	240.9
Machinery and motive products	190.4	201.7	204.1	205.3	206.0	207.7	207.2	208.5	213.4	214.3	215.4	219.3	220.6	222.2
Machinery and equipment, except electrical	214.3	227.7	230.0	231.8	232.6	235.1	236.2	238.2	240.8	242.5	244.1	248.4	250.4	252.9
Agricultural machinery, including tractors	216.3	229.6	230.8	232.1	233.8	235.8	238.4	243.6	246.3	250.8	250.0	255.2	256.0	257.7
Metalworking machinery	228.8	248.9	251.2	254.3	256.8	260.1	261.7	265.6	269.5	272.7	276.2	282.1	284.8	288.1
Numerically controlled machine tools (Dec. 1971 = 100)	179.1	192.6	192.7	195.7	195.8	202.2	204.2	206.5	208.5	208.8	211.3	213.2	215.6	216.8
Total tractors	228.7	243.1	245.4	247.7	248.2	251.2	253.8	256.0	261.2	262.5	264.9	271.6	273.5	274.3
Agricultural machinery and equipment less parts	212.7	225.5	226.7	228.1	229.5	231.4	233.7	238.4	241.0	244.9	244.6	249.3	250.4	252.1
Farm and garden tractors less parts	216.1	226.7	228.5	230.5	231.8	233.9	237.6	244.1	247.6	250.5	250.4	255.3	256.7	258.8
Agricultural machinery excluding tractors less parts	216.7	232.1	233.0	233.6	235.7	237.6	239.2	243.5	245.4	251.3	250.0	255.4	255.6	257.0
Industrial valves	232.3	249.5	252.4	255.0	255.8	257.0	258.2	260.1	261.8	263.1	265.2	270.1	272.2	276.1
Industrial fittings	232.7	252.0	255.5	259.3	260.4	260.8	262.3	264.3	272.6	276.8	276.8	276.8	280.4	282.8
Abrasive grinding wheels	208.1	220.3	220.3	221.6	222.8	222.8	224.6	224.6	239.0	239.0	239.0	239.0	244.0	244.0
Construction materials	228.3	246.9	250.0	250.3	250.3	252.3	254.3	256.6	258.5	256.7	255.3	259.1	262.2	264.6

¹ Data for November 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1978	1979										1980		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ¹	Dec.	Jan.	Feb.	Mar.
Total durable goods	204.9	221.0	223.9	224.7	225.8	227.6	228.0	230.1	234.6	235.3	236.6	243.4	246.4	246.6
Total nondurable goods	211.9	230.4	234.1	236.9	238.8	243.7	245.8	251.1	253.7	256.2	259.2	263.0	270.0	273.1
Total manufactures	204.2	219.7	223.1	225.0	226.5	229.8	231.7	235.2	239.0	240.6	242.3	248.2	252.7	254.8
Durable	204.7	219.8	222.7	223.8	224.6	226.6	227.2	229.4	234.0	234.6	235.8	242.2	245.0	245.2
Nondurable	203.0	219.0	222.8	225.6	227.8	232.5	235.9	241.0	244.0	246.6	248.8	253.8	260.7	264.7
Total raw or slightly processed goods	234.6	263.3	266.1	268.2	269.7	274.3	272.1	276.9	278.7	281.0	286.4	287.5	295.9	295.6
Durable	209.6	273.6	272.5	262.9	272.8	265.4	259.8	255.7	259.2	265.8	267.8	282.7	305.2	302.5
Nondurable	235.6	261.6	264.7	267.6	268.5	274.0	272.0	277.5	279.2	281.2	286.8	286.9	294.2	294.0

¹ Data for November 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC Industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry Description	Annual average 1978	1979										1980		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
MINING															
1011	Iron ores (12/75 = 100)	121.9	127.3	131.9	131.9	136.0	136.0	138.8	138.1	140.2	140.2	142.0	142.0	147.3	147.3
1092	Mercury ores (12/75 = 100)	126.6	178.3	202.1	237.5	277.0	270.8	245.8	252.1	275.0	252.1	300.0	308.3	335.4	330.0
1211	Bituminous coal and lignite	430.2	445.7	447.5	451.3	452.5	453.1	454.8	452.9	455.1	455.5	458.1	458.0	458.7	460.7
1311	Crude petroleum and natural gas	358.2	403.8	407.6	427.2	444.1	457.5	476.0	508.4	522.1	533.9	553.3	583.2	597.4	600.6
1442	Construction sand and gravel	194.6	210.9	214.1	216.0	217.0	219.3	220.1	221.0	224.0	224.7	225.7	238.0	242.1	243.6
1455	Kaolin and ball clay (6/76 = 100)	111.8	125.4	125.4	125.4	125.5	125.5	125.5	125.5	126.7	124.2	119.7	128.5	128.5	123.4
MANUFACTURING															
2011	Meat packing plants	216.7	256.6	265.0	259.2	249.1	243.8	229.3	247.2	238.9	241.5	243.9	240.7	240.1	238.9
2013	Sausages and other prepared meats	215.2	235.6	224.4	227.7	217.1	214.7	203.4	211.7	213.4	219.9	213.4	211.5	207.4	209.1
2016	Poultry dressing plants	192.5	206.1	199.7	203.5	177.8	178.4	169.6	171.2	163.1	188.3	188.5	186.1	178.2	173.5
2021	Creamery butter	205.2	216.1	224.7	225.3	225.3	227.5	237.9	240.6	240.1	241.7	243.1	241.9	242.8	243.4

