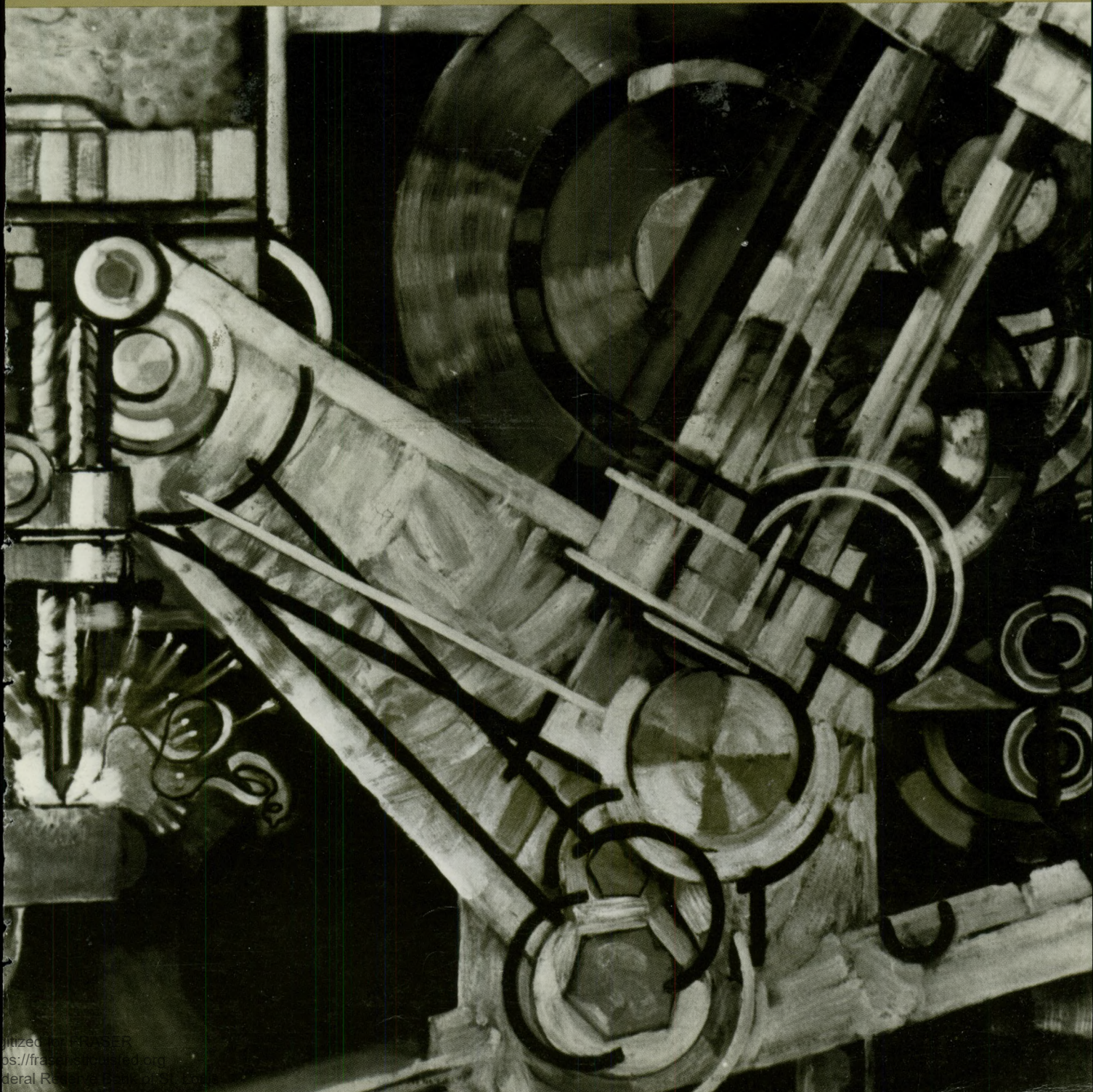




MONTHLY LABOR REVIEW

U.S. Department of Labor
Bureau of Labor Statistics
August 1982

In this issue:
Employment and Unemployment in the first half,
Imports and U.S. Employment.





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Henry Lowenstern, Editor-in-Chief
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Labor Month In Review



WORK EXPERIENCE. The Bureau of Labor Statistics published results of the latest survey on work experience of the population. The data are based on responses to special questions in the March 1982 *Current Population Survey*, conducted for BLS by the Census Bureau. The data show:

More extensive unemployment. The 23.4 million persons who encountered some unemployment in 1981 were 2 million more than in 1980, and represented 19.5 percent of all persons in the labor force for at least 1 week. This proportion was higher than the 18.1 percent in 1980, but below the 20.2-percent peak of 1975. For men and all blacks, however, the proportion with some unemployment during the year equaled or exceeded the previous highs.