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 1978	1979										1980		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
MANUFACTURING—Continued															
2022	Cheese natural and processed (12/72 = 100)	169.6	182.5	186.8	185.2	185.6	186.3	195.4	200.8	196.8	193.6	192.6	197.1	194.6	197.4
2024	Ice cream and frozen desserts (12/72 = 100)	154.8	166.7	167.3	171.0	171.5	171.5	175.0	176.1	177.5	179.9	180.2	180.9	181.5	185.0
2033	Canned fruits and vegetables	193.2	205.2	206.2	207.2	207.5	209.9	210.5	212.0	212.9	212.2	212.0	213.5	213.5	214.8
2034	Dehydrated food products (12/73 = 100)	131.3	180.9	181.7	182.1	181.0	182.0	180.7	170.0	158.2	156.2	157.3	157.6	159.0	156.4
2041	Flour mills (12/71 = 100)	147.0	157.5	158.1	166.7	174.6	190.9	176.9	183.5	184.2	184.4	184.9	181.7	183.6	182.6
2044	Rice milling	207.6	171.0	206.8	206.8	206.8	206.8	218.7	223.5	227.3	231.8	218.1	217.5	233.0	258.0
2048	Prepared foods, n.e.c. (12/75 = 100)	107.3	118.3	117.5	115.2	118.9	128.1	119.4	120.9	123.6	124.3	125.3	122.3	122.9	121.8
2061	Raw cane sugar	190.7	195.7	197.5	195.6	207.0	209.0	216.8	216.7	224.3	223.3	248.4	260.5	374.9	276.0
2063	Beet sugar	188.5	198.6	199.3	199.7	199.7	202.0	199.4	200.0	204.7	210.6	223.4	223.5	290.6	303.1
2067	Chewing gum	218.0	242.5	242.6	242.2	242.2	242.9	242.9	242.9	242.9	262.3	262.2	262.3	262.3	281.9
2074	Cottonseed oil mills	183.1	202.8	198.5	192.5	210.4	224.5	214.1	217.9	214.9	204.7	205.6	182.2	184.3	170.4
2075	Soybean oil mills	225.6	242.0	244.7	237.7	251.1	262.8	250.0	248.6	244.7	242.4	241.8	230.2	226.2	219.3
2077	Animal and marine fats and oils	287.9	362.6	393.1	363.8	335.3	352.0	321.4	333.8	333.7	315.2	300.7	296.0	292.6	297.3
2083	Malt	181.5	190.8	190.8	190.8	201.4	201.4	201.4	214.9	214.9	228.2	228.2	244.1	244.1	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	106.7	109.4	109.4	113.6	113.6	113.6	115.7	117.1	117.1	118.1	118.1	118.6	118.7	118.7
2091	Canned and cured seafoods (12/73 = 100)	136.4	138.5	139.2	140.9	142.1	148.5	148.2	154.0	154.3	155.6	159.8	160.9	164.0	165.7
2092	Fresh or frozen packaged fish	303.8	359.4	375.8	382.4	397.6	403.7	391.5	389.2	400.1	391.4	389.3	390.7	386.6	392.6
2095	Roasted coffee (12/72 = 100)	262.3	221.6	220.5	231.7	244.2	271.0	279.2	279.2	280.0	287.5	287.5	281.3	273.9	274.0
2098	Macaroni and spaghetti	176.9	184.7	184.7	186.6	188.6	203.5	210.4	210.4	210.4	210.4	227.7	227.7	227.7	227.7
2111	Cigarettes	204.6	221.3	221.4	221.4	221.4	221.5	228.9	229.1	229.2	229.2	234.3	245.8	245.9	245.9
2121	Cigars	141.4	145.0	145.4	145.4	145.3	149.8	150.1	150.1	149.8	150.4	147.2	147.9	151.6	151.8
2131	Chewing and smoking tobacco	222.0	240.9	245.9	245.9	245.9	246.4	246.4	255.8	260.4	260.8	260.8	260.9	265.1	267.3
2211	Weaving mills, cotton (12/72 = 100)	181.1	190.4	191.8	192.7	194.3	196.1	196.5	198.7	201.1	201.6	200.8	203.1	206.5	209.1
2221	Weaving mills, synthetic (12/77 = 100)	109.0	112.4	113.3	113.6	114.1	116.2	116.3	116.2	116.8	117.3	117.3	117.6	117.8	119.6
2251	Women's hosiery, except socks (12/75 = 100)	91.5	94.4	97.3	97.3	97.6	99.6	98.1	97.5	98.2	100.3	100.2	103.6	103.6	103.7
2254	Knit underwear mills	164.1	172.6	172.8	173.1	173.3	172.9	174.0	174.0	174.3	174.6	178.2	182.9	184.5	186.2
2257	Circular knit fabric mills (6/76 = 100)	98.5	93.9	93.2	94.1	95.8	96.1	96.4	96.2	96.9	98.4	98.4	98.8	100.0	103.1
2261	Finishing plants, cotton (6/76 = 100)	111.0	118.2	119.0	120.8	120.9	122.5	123.2	124.0	126.1	126.3	123.4	124.9	129.5	131.7
2262	Finishing plants, synthetics, silk (6/76 = 100)	101.4	105.2	105.9	106.3	107.0	107.5	108.2	108.3	109.3	109.7	109.2	109.8	109.3	110.3
2271	Woven carpets and rugs (12/75 = 100)	114.7	116.0	116.0	116.7	117.1	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
2272	Tufted carpets and rugs	125.3	126.5	127.0	127.7	128.1	127.6	128.6	129.0	129.8	130.1	130.1	135.6	135.2	137.5
2281	Yarn mills, except wool (12/71 = 100)	167.4	172.3	173.1	174.5	175.7	177.5	177.4	179.4	181.2	183.0	184.6	188.3	197.4	199.3
2282	Throwing and winding mills (6/76 = 100)	99.2	106.0	104.4	106.3	107.5	108.5	109.7	111.2	110.4	109.6	109.2	109.3	108.8	111.3
2284	Thread mills (6/76 = 100)	114.6	120.3	120.4	120.4	120.4	120.5	128.1	128.1	128.4	128.4	128.5	128.7	129.2	129.3
2298	Cordage and twine (12/77 = 100)	99.3	98.6	101.7	102.8	105.4	105.4	113.5	115.1	114.9	114.9	115.0	115.0	117.2	118.5
2311	Men's and boys' suits and coats	194.3	199.9	203.9	204.2	204.5	205.8	206.5	206.5	206.6	206.8	206.6	207.5	209.6	209.7
2321	Men's and boys' shirts and nightwear	180.8	191.6	191.8	192.4	193.5	194.7	195.9	196.0	196.1	196.6	194.5	198.8	196.6	197.3
2322	Men's and boys' underwear	180.6	188.7	188.7	188.7	188.7	188.7	190.0	190.0	190.0	190.0	194.0	200.0	202.2	204.0
2323	Men's and boys' neckwear (12/75 = 100)	102.3	103.4	103.4	103.4	103.4	103.4	110.9	110.9	110.9	110.9	110.9	112.4	112.4	112.4
2327	Men's and boys' separate trousers	152.7	157.8	162.3	162.3	162.5	162.5	162.7	162.7	162.9	163.4	163.4	164.2	174.3	174.4
2328	Men's and boys' work clothing	195.2	200.0	206.5	206.5	209.0	208.9	210.7	210.9	213.4	219.1	219.4	225.3	234.1	235.4
2331	Women's and misses' blouses and waists (6/78 = 100)	99.2	99.1	100.3	100.5	102.6	102.7	102.8	103.0	105.9	106.8	107.0	107.2	107.2	107.2
2335	Women's and misses' dresses (12/77 = 100)	100.7	106.6	106.6	105.9	105.9	106.4	108.3	108.3	108.7	108.8	108.8	112.9	113.9	113.9
2341	Women's and children's underwear (12/72 = 100)	132.1	142.3	142.6	143.3	143.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4	151.0	152.4
2342	Brassieres and allied garments (12/75 = 100)	111.7	116.0	116.1	116.2	117.5	117.5	117.8	117.8	117.8	117.8	118.8	119.7	123.0	124.9
2361	Children's dresses and blouses (12/77 = 100)	(¹)	105.5	106.7	106.7	102.1	102.4	102.4	103.7	105.7	105.7	105.6	106.1	105.3	106.0
2381	Fabric dress and work gloves	214.4	232.2	241.5	243.9	243.9	245.4	245.4	245.4	245.4	246.9	246.9	257.7	261.7	264.8
2394	Canvas and related products (12/77 = 100)	99.6	105.9	105.9	105.9	106.9	108.4	111.0	111.4	112.3	112.1	120.1	122.1	122.8	123.4
2396	Automotive and apparel trimmings (12/77 = 100)	106.3	107.1	107.1	107.1	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	122.3
2421	Sawmills and planing mills (12/71 = 100)	228.9	249.5	252.5	251.6	250.9	251.3	259.1	265.6	262.2	250.2	237.5	234.8	239.6	239.1
2436	Softwood veneer and plywood (12/75 = 100)	150.1	160.1	157.3	151.1	140.7	148.1	153.4	156.0	153.1	142.9	138.7	138.5	143.9	139.8
2439	S'tructural wood members, n.e.c. (12/75 = 100)	136.2	148.3	150.1	150.1	150.0	150.0	149.9	150.8	158.2	158.2	158.2	158.2	158.2	158.3
2448	Wood pallets and skids (12/75 = 100)	149.4	163.8	166.8	166.7	167.0	166.9	166.8	167.9	167.9	171.0	170.5	169.8	167.0	166.3
2451	Mobile homes (12/74 = 100)	126.5	133.8	135.3	137.3	138.0	138.2	139.6	140.7	143.0	144.0	143.6	144.2	146.1	146.7
2492	Particleboard (12/75 = 100)	159.7	142.7	143.8	141.6	137.4	134.3	134.7	138.5	139.5	136.8	134.1	136.5	149.0	158.9
2511	Wood household furniture (12/71 = 100)	152.4	160.9	162.7	164.6	164.0	164.5	164.6	168.0	169.3	172.3	173.6	175.7	177.4	177.6
2512	Upholstered household furniture (12/71 = 100)	143.1	147.6	147.4	149.2	149.4	150.0	150.2	151.6	151.8	153.8	155.8	155.9	156.6	156.6
2515	Mattresses and bedsprings	156.3	162.9	163.1	163.2	164.1	164.5	165.8	165.8	168.9	172.3	172.1	169.7	169.7	169.7
2521	Wood office furniture	194.4	213.1	214.2	214.3	214.2	216.8	216.8	216.8	217.6	217.6	221.9	226.2	233.7	233.8
2611	Pulp mills (12/73 = 100)	178.5	189.9	192.5	195.2	196.6	205.4	205.7	205.8	213.5	213.9	215.6	227.2	227.0	227.4
2621	Paper mills, except building (12/74 = 100)	115.7	126.0	128.5	129.3	129.5	130.2	131.0	131.4	135.1	136.5	137.0	139.2	140.0	142.7
2631	Paperboard mills (12/74 = 100)	106.4	114.4	117.1	118.1	118.5	119.7	121.9	123.4	125.4	126.3	127.7	131.4	132.3	134.1
2647	Sanitary paper products	251.4	269.2	270.8	271.7	271.9	276.4	285.9	286.3	288.4	289.1	294.0	303.8	311.6	311.6
2654	Sanitary food containers	170.8	179.5	184.1	189.1	189.1	189.6	189.6	191.8	195.8	198.2	199.9	202.6		

30. Continued—Producer Price Indexes for the output of selected SIC Industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979										1980		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ²	Dec.	Jan.	Feb.	Mar.
3021	Rubber and plastic footwear (12/71 = 100)	158.7	169.0	169.0	169.5	169.6	171.0	173.4	173.4	173.5	173.4	173.7	173.8	173.8	
3031	Reclaimed rubber (12/73 = 100)	154.3	162.1	164.5	167.6	169.1	169.2	177.7	178.8	179.2	177.4	177.6	177.9	182.7	
3079	Miscellaneous plastic products (6/78 = 100)		105.4	107.5	109.0	110.7	111.4	112.3	113.1	114.3	115.6	116.6	116.8	118.7	
3111	Leather tanning and finishing (12/77 = 100)	119.1	173.8	182.9	201.3	195.8	181.8	172.9	155.2	161.9	150.8	153.5	164.3	160.8	
3142	House slippers (12/75 = 100)	122.5	136.3	136.3	138.5	142.0	135.0	135.0	135.0	135.8	135.9	137.0	144.8	146.7	
3143	Men's footwear, except athletic (12/75 = 100)	127.1	145.6	147.6	152.8	155.4	155.4	158.2	160.1	160.4	160.3	159.2	159.3	157.9	
3144	Women's footwear, except athletic	164.1	189.2	190.3	192.2	195.4	198.7	201.5	201.6	202.3	204.0	204.0	205.7	206.4	
3171	Women's handbags and purses (12/75 = 100)	111.4	123.0	123.0	131.7	131.8	131.8	131.8	131.8	131.8	131.8	131.9	131.9	132.1	
3211	Flat glass (12/71 = 100)	142.7	150.8	150.8	150.8	151.8	151.9	152.3	152.6	153.3	153.9	157.4	157.4	157.9	
3221	Glass containers	244.3	250.7	250.7	265.2	265.2	265.2	265.2	265.2	265.2	265.2	273.6	274.5	274.5	
3241	Cement, hydraulic	251.2	280.3	283.1	283.2	283.7	285.4	285.4	285.4	285.4	283.6	302.8	303.2	303.2	
3251	Brick and structural clay tile	230.8	252.8	256.7	258.3	259.7	261.0	263.3	265.9	261.3	261.3	268.3	270.4	271.9	
3253	Ceramic wall and floor tile (12/75 = 100)	107.7	113.0	113.0	113.0	113.0	120.2	120.2	120.2	120.2	120.2	130.3	130.4	130.4	
3255	Clay refractories	221.4	234.1	234.4	234.6	236.9	246.5	246.7	247.1	251.0	252.9	255.4	260.9	265.3	
3259	Structural clay products, n.e.c.	176.3	186.7	186.8	186.8	187.8	188.2	192.1	192.1	192.8	192.3	196.9	196.7	198.6	
3261	Vitreous plumbing fixtures	189.7	198.9	201.6	204.6	206.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2	224.6	
3262	Vitreous china food utensils	268.8	290.6	290.6	290.6	290.6	297.5	298.0	298.0	305.4	307.9	307.9	307.9	308.2	
3263	Fine earthenware food utensils	228.1	237.1	237.1	237.1	236.4	238.8	238.8	246.0	246.0	248.4	290.3	290.3	294.0	
3269	Pottery products, n.e.c. (12/75 = 100)	122.2	129.2	129.2	129.2	129.0	131.0	131.0	133.3	133.3	135.5	148.8	148.8	150.0	
3271	Concrete block and brick	202.0	227.0	230.8	232.6	232.7	235.7	237.8	237.8	240.0	240.1	249.5	250.6	252.3	
3273	Ready-mixed concrete	217.6	241.7	244.5	245.2	247.5	249.6	250.5	252.4	254.0	254.6	257.0	270.1	271.9	
3274	Lime (12/75 = 100)	129.5	137.5	139.9	139.8	140.1	141.8	142.9	144.2	144.6	144.3	144.7	149.6	153.7	
3275	Gypsum products	229.5	251.5	252.7	249.4	251.9	252.3	252.8	255.4	255.9	256.8	255.6	259.9	262.8	
3291	Abrasive products (12/71 = 100)	172.3	182.4	184.0	185.1	185.8	187.7	188.6	190.4	195.1	195.3	197.1	199.2	202.2	
3297	Nonclay refractories (12/74 = 100)	133.6	140.4	140.5	140.5	143.9	148.1	149.1	149.7	150.1	152.3	152.4	152.6	153.2	
3312	Blast furnaces and steel mills	262.3	281.1	283.5	285.3	285.8	292.8	293.0	293.2	296.4	297.1	297.6	302.3	302.9	
3313	Electrometallurgical products (12/75 = 100)	94.8	104.0	106.8	111.7	112.3	116.5	116.5	116.0	116.2	117.5	117.6	117.8	118.0	
3316	Cold finishing of steel shapes	241.0	258.4	259.1	259.8	261.3	270.6	270.8	270.9	271.7	273.4	273.9	274.2	277.2	
3317	Steel pipes and tubes	255.2	265.8	265.0	264.5	264.5	271.9	271.3	271.3	272.7	273.1	273.0	280.9	281.2	
3321	Gray iron foundries (12/68 = 100)	233.5	249.4	253.9	253.3	254.5	253.9	253.8	254.8	267.1	269.6	278.3	272.3	275.4	
3333	Primary zinc	223.2	260.9	274.2	274.5	275.2	281.4	285.5	284.2	285.2	287.8	285.7	286.1	272.4	
3334	Primary aluminum	217.4	232.4	235.8	237.4	238.5	244.9	247.4	248.2	256.0	263.2	266.6	267.0	267.8	
3351	Copper rolling and drawing	170.2	211.0	220.1	215.6	211.7	211.2	213.6	216.7	226.3	222.6	225.1	231.1	253.2	
3353	Aluminum sheet plate and foil (12/75 = 100)	137.6	146.5	148.0	148.7	148.8	149.6	149.8	150.0	150.7	151.3	151.9	153.4	153.5	
3354	Aluminum extruded products (12/75 = 100)	134.3	142.5	146.1	147.5	147.6	150.3	151.9	151.9	155.2	157.4	157.8	158.9	160.8	
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	119.7	127.5	129.6	131.5	131.6	132.7	133.1	133.5	136.9	139.9	140.3	140.5	140.8	
3411	Metal cans	238.5	260.9	264.4	263.8	262.2	262.2	262.9	263.5	273.8	274.6	273.9	276.6	279.5	