Among men, the proportion with some unemployment during 1981 was 20.0 percent, the same as in 1975. Among women, the proportion was 19.0 percent, still below its 1975 peak of 20.5 percent. Men were not only more likely to become unemployed; they generally remained unemployed longer than women.

For blacks, the proportion experiencing joblessness in 1981—30.5 percent—was up from 28.0 percent in 1980 and even higher than the previous peak of 29.5 percent reached in 1975. By comparison, the proportion of whites with unemployment rose to 18.3 percent in 1981, up from 16.9 percent in 1980 but still down from 19.1 percent in 1975. For Hispanics, the rate remained largely unchanged over the year at 24 percent. Blacks were also unemployed longer than either whites or Hispanics. The median number of weeks of unemployment was 15.3 for blacks, 13.0 weeks for whites, and 14.5 weeks for Hispanics.

Of the 23.4 million persons who ex-

perienced some unemployment in 1981, 2.9 million held no job at all during the year—many because they left the labor force. Of the 20.5 million who found some work, the median duration of joblessness increased from 13.0 weeks in 1980 to 13.3 weeks in 1981. The proportion of unemployed workers with two or more periods of joblessness also increased in 1981 to 34 percent from 32 percent a year earlier.

A modest rise in employment. Employment continued to grow slowly in 1981. A total of 116.8 million persons 16 years of age and over worked all or part of the year, 1 million more than in 1980. Because population growth outpaced job growth, the proportion of the population working during the year edged downward for the third straight year to 68 percent.

For men, the proportion who worked continued a 15-year decline and—at 79.7 percent—reached its lowest level since the beginning of this series in 1948. For women, the proportion with employment was essentially unchanged and remained near the high of 58.0 percent reached in 1979. And the proportion of women working full time, year-round, continued to increase.

The proportion of blacks who worked during the year reached a new low of 60.7 percent. For black men, the proportion dropped to 68.6 percent, 4 percentage points lower than in 1978. The proportions of whites and Hispanics working during the year remained largely unchanged at 69 and 66 percent.

Lower real annual earnings. The median annual earnings of wage and salary workers employed at full-time jobs year-round rose to \$20,593 for men and to \$12,345 for women. For both groups, the 1981 median was about 9 percent higher than the median for the previous

year. Thus, there was no change in the ratio of the average annual earnings of women to those of men, which remained at 60 percent.

After adjusting for inflation, the median annual earnings of men and women declined by about 1 percent relative to 1980, as the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) rose by 10.2 percent in 1981.

Annual earnings of black and Hispanic workers continued to be much lower than those of white workers. The median for white men employed at full-time jobs all year was \$21,087, compared to \$14,988 for black men and \$14,953 for Hispanic men. For white women who usually worked full time, year-round, the median was \$12,476, compared to \$11,166 for black women and \$10,725 for Hispanic women.

The work experience questions in the March survey refer, retroactively, to respondents' work status and earnings for the entire previous year. Because many persons enter and leave the labor force during the course of a year, the total numbers with employment and unemployment as determined through the work experience questions are much greater than the annual averages based on the monthly survey conducted during the year. For example, the number who reported that they experienced some unemployment during 1981 was 2.8 times greater than the annual average of the 1981 monthly figures.

Tables showing the survey results appear in the news release, USDL 82-255, available from the Inquiries and Correspondence Section, Bureau of Labor Statistics, Washington, D.C. 20212. Survey results will be discussed in greater detail in a forthcoming issue of the *Review*. □

The Nation's employment situation worsens in the first half of 1982

The continued economic slide pushed the U.S. unemployment rate to a postwar high in the second quarter; construction and durable goods industries were hardest hit

MARILLYN A. HEWSON AND MICHAEL A. URQUHART

The economy entered 1982 deeply mired in its eighth post-World War II recession, following an unusually brief and weak recovery. The employment situation of some worker groups, particularly blacks and teenagers, had simply not shown improvement from the 1980 recession. Labor market conditions, which had been deteriorating rapidly since mid-1981, worsened substantially in the fourth quarter and continued to weaken through the first quarter of 1982. Employment dropped sharply and unemployment soared to the highest level recorded in the postwar era. However, there was evidence of moderation by the end of the second quarter.

Persistently high interest rates, which aborted the recovery from the 1980 recession, were a major cause of the 1981-82 economic reversal. The interest-rate sensitive construction and automobile manufacturing industries have experienced an economic slump spanning the two recessions. By late 1981, the weakness had clearly spread to much of the rest of the economy, including the services sector. The deterioration in the labor market became more pervasive as slackening sales and growing inventories forced firms to sharply curtail new orders, cut back production, and lay off workers. Although labor market conditions appeared to be improv-

ing by late spring, recessionary forces clearly dominated the first half of 1982.

This article continues the *Monthly Labor Review* practice of examining the Nation's employment situation at mid-year. It traces developments in employment and unemployment during the current recession, concentrating particularly on the first 6 months of 1982.

Job cutbacks

The renewed deterioration in economic activity worsened in the final quarter of 1981 and continued to accelerate during early 1982. However, signs that the rapid contraction in economic activity was losing momentum were evident by late spring, as the rate of decline in nonfarm employment slowed significantly in the second quarter. By midyear, nonfarm payroll jobs had declined by 1.4 million from the July 1981 high of 91.4 million.

To put the current labor market situation into perspective, it is useful to assess and compare the severity and extent of recent job cutbacks with those of the past. Table 1 presents measures of the duration, depth, and diffusion of declines in nonfarm payroll employment (based on data from the BLS survey of establishments) during each of the seven complete postwar recessions plus the current period.¹ April 1982 was used as the month that nonfarm payroll employment reached its trough for the 1981-82 recessionary period. Of course, data for subsequent months may prove otherwise, but it is still useful analytically to compare the de-

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cline in nonfarm payroll employment as of this point in the recession with past downturns.

As the table illustrates, the length of the contraction in nonfarm employment for the 1981-82 recession was longer than the declines for the three previous postwar recessions, spanning 9 months. Moreover, the pervasiveness of the 1981-82 decline, as measured by the 186-industries diffusion index which covers all employment on private nonagricultural payrolls,² was greater than for the 1980 downturn. While the 1980 contraction had been largely confined to construction and automobile manufacturing, and their supplying industries, the 1981-82 downturn was visibly more widespread, with employment declines witnessed in virtually all of the goods-producing industries, as well as in a large number of the service-producing industries.

Despite the longer and more pervasive nature of the recent nonfarm payroll job losses, the relative employment decline—1.4 percent—matched that of the 1980 downturn. Thus, the job loss total for each of the last two recessions was less than those that occurred in the 1973-75 and earlier postwar recessions.

It has been argued that the continuing shift in jobs from the goods to services sector has moderated the effects of business contractions on employment in the U.S. economy.³ That is, as the service-producing sector's share of nonfarm jobs increases, this, in turn, serves to cushion a slowdown in the economy as a whole, because employment in the service-producing sector has historically been less affected by economic contractions

than in the goods sector. Business downturns typically reduce the services sector's rate of growth but do not usually result in overall employment declines in services. This phenomenon was observed once again in the 1981-82 recession. Employment continued to expand in the services sector during the downturn as it has for most of the postwar recessions, although at a much slower pace than the roughly 4-percent growth rate experienced in nonrecessionary periods.

The data in table 1 clearly show the moderation in recessionary employment cutbacks during the postwar period. In contrast to the employment effects of earlier recessions, job cutbacks during recent downturns have been generally shorter in duration and considerably less severe in magnitude. In fact, during the 1973-75 recession, which is generally regarded as the most severe postwar business downturn, the percentage decline in employment was significantly less than during postwar recessions prior to 1960, as well as noticeably shorter.

Although when examined as a separate entity the 1981-82 recession does not appear at this point to have resulted in employment declines any more severe than in previous downturns, it is worth noting two important factors which set it apart from other postwar recessions. The most significant atypical development was that this contraction was preceded by the shortest and weakest recovery in the postwar period, a recovery which halted before many industries had rebounded fully. As a result, some industries have experienced what may be regarded as a "double-dip" recession, a downturn more severe and spanning a much longer period than the cyclical decline for the economy in the aggregate. In fact, employment in some industries, such as primary metals and stone, clay, and glass, has fallen to levels below those experienced during the 1973-75 recession.

The second dominant feature was the failure of interest rates to recede as in previous postwar downturns. This caused a continued slump in the housing, automotive, and other credit-sensitive industries, and inhibited growth in all industries by reducing orders for suppliers, inflating inventory carrying costs, and dampening spending on consumer and capital goods.

As indicated above, the bulk of the employment declines in the first half of 1982 was centered in the goods-producing sector, notably in manufacturing and construction. (See table 2.) Continuing the losses begun in the second half of 1981, virtually every manufacturing industry registered some decline. The job losses took place largely in the more cyclically sensitive durable goods industries, where the job count fell by more than 900,000 between the second quarters of 1981 and 1982, principally the result of the depressed housing and automobile markets.