3425	Hand saws and saw blades (12/72 = 100)	147.9	157.9	159.6	161.9	162.5	162.8	166.3	166.4	167.1	169.5	169.6	173.0	173.6	
3431	Metal sanitary ware	209.1	219.2	220.8	222.2	224.1	226.4	228.9	229.2	230.1	231.7	232.9	237.3	242.1	
3465	Automotive stampings (12/75 = 100)	118.8	125.7	126.2	127.0	127.1	127.8	130.9	131.6	132.4	132.4	132.7	132.8	133.0	
3482	Small arms ammunition (12/75 = 100)	119.5	125.9	128.3	130.4	131.4	134.0	134.0	134.0	133.2	133.6	149.2	147.9	147.9	
3493	Steel springs, except wire	204.6	216.7	218.1	218.7	220.5	221.6	222.1	222.8	223.7	224.1	225.4	226.0	226.5	
3494	Valves and pipe fittings (12/71 = 100)	185.5	199.0	201.4	203.6	204.2	205.3	206.2	207.5	210.4	212.5	213.9	216.5	218.8	
3498	Fabricated pipe and fittings	265.5	276.8	284.9	288.2	290.7	294.8	294.8	294.9	297.3	297.4	301.7	301.8	303.5	
3519	Internal combustion engines, n.e.c.	220.1	234.0	237.1	239.0	239.2	242.3	245.7	251.8	254.2	254.9	253.7	259.2	260.5	
3531	Construction machinery (12/76 = 100)	114.0	121.6	123.0	123.9	124.0	125.6	126.3	126.5	128.9	129.4	130.7	134.2	135.3	
3532	Mining machinery (12/72 = 100)	209.5	224.2	228.0	228.4	226.4	231.2	231.5	232.7	233.1	235.4	235.8	243.1	244.2	
3533	Oilfield machinery and equipment	246.2	281.8	283.5	288.4	290.0	292.0	293.3	296.8	300.5	302.8	308.0	314.0	315.9	
3534	Elevators and moving stairways	204.2	213.4	213.8	213.6	214.2	215.4	214.6	219.1	219.4	220.6	220.9	223.9	225.4	
3542	Machine tools, metal forming types (12/71 = 100)	213.6	234.1	237.9	238.8	240.6	244.6	245.1	247.9	249.8	253.7	256.7	266.0	259.2	
3546	Power driven hand tools (12/76 = 100)	111.1	116.9	117.7	117.8	118.7	119.2	120.2	120.4	122.0	122.8	124.2	126.2	126.5	
3552	Textile machinery (12/69 = 100)	179.9	190.4	191.6	191.7	192.6	195.0	197.5	198.2	199.3	200.6	206.7	205.2	207.0	
3553	Woodworking machinery (12/72 = 100)	168.1	179.2	181.0	183.2	184.5	185.9	187.7	190.0	192.6	192.7	193.3	201.7	202.0	
3576	Scales and balances, excluding laboratory	179.7	191.1	191.3	192.8	193.7	194.8	195.4	195.4	195.7	199.7	200.9	201.9	204.1	
3592	Carburetors, pistons, rings, valves (6/76 = 100)	128.2	136.9	137.6	138.6	138.7	139.2	139.6	140.7	142.8	145.1	144.6	147.3	147.6	
3612	Transformers	158.3	167.0	168.5	168.0	168.5	167.9	167.6	168.4	171.2	170.4	171.7	173.0	176.1	
3623	Welding apparatus, electric (12/72 = 100)	178.1	186.6	187.3	191.5	191.9	193.5	194.1	195.1	196.9	198.6	199.6	200.6	205.3	
3631	Household cooking equipment (12/75 = 100)	114.8	120.2	120.3	120.7	120.9	122.0	123.4	124.3	124.4	125.9	126.1	128.6	129.1	
3632	Household refrigerators, freezers (6/76 = 100)	109.6	112.7	111.8	111.9	112.6	113.6	114.3	115.1	115.1	115.7	115.9	116.6	118.0	
3633	Household laundry equipment (12/73 = 100)	141.0	146.9	146.9	147.0	147.2	148.8	149.9	150.6	150.9	152.3	154.7	155.2	158.2	
3635	Household vacuum cleaners	135.5	140.4	140.4	141.2	141.5	141.6	141.7	141.9	144.5	144.7	145.8	146.2	149.6	
3636	Sewing machines (12/75 = 100)	111.2	119.8	121.1	121.1	121.1	121.8	122.2	122.2	122.6	122.6	122.0	128.6	128.6	
3641	Electric lamps	214.7	227.1	229.8	229.8	229.7	240.8	244.3	242.7	244.8	238.7	240.5	248.3	252.2	
3644	Noncurrent-carrying wiring devices (12/72 = 100)	185.8	198.0	200.4	202.6	203.0	203.3	207.7	209.1	210.5	211.9	217.3	215.2	217.5	
3646	Commercial lighting fixtures (12/75 = 100)	112.7	121.2	124.3	126.8	127.4	127.9	130.5	131.4	131.6	132.3	133.9	134.8	136.6	
3648	Lighting equipment, n.e.c. (12/75 = 100)	114.6	122.3	123.5	124.0	124.6	127.6	128.2	128.5	129.6	129.8	130.5	133.0	133.2	
3671	Electron tubes receiving type	200.9	211.0	211.2	211.3	226.4	226.5	226.6	227.2	227.2	227.4	227.6	229.1	229.4	
3674	Semiconductors and related devices	85.3	84.4	84.7	84.7	84.7	84.2	84.3	84.7	85.1	85.6	86.0	86.6	88.0	
3675	Electronic capacitors (12/75 = 100)	111.5	115.9	119.8	120.1	122.1	126.7	129.3	134.1	133.9	135.8	137.9	147.7	149.1	
3676	Electronic resistors (12/75 = 100)	118.3	123.1	123.2	123.2	123.2	124.0	124.6	125.2	126.6	126.7	127.3	127.4	128.8	
3678	Electronic connectors (12/75 = 100)	118.9	125.6	125.8	126.6	126.9	133.4	134.1	137.6	138.9	140.7	141.0	143.6	144.9	
3692	Primary batteries, dry and wet	162.0	164.8	167.9	172.1	172.7	172.8	172.8	172.8	173.1	173.1	174.1	174.2	176.5	
3711	Motor vehicles and car bodies (12/75 = 100)	115.9	122.3	124.5	124.6	124.8	125.1	122.1	122.5	130.2	130.1	130.0	132.5	131.4	
3942	Dolls (12/75 = 100)	103.2	108.6	109.3	109.3	109.3	111.8	112.6	112.6	112.9	112.9	113.0	121.2	123.7	
3944	Games, toys, and children's vehicles	172.3	179.2	179.6	182.3	183.1	183.5	184.4	185.1	186.2	186.3	186.6	195.5	202.0	
3955	Carbon paper and inked ribbons (12/75 = 100)	105.													

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. Indexes of productivity and related data, selected years, 1950-79

[1967 = 100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.0	70.3	78.7	85.0	104.2	111.4	113.6	110.1	112.4	116.4	118.6	119.2	118.1
Compensation per hour	42.4	55.8	71.9	88.7	123.1	139.7	151.2	164.9	181.3	197.2	213.0	231.2	252.8
Real compensation per hour	58.9	69.6	81.1	93.8	105.8	111.5	113.6	111.7	112.5	115.6	117.3	118.3	116.3
Unit labor cost	69.6	79.4	91.3	93.3	118.2	125.4	133.1	149.8	161.3	169.4	179.6	194.0	214.0
Unit nonlabor payments	73.2	80.5	85.5	95.9	105.8	119.0	124.9	130.4	150.4	158.0	165.6	174.3	184.6
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
Nonfarm business sector:													
Output per hour of all persons	66.9	74.3	80.9	95.9	103.0	110.1	112.0	108.5	110.5	114.4	116.2	116.8	115.5
Compensation per hour	45.4	58.7	74.2	89.4	121.7	138.4	149.2	162.8	178.9	193.8	209.3	227.3	247.6
Real compensation per hour	63.0	73.2	83.7	94.6	104.6	110.4	112.1	110.2	111.0	113.7	115.3	116.3	113.9
Unit labor cost	67.9	79.1	91.7	93.2	118.1	125.7	133.2	150.0	161.8	169.4	180.1	194.5	214.3
Unit nonlabor payments	71.5	80.1	84.5	95.8	106.0	117.5	117.8	124.7	146.0	156.0	163.9	169.9	178.8
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.2
Nonfinancial corporations:													
Output per hour of all employees	(¹)	(¹)	80.2	96.8	103.5	110.5	112.8	108.5	111.9	115.5	116.8	117.9	117.5
Compensation per hour	(¹)	(¹)	75.7	90.0	121.5	136.7	147.5	161.4	177.4	192.2	207.6	224.8	244.7
Real compensation per hour	(¹)	(¹)	85.4	95.3	104.4	109.1	110.8	109.3	110.1	112.7	114.4	115.0	112.6
Unit labor cost	(¹)	(¹)	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	208.3
Unit nonlabor payments	(¹)	(¹)	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	178.8
Implicit price deflator	(¹)	(¹)	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	198.2
Manufacturing:													
Output per hour of all persons	65.0	74.1	78.9	98.3	104.5	115.7	118.8	112.6	118.2	123.4	127.2	128.0	130.2
Compensation per hour	45.1	60.5	77.1	91.0	121.8	136.6	146.4	161.1	180.2	195.1	212.0	229.5	250.5
Real compensation per hour	62.5	75.4	87.0	96.3	104.7	109.0	110.0	109.1	111.8	114.5	116.8	117.5	115.2
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	192.4
Unit nonlabor payments	82.4	88.6	92.4	103.3	96.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	(¹)
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	145.1	152.5	160.7	171.1	(¹)