Housing demand both for new residential construction and for existing homes was kept low by high mort-

Table 1. Measures of duration, depth, and diffusion in peak-to-trough changes in nonfarm payroll employment, selected periods, 1948-82

Peak to trough ¹	Duration (in months)	Depth ² (in percent)	Diffusion ³ (in percent)	
			30 industries ⁴	186 industries
Sept. 1948 to Oct. 1949 . . .	13	-5.2	90	(5)
June 1953 to Aug. 1954 . . .	14	-3.5	87	(5)
July 1957 to May 1958 . . .	10	-4.2	88	(5)
Apr. 1960 to Feb. 1961 . . .	10	-2.2	82	(5)
Mar. 1970 to Nov. 1970 . . .	8	-1.5	77	(5)
Oct. 1974 to Apr. 1975 . . .	6	-2.9	88	88
Mar. 1980 to July 1980 . . .	4	-1.4	76	77
July 1981 to Apr. 1982 ⁵ . . .	9	-1.4	93	78

¹ Peak-to-trough dates in nonfarm payroll employment near the following National Bureau of Economic Research designated postwar recessionary periods: November 1948 to October 1949, July 1953 to May 1954, August 1957 to April 1958, April 1960 to February 1961, December 1969 to November 1970, November 1973 to March 1975, January 1980 to July 1980, July 1981 to —; the 1982 trough has not yet been designated by the National Bureau of Economic Research.

² Percent decline in employment level over the period.

³ Percent of industries in which employment declined over a 6-month span, centered on the fourth month of the span: February 1949, March 1954, September 1957, August 1960, June 1970, January 1975, April 1980, and January 1982.

⁴ Indexes of diffusion, 30 industries, 6-month span for April 1947 to May 1974 are published in John F. Early, "Introduction to Diffusion Indexes," *Employment and Earnings*, December 1974, p. 11, table 8. Indexes of diffusion for subsequent periods under study are for 29 industries due to the 1972 SIC revision which divided the industry category for Ordnance and accessories among the remaining manufacturing industries. These indexes were calculated specifically for this report.

⁵ Data are not available.

⁶ As of this writing, April was the month in which nonfarm payroll employment appeared to have reached its 1982 low.

Table 2. Selected employment indicators, seasonally adjusted quarterly averages, 1981-82

[In thousands]

Selected categories	1981				1982	
	I	II	III	IV	I	II
Employed	100,125	100,784	100,654	100,043	99,554	99,740
Both sexes, 16 to 19 years	7,476	7,341	7,176	6,914	6,733	6,616
Men, 20 years and over	53,448	53,767	53,786	53,327	53,050	53,078
Women, 20 years and over	39,202	39,667	39,692	39,802	39,772	40,047
White	88,381	89,039	89,006	88,414	87,967	82,204
Black	9,387	9,419	9,308	9,304	9,259	9,167
Hispanic origin	5,277	5,336	5,349	5,431	5,296	5,163
White-collar workers	52,754	52,943	52,985	53,123	52,813	53,489
Blue-collar workers	31,211	31,673	31,486	30,660	30,309	29,855
Service workers	13,358	13,384	13,400	13,611	13,616	13,695
Farmworkers	2,748	2,761	2,741	2,744	2,771	2,671
Nonfarm payroll employment	90,945	91,172	91,360	90,954	90,408	90,081
Goods-producing industries	25,559	25,577	25,646	25,159	24,588	24,201
Mining	1,113	1,033	1,179	1,201	1,200	1,155
Construction	4,274	4,230	4,148	4,066	3,958	3,961
Manufacturing	20,172	20,314	20,319	19,892	19,430	19,085
Durable goods	12,120	12,228	12,226	11,895	11,562	11,322
Nondurable goods	8,052	8,086	8,093	7,997	7,868	7,763
Service-producing industries	65,386	65,595	65,714	65,795	65,819	65,880
Transportation and public utilities	5,146	5,161	5,172	5,147	5,113	5,090
Wholesale and retail trade	20,413	20,547	20,643	20,600	20,652	20,628
Wholesale trade	5,327	5,359	5,382	5,371	5,342	5,317
Retail trade	15,087	15,188	15,262	15,230	15,310	15,311
Finance, insurance, and real estate	5,262	5,294	5,319	5,327	5,329	5,341
Services	18,383	18,518	18,659	18,807	18,867	18,950
Government	16,183	16,075	15,921	15,914	15,858	15,870
Federal	2,789	2,776	2,769	2,754	2,738	2,729
State and local	13,394	13,300	13,151	13,160	13,120	13,141

gage rates which prevailed throughout the period. Employment declines in the construction industry accelerated sharply in the last half of 1981 and first two quarters of 1982. Job cutbacks totaled more than 100,000 in the first 6 months of 1982, following a loss of almost 165,000 in the second half of 1981. With record inventories of unsold homes, the housing industry remained in its longest and deepest slump in postwar history.

The housing slump was also reflected in the dismal performance of industries producing household durables such as major appliances and household furniture. Likewise, lumber and wood products and stone, clay, and glass, which are also closely tied to the construction industry, were hard hit by the almost 3-year depression in the housing market.

The general economic malaise, coupled with high interest rates, prolonged the deep recessionary environment in the automotive industry. Reflecting the persistent weakness in the demand for autos, job curtailments in the transportation equipment industry approached 185,000 between the second quarters of 1981 and 1982. However, by mid-1982, automobile inventories appeared to have been worked down to minimal levels, and job cutbacks had slowed significantly.

The primary metals industry was another source of weakness in the durable goods sector. The recession-induced slowdown in demand and production prompted a widespread reduction in steel inventories by users con-

cerned with the high cost of holding stocks. Moreover, a surge in steel imports also played havoc with the industry's already deteriorating operating environment. As a result, employment in primary metals dropped almost 190,000 over the year ended second-quarter 1982 to a level more than 160,000 below its 1973-75 recession low.

Sizable cutbacks were posted among the other durable metals industries—particularly fabricated metals, nonelectrical machinery, and electric and electronic equipment—affected by low capacity utilization, declining orders, and scaled-back capital spending plans. The pronounced slump in the automobile industry was a key contributor to the declines in nonelectrical machinery, particularly in the machine tools industry where scheduled major retooling programs were canceled or postponed when auto sales remained at depressed levels. High borrowing costs and the recession took their toll on nonelectrical farm and construction machinery, while softening crude oil prices dampened the demand for oil drilling equipment.

The adverse effects of the prolonged slump in the housing and automotive industries also spilled over into the nondurable goods sector. Particularly sharp employment declines were registered in the housing- and auto-related textiles and rubber and plastics products industries. The apparel industry, hurt by weak consumer spending and strong international competition, witnessed the largest curtailments, losing more than 90,000

jobs between the second quarters of 1981 and 1982. Both the apparel and textile industries have fallen to more depressed employment levels than those experienced during the 1973-75 recession.

Even the mining industry, which has generally been less affected by economic downturns subsequent to the 1973-74 oil embargo, witnessed employment declines in the first half of the year. Job losses in the metal mining and nonmetallic minerals industries were not offset, as in past recessions, by gains in the usually robust oil and gas extraction industry. The drop in world crude-oil prices was reflected in the job losses in oil and gas exploration and drilling activity in early 1982, where a 20,000 drop in employment in oil and gas field services in the second quarter contrasted sharply to the prior 8 years of steady growth. As a result, mining experienced a decline of 45,000 jobs in the first half of 1982.

Although the recessionary impact was primarily focused in the goods-producing sector of the economy, employment growth in the service-producing sector moderated significantly with the onset of the recession, and some of the industry divisions that were heretofore relatively recession-immune actually registered sizable job losses.

In government, employment continued the declines that began in mid-1980. State and local government employment, which historically has shown growth during periods of economic downturn, posted declines during the two latest business contractions. Conversely, Federal government employment has not been historically buoyant during recessions. For example, during the postwar recessions prior to 1980, Federal government employment declined, on average, by about 50,000, in contrast to an average increase of 300,000 jobs in State and local government. During the current downtrend, job losses in Federal government totaled 45,000 between July 1981 and April 1982, while State and local government employment fell 65,000.

Employment declines were witnessed in wholesale and retail trade by the end of 1981, due primarily to the lackluster performance of retail sales. Despite the appreciable abatement in inflation and consequent increased purchasing power, the general weakness in retail spending reflected consumer caution in light of the economic slump and uncertain job outlook. Thus, although trade employment turned up slightly in the first quarter of 1982, offsetting earlier declines, it registered little growth for the first half of 1982 as a whole.

The number of jobs in transportation and public utilities also displayed a noticeable decline, beginning in the final quarter of 1981. Employment dropped more than 55,000 by mid-1982, with job losses centered in transportation, primarily in railroads and trucking and warehousing. Transportation is the most cyclically sensitive of the service-producing industries, no doubt be-

cause of its strong dependence on activity in the goods-producing sector.