¹ Not available.

32. Annual percent change in productivity and related data, 1969-79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-78	1960-78
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.5	1.9	-3.0	2.1	3.5	1.9	0.5	-0.9	2.6	2.2
Compensation per hour	6.8	7.1	6.7	6.3	8.2	9.1	9.9	8.8	8.0	8.5	9.3	5.8	6.8
Real compensation per hour	1.4	1.1	2.4	2.9	1.9	-1.7	.7	2.8	1.5	0.8	-1.7	2.6	2.1
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	3.2	4.5
Unit nonlabor payments	1.0	1.2	6.8	5.2	5.0	4.4	15.3	5.1	4.8	5.3	5.9	2.8	4.0
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.1	4.3
Nonfarm business sector:													
Output per hour of all persons	-3	.1	3.1	3.7	1.7	-3.1	1.9	3.5	1.6	.5	-1.1	2.2	2.0
Compensation per hour	6.3	6.7	6.7	6.5	7.8	9.1	9.9	8.3	8.0	8.6	8.9	5.5	6.5
Real compensation per hour	.9	.7	2.3	3.1	1.5	-1.7	.7	2.4	1.4	.9	-2.1	2.3	1.9
Unit labor cost	6.7	6.5	3.5	2.8	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.2	4.5
Unit nonlabor payments	4	1.6	6.7	3.8	.3	5.9	17.1	6.9	5.0	3.7	5.2	2.8	3.9
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.6	3.1	4.3
Nonfinancial corporations:													
Output per hour of all employees	.3	-.1	3.4	3.3	2.1	-3.8	3.1	3.2	1.1	1.0	-.4	(¹)	2.0
Compensation per hour	6.7	6.7	6.2	5.9	7.9	9.4	10.0	8.3	8.0	8.3	8.9	(¹)	6.3
Real compensation per hour	1.2	.7	1.9	2.5	1.6	-1.4	.7	2.4	1.5	.6	-2.1	(¹)	1.7
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	(¹)	4.2
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	5.4	(¹)	3.4
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	8.0	(¹)	3.9
Manufacturing:													
Output per hour of all persons	1.1	-.3	5.3	5.1	2.7	-5.2	4.9	4.4	3.1	.6	1.8	2.6	2.6
Compensation per hour	6.4	6.9	6.3	5.5	7.2	10.1	11.8	8.3	8.6	8.3	9.2	5.4	6.3
Real compensation per hour	1.0	.9	2.0	2.1	.9	-.8	2.4	2.4	2.0	.6	-1.9	2.2	1.6
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	7.3	2.7	3.6
Unit nonlabor payments	-4.4	-3.2	9.2	2.3	-1.0	-.7	21.6	8.8	5.5	3.4	(¹)	1.8	2.3
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	(¹)	2.5	3.3

¹ Not available.

33. Indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967=100]

Item	Annual average		Quarterly indexes										
			1977			1978				1979			
	1978	1979	II	III	IV	I	II	III	IV	I	II	III	IV
Private business sector:													
Output per hour of all persons	119.2	118.1	117.9	119.4	118.8	118.4	119.0	119.7	119.8	118.9	118.2	117.8	117.6
Compensation per hour	231.2	252.8	210.8	215.3	218.5	224.2	228.5	233.6	238.4	244.8	250.3	255.6	260.1
Real compensation per hour	118.3	116.3	116.7	117.6	117.9	118.7	118.1	118.2	118.0	118.0	116.9	115.8	114.2
Unit labor cost	194.0	214.0	178.8	180.2	183.8	189.4	192.1	195.2	199.0	205.9	211.7	217.0	221.1
Unit nonlabor payments	174.3	184.6	164.7	167.9	168.6	164.8	173.9	177.0	181.3	180.8	183.7	185.6	189.0
Implicit price deflator	187.2	203.8	173.9	176.0	178.6	180.9	185.8	188.9	192.9	197.2	202.0	206.1	210.0
Nonfarm business sector:													
Output per hour of all persons	116.8	115.5	115.8	116.7	116.3	116.0	116.5	117.3	117.6	116.6	115.4	115.0	115.1
Compensation per hour	227.3	247.6	207.3	211.2	214.8	220.6	224.6	229.4	234.3	240.2	244.8	249.9	255.4
Real compensation per hour	116.3	113.9	114.7	115.4	115.9	116.8	116.1	116.1	116.0	115.8	114.3	113.2	112.2
Unit labor cost	194.5	214.3	179.0	180.9	184.7	190.2	192.7	195.6	199.3	206.0	212.1	217.3	221.8
Unit nonlabor payments	169.9	178.8	163.2	167.1	166.0	161.1	169.2	173.0	176.1	174.3	177.6	180.5	183.3
Implicit price deflator	186.1	202.2	173.6	176.2	178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.6
Nonfinancial corporations:													
Output per hour of all employees	117.9	117.5	116.5	117.4	116.7	116.7	117.8	118.4	118.8	118.1	117.3	117.2	(¹)
Compensation per hour	224.8	244.7	205.7	209.5	212.8	218.5	222.3	226.9	231.3	237.4	242.1	247.1	(¹)
Real compensation per hour	115.0	112.6	113.8	114.5	114.8	115.7	114.9	114.8	114.5	114.5	113.1	112.0	(¹)
Total unit costs	193.3	210.3	180.5	182.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	213.2	(¹)
Unit labor cost	190.6	208.3	176.6	178.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.8	(¹)
Unit nonlabor costs	201.8	216.6	192.4	194.8	198.7	201.5	200.8	201.6	203.1	206.5	213.2	220.5	(¹)
Unit profits	127.2	128.4	123.3	130.9	122.2	107.1	129.2	132.7	138.7	130.3	129.2	127.5	(¹)
Implicit price deflator	183.5	198.2	172.0	174.7	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.4	(¹)
Manufacturing:													
Output per hour for all persons	128.0	130.2	127.3	128.4	127.8	125.7	127.2	129.2	129.8	129.0	130.0	131.1	130.6
Compensation per hour	229.5	250.5	209.7	214.1	217.5	223.2	226.6	231.4	236.5	242.4	248.2	253.0	258.2
Real compensation per hour	117.5	115.2	116.1	117.0	117.4	118.1	117.1	117.0	117.1	116.9	115.9	114.6	113.4
Unit labor cost	179.4	192.4	164.7	166.7	170.2	177.5	178.1	179.1	182.2	187.9	190.9	193.0	197.6

¹ Not available.

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

[1967 = 100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	II 1978 to III 1978	III 1978 to IV 1978	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	III 1977 to III 1978	IV 1977 to IV 1978	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979
Private business sector:												
Output per hour of all persons	2.4	0.3	-3.0	-2.2	-1.3	-0.6	0.2	0.8	0.4	-0.6	-1.6	-1.8
Compensation per hour	9.2	8.5	11.1	9.3	8.8	7.2	8.5	9.1	9.2	9.5	9.4	9.1
Real compensation per hour .....	.3	-.7	.1	-3.8	-3.6	-5.4	0.4	.1	-.6	-1.0	-2.0	-3.2
Unit labor cost	6.6	8.1	14.6	11.8	10.3	7.8	8.3	8.3	8.7	10.2	11.2	11.1
Unit nonlabor payments	7.4	9.9	-1.0	6.5	4.1	7.7	5.4	7.5	9.7	5.6	4.8	4.3
Implicit price deflator	6.9	8.7	9.3	10.1	8.3	7.8	7.4	8.0	9.0	8.7	9.1	8.9
Nonfarm business sector:												
Output per hour of all persons	2.7	.8	-3.2	-4.1	-1.4	.5	.5	1.1	1.5	-1.0	-2.0	-2.0
Compensation per hour	8.8	8.8	10.4	7.9	8.5	9.2	8.7	9.1	8.9	9.0	8.9	9.0
Real compensation per hour .....	.0	-.4	-.6	-5.0	-3.9	3.6	.6	.1	-.8	-1.5	-2.5	-3.3
Unit labor cost	6.0	8.0	14.0	12.5	10.1	8.6	8.1	7.9	8.3	10.1	11.1	11.3
Unit nonlabor payments	9.4	7.3	-4.0	7.8	6.6	6.4	3.5	6.1	8.2	5.0	4.3	4.1
Implicit price deflator	7.0	7.8	8.1	11.0	9.0	7.9	6.6	7.3	8.3	8.5	9.0	9.0
Nonfinancial corporations:												
Output per hour of all employees	2.0	1.1	-2.1	-2.8	-0.2	(¹)	0.8	1.8	1.3	-.5	-1.0	(¹)
Compensation per hour	8.4	8.1	11.0	8.0	8.6	(¹)	8.3	8.7	8.7	8.9	8.9	(¹)
Real compensation per hour	-.4	-1.0	.0	-4.9	-3.8	(¹)	.2	-.3	-1.0	-1.6	-2.5	(¹)
Total unit costs	5.1	5.9	11.7	11.8	10.2	(¹)	6.4	5.6	6.1	8.6	9.9	(¹)
Unit labor costs	6.2	6.9	13.4	11.2	8.8	(¹)	7.4	6.8	7.3	9.4	10.1	(¹)
Unit nonlabor costs	1.7	2.9	6.8	13.5	14.6	(¹)	3.5	2.2	2.5	6.2	9.4	(¹)
Unit profits	11.4	19.5	-22.1	-3.4	-5.3	(¹)	1.4	13.6	21.7	0	-3.9	(¹)
Implicit price deflator	5.7	7.3	7.6	10.2	8.6	(¹)	5.8	6.4	7.5	7.7	8.4	(¹)
Manufacturing:												
Output per hour of all persons	6.3	2.0	-2.4	2.9	3.5	-1.3	.6	1.6	2.6	2.2	1.5	0.6
Compensation per hour	8.7	9.3	10.3	9.8	8.1	8.4	8.1	8.7	8.6	9.5	9.4	9.2
Real compensation per hour	-.1	0	-.6	-3.4	-4.3	4.3	0	-.3	-1.1	-1.0	-2.1	-3.1
Unit labor cost	2.2	7.1	13.0	6.7	4.4	9.9	7.4	7.1	5.9	7.2	7.8	8.5

¹ Not available.