Countering the job losses in transportation, trade, and government, employment growth was sustained elsewhere in the service-producing sector, led by the services division. This includes industries ranging from hotels, amusement and recreation, and auto repair to legal, health, business, personal, and educational services. While increasing more than 400,000 between the second quarters of 1981 and 1982, the rate of job growth had slowed markedly from that experienced prior to the economic slowdown. Employment growth continued in the finance, insurance, and real estate industry but was also visibly affected by the recession, as it slowed to a trickle in the first half of 1982.

Worker groups

The impact of the recession is also clearly evident from recent movements in total employment as measured by the monthly Current Population Survey of households. (See table 2.) At 99.6 million in the first quarter of 1982, total employment was down 1.2 million from its pre-recession peak in the second quarter of 1981. However, the pace of the decline, quite rapid in the fourth quarter of 1981, had slowed in 1982, with employment increasing 200,000 in the second quarter.

The employment-population ratio, which measures the proportion of the population that is employed, is a useful statistic for placing these declines in perspective.⁴ This ratio is sensitive to changes in both the number of jobholders and the number of persons in the working-age population. As such, it is an indicator of the economy's ability to provide jobs for its growing population. The following tabulation provides seasonally adjusted quarterly average employment-population ratios for the major age-sex groups for 1981 and 1982:

	1981				1982	
	I	II	III	IV	I	II
Total	58.4	58.6	58.3	57.8	57.3	57.3
Both sexes, 16 to 19 years	44.8	44.3	43.6	42.3	41.5	41.1
Men, 20 years and over	72.6	72.7	72.4	71.5	70.8	70.6
Women, 20 years and over	48.3	48.7	48.5	48.4	48.2	48.3

After reaching a high of 59.3 percent in the fourth quarter of 1979, two recessions in consecutive years reduced the overall ratio 2 points to 57.3 percent by the second quarter of 1982, a 5-year low. Although all three major age-sex groups registered employment-population ratio declines in the current recession, each drop depicts a slightly different predicament. For example, while employment among adult men fell by almost 700,000 to 53 million between the second quarters of

1981 and 1982, their population rose. Both of these factors would act to depress their employment-population ratio, which, in fact, fell to an alltime low of 70.6 percent in second-quarter 1982.

The situation for teenagers was also severe, as employment declines of 700,000 in the past year dropped their ratio 3 percentage points to 41.1 percent. This happened even though their population also decreased over the same period. That is, employment declines exceeded population declines. Unlike the case for men and teenagers, employment among women actually increased 370,000 over the year to 40 million in second-quarter 1982. However, because the number of women grew even faster, their employment-population ratio declined from a high of 48.7 percent in the second quarter of 1981 to 48.3 percent a year later.

The contrasting employment trends for men and women are attributable, in large part, to the nature of their occupational and industrial attachment. Cyclical downturns in employment are heavily concentrated in the goods-producing sector and thus among blue-collar workers, where the work force is predominantly male. Employment among blue-collar workers declined by 1.0 million in the last half of 1981, followed by an additional 800,000 drop in the first two quarters of 1982. Blue-collar employment was down to 29.9 million in the second quarter, the lowest in more than 5 years. While all major blue-collar occupations were affected, the operatives group, excluding transport, was the hardest hit, losing more than a million jobs. White-collar employment, on the other hand, actually increased by 500,000 between the second quarters of 1981 and 1982, with most of the increase occurring in 1982. Increases among professional and technical workers and salesworkers more than offset declines among clerical workers. Employment of service workers also increased slightly, but this was limited to the last half of 1981.

Divergent patterns of employment decline were observed among the different race-ethnic groups. White employment, which averaged 88.2 million in the second quarter of 1982, was off almost 1 million over the year. However, this decline occurred entirely in the latter half of 1981. Since December, their employment has increased slightly, although their employment-population ratio had slipped to 58.4 percent by the second quarter of 1982. In contrast, employment losses among blacks⁵ and Hispanics have been greater in 1982 than during 1981. At 9.1 million in second-quarter 1982, black employment was 250,000 below the year-earlier level, and their employment ratio was at a record low. As in previous recessions, blacks have suffered proportionately larger employment declines than whites. Representing only 10 percent of the labor force, blacks have accounted for 24 percent of the total employment cutbacks. Hispanic employment actually increased during the ear-

ly part of the recession, before declining 270,000 in 1982 to 5.2 million in the second quarter.

Record jobless rates reached

The continued economic slide in 1982 pushed the Nation's unemployment rate to a record high for the post-World War II period. Total unemployment reached 10.5 million, or 9.5 percent of the labor force, in May. This was an increase of 0.7 percentage point since December, and was 2.3 percentage points above the prerecession low of 7.2 percent recorded last July. Although less than the postwar average for peak-to-trough changes in the jobless rate of 3.3 percentage points, the current rate reflects, in part, the relatively brief and weak recovery that separated downturns in 2 consecutive years, an unprecedented economic occurrence. Unemployment had risen by 3.8 percentage points over these two recessionary periods, close to the 4.4 rise of the 1973-75 recession. The unemployment rate was unchanged in June.

After a surge in the last quarter of 1981 which added more than a million people to the jobless total, unemployment increased by less than half as much in the first quarter of 1982. However, while employment increased in the second quarter, the unemployment level jumped by another 850,000 persons, pushing virtually all major unemployment series to record rates. Following are the most recent and previous high monthly jobless rates, seasonally adjusted, for major demographic groups:

	1975	1982
Total	9.0 (May)	9.5 (May)
Both sexes, 16-19 years	20.9 (June)	23.1 (May)
Men, 20 years and over	7.3 (May)	8.7 (June)
Women, 20 years and over	8.5 (April)	8.3 (May)
Whites	8.4 (May)	8.5 (May)
Blacks	15.4 (Sept.)	18.7 (May)

Unemployment increased more rapidly for adult men than for women early in the recession; men's jobless rate, which typically is lower than that for women, actually exceeded the women's rate in the first and second quarters of 1982. (See table 3.) Overall, men have contributed about 65 percent of the total increase in unemployment since July 1981, and women, less than 30 percent. (Their respective shares of the labor force are 53 and 40 percent.)

The situation for teenagers was also quite severe. Their jobless rate showed no recovery during 1981 or 1982, rising almost 4.4 points from July 1981 to an alltime high of 23.1 percent in May 1982. Although teenagers accounted for only 8 percent of the labor force, their share of total unemployment was more than 19 percent. Black teenage unemployment was 50.1 percent in the second quarter of 1982, up more than 10 percent-

age points over the year. In contrast, white teenage unemployment increased about 3 points over the same period to 20.2 percent. Both rates surpassed those that occurred in the second quarter of 1975, the peak quarter in overall unemployment during the 1973-75 recession.

From a metropolitan-nonmetropolitan standpoint, it was apparent that black teenagers residing in the Nation's central cities and nonmetropolitan areas had been particularly hard hit in the current recession. This is illustrated in the tabulation below, which presents second-quarter 1975 and 1982 jobless rates (not seasonally adjusted) for metropolitan central cities and suburbs and for nonmetropolitan areas, by age and race:

	Central cities		Suburbs		Nonmetropolitan areas	
	1975	1982	1975	1982	1975	1982
	II	II	II	II	II	II

White:

16 to 19 years	21.2	21.5	18.4	18.7	16.6	22.0
20 years and over . . .	7.7	7.3	6.5	6.5	6.6	7.9

Black:

16 to 19 years	43.1	54.1	43.4	47.1	39.6	51.5
20 years and over . . .	12.1	17.1	12.3	13.5	12.9	15.9

There was little change in the unemployment rate of black teenagers living in the suburbs over the same period. In contrast, all of the increase in unemployment among white teenagers occurred in nonmetropolitan areas.

Overall, unemployment among major race-ethnic groups increased substantially during the 1981-82 recession, with rates for whites and blacks at record levels in May 1982, while the rate for Hispanics was still slightly below its 1975 high. From July 1981 to May 1982, white unemployment was up 2.2 points to 8.5 percent. Blacks had a very limited recovery from the 1980 recession and began to experience record rates of unemployment almost from the beginning of the current downturn. Their rate was 18.7 percent in May 1982, up from 14.9 percent the previous July. Over the same period, Hispanic unemployment increased from 10.0 to 13.9 percent.

As indicated earlier, blue-collar workers have been hardest hit during the current recession. Unlike the total jobless rate, the blue-collar unemployment rate rose in June to 13.9 percent, up more than 4 points since July 1981. Operatives, excluding transport, and non-farm laborers were most affected, with rates of 16.7 and 17.9 percent in June.

In contrast, white-collar workers showed only a moderate increase in unemployment over the year ended June 1982. Their rate of 5.0 percent in June was still below the highs of the 1975 recession. While unemployment increased for all major white-collar occupations, that for clerical workers showed the largest increase, rising 1.5 points to a high of 7.2 percent in April. Both service workers and farmworkers reached record rates in May of 11.3 percent and 8.3 percent, respectively.