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of

the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Annual average					Quarterly average							
	1975	1976	1977	1978	1979 ^P	1978			1979				
						II	III	IV	I	II	III	IV	
Wage and benefit settlements, all industries:													
First-year settlements	11.4	8.5	9.6	8.3	8.9	6.8	7.2	6.1	2.8	10.5	9.0	8.5	
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	6.0	5.9	5.2	5.3	7.8	6.1	6.0	
Wage rate settlements, all industries:													
First-year settlements	10.2	8.4	7.8	7.6	7.4	6.9	7.5	7.4	5.7	8.9	6.8	6.3	
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.2	6.4	5.9	6.6	7.2	5.1	5.3	
Manufacturing:													
First-year settlements	9.8	8.9	8.4	8.3	7.0	7.1	8.4	9.5	8.7	9.7	6.3	5.6	
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	5.8	7.2	7.4	7.7	8.1	4.7	4.2	
Nonmanufacturing (excluding construction):													
First-year settlements	11.9	8.6	8.0	8.0	7.5	7.7	7.4	6.4	3.2	8.5	9.4	7.8	
Annual rate over life of contract	8.0	7.2	5.9	6.5	5.9	6.9	5.9	5.1	5.6	5.8	6.5	7.4	
Construction:													
First-year settlements	8.0	6.1	6.3	6.5	8.9	6.4	7.0	8.4	9.7	8.7	9.7	7.5	
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.4	6.0	7.2	7.1	8.2	8.3	8.5	7.6	

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes									
	1975	1976	1977	1978	1979	1977	1978				1979				
						IV	I	II	III	IV	I	II	III	IV	
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	8.8	1.1	1.3	2.6	2.7	1.4	1.4	2.6	3.3	1.6	
Change resulting from —															
Current settlement	2.8	3.2	3.0	2.0	2.8	.5	.5	.6	.5	.4	.2	1.1	1.0	.5	
Prior settlement	3.7	3.2	3.2	3.7	3.0	.3	.6	1.4	1.2	.5	.6	1.0	1.0	.4	
Escalator provision	2.2	1.6	1.7	2.4	3.0	.3	.3	.6	1.0	.5	.6	.5	1.2	.7	
Manufacturing	8.5	8.5	8.4	8.6	9.2	1.4	1.4	2.2	2.9	1.9	1.5	2.3	3.2	2.4	
Nonmanufacturing	8.9	7.7	7.6	7.9	8.5	.8	1.3	2.9	2.5	1.1	1.4	2.8	3.4	1.0	

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

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693		2,170		34,600	.30
1948	3,419		1,960		34,100	.28
1949	3,606		3,030		50,500	.44
1950	4,843		2,410		38,800	.33
1951	4,737		2,220		22,900	.18
1952	5,117		3,540		59,100	.48
1953	5,091		2,400		28,300	.22
1954	3,468		1,530		22,600	.18
1955	4,320		2,650		28,200	.22
1956	3,825		1,900		33,100	.24
1957	3,673		1,390		16,500	.12
1958	3,694		2,060		23,900	.18
1959	3,708		1,880		69,000	.50
1960	3,333		1,320		19,100	.14
1961	3,367		1,450		16,300	.11
1962	3,614		1,230		18,600	.13
1963	3,362		941		16,100	.11
1964	3,655		1,640		22,900	.15
1965	3,963		1,550		23,300	.15
1966	4,405		1,960		25,400	.15
1967	4,595		2,870		42,100	.25
1968	5,045		2,649		49,018	.28
1969	5,700		2,481		42,869	.24
1970	5,716		3,305		66,414	.37
1971	5,138		3,280		47,589	.26
1972	5,010		1,714		27,066	.15
1973	5,353		2,251		27,948	.14
1974	6,074		2,778		47,991	.24
1975	5,031		1,746		31,237	.16
1976	5,648		2,420		37,859	.19
1977	5,506		2,040		35,822	.17
1978: September	453	854	448	551	4,446	.25
October	370	721	117	216	2,352	.13
November	268	569	64	136	1,691	.09
December	157	408	53	143	1,377	.08
1979: January	262		68		1,925	.10
February	299		75		1,670	.10
March	391		112		1,871	.10
April	512		426		5,126	.27
May	556		132		3,682	.19
June	536		137		2,989	.16
July	471		168		3,001	.16
August	463		119		3,152	.15
September	464		135		2,319	.13
October	443		230		2,988	.15
November	257		91		2,720	.15
December	134		42		1,976	.11
1980: January ^p	352	441	207	292	3,142	.16
February ^p	354	590	114	332	3,025	.17
March ^p	396	631	123	310	2,705	.14

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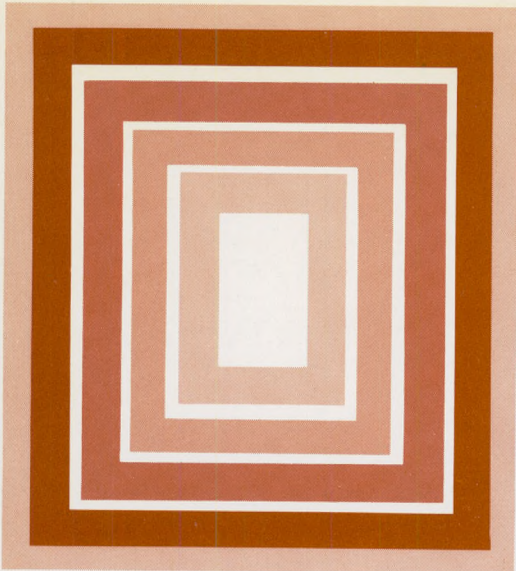
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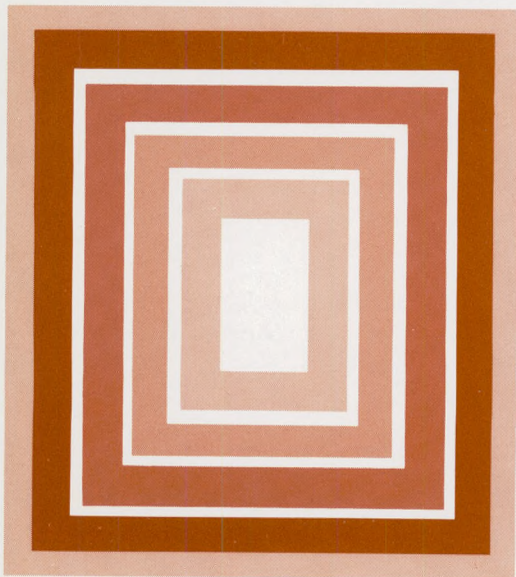
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