Job losers, leavers, and entrants. During economic downturns, the number of persons who lose their jobs increases as firms cut back production and reduce their work forces through layoffs or permanent separations. At 58.0 percent in the second quarter of 1982, the job-loser share of unemployment was up about 7.5 percentage points over the year and surpassed the highs reached in both the 1975 and 1980 recessions. At about 19 percent during the first two quarters of 1982, the layoff component of the job-loser total was down slightly from the fourth quarter of 1981 and still below rates reached in the previous two recessions.

In contrast, the share of total unemployment that results from individuals voluntarily leaving their last jobs (to look for new jobs) tends to decline, as one would expect, during periods of high unemployment. The job leavers' share has declined throughout the current recession, reaching an alltime low of 8.4 percent in the second quarter of 1982. Both new entrants' and reentrants' shares of total unemployment were down slightly in the first 6 months of 1982.

Duration of unemployment. The substantial increase in unemployment during the fourth quarter of 1981 raised the short-term jobless share and reduced the two mea-

Table 3. Major unemployment indicators, seasonally adjusted quarterly averages, 1981-82

[Unemployment rates]

Category	1981				1982	
	I	II	III	IV	I	II
Characteristic						
Total (all civilian workers)	7.4	7.4	7.4	8.3	8.8	9.5
Both sexes, 16-19 years	19.1	19.2	19.1	21.1	21.9	22.8
Males, 20 years and over	6.0	6.1	6.0	7.2	7.7	8.4
Females, 20 years and over	6.6	6.7	6.7	7.2	7.6	8.2
White	6.5	6.5	6.4	7.3	7.7	8.4
Black	14.6	15.1	15.8	17.0	17.4	18.4
Hispanic	11.0	9.8	9.8	11.1	12.4	12.5
Occupation						
White-collar workers	3.9	4.0	4.0	4.3	4.5	4.9
Professional and technical Managers and administrators, except farm	2.7	2.9	2.7	2.9	3.1	3.3
Salesworkers	2.5	2.6	2.7	2.9	2.9	3.5
Clerical workers	4.2	4.4	4.9	4.9	5.0	5.6
Blue-collar workers	5.6	5.6	5.7	6.1	6.6	6.9
Craft and kindred workers Operatives, except transport	10.1	9.8	9.7	11.8	12.6	13.7
Transport equipment operatives	7.1	7.1	7.2	8.7	8.8	9.7
Nonfarm laborers	12.0	11.5	11.3	14.1	15.6	16.7
Service workers	8.9	8.1	8.0	9.6	10.3	11.8
Farmworkers	14.7	14.1	14.0	16.2	17.6	18.5
	8.4	9.0	8.6	9.5	9.7	10.8
	5.0	5.1	4.7	6.3	5.8	7.1

asures of duration of unemployment—the mean and the median. Since then both measures have lengthened as the proportion unemployed 15 weeks or longer exceeded 30 percent at midyear. The median duration of unemployment rose from 6.8 weeks in the fourth quarter of 1981 to a record 9.1 weeks in the second quarter of 1982. Over the same period, the mean duration increased from 13.2 to 15.1 weeks, surpassing the high reached during the 1980 recession but are still considerably below that reached in 1975. Because measures of duration typically lag cyclical changes in economic activity, both measures can be expected to continue rising for the balance of the year, even if an improvement in the labor market begins soon.

Other recessionary impacts

Shortened workweeks and discouraged workers. The poor performance of the economy over the past year has increased both the number of persons involuntarily working part time, either as a result of slack work or the inability to find full-time work, and the number reporting they want a job but are not looking for work because they believe no work is available—so-called “discouraged workers.” Neither group is reflected in the official unemployment counts, although information on them is published on a regular basis. Measurement of both groups is vital to a fuller understanding of the nature and magnitude of the overall underutilization of our human resources. The following tabulation provides seasonally adjusted quarterly averages (in thousands) for nonagricultural workers involuntarily on shortened workweeks and for discouraged workers during 1981 and 1982:

	1981				1982	
	I	II	III	IV	I	II
Involuntary						
part-timers	4,323	4,166	4,460	5,108	5,450	5,680
As a percent of						
total at work	4.7	4.6	4.9	5.6	6.0	6.2
Discouraged	1,093	1,043	1,094	1,119	1,339	1,597

After declining in the second quarter of 1981, the number of nonagricultural workers involuntarily on part-time schedules increased steadily, reaching 5.7 million, or 6.2 percent of those “at work” in nonagricultural industries, in the second quarter of 1982; both figures are record highs since collection of the data began in 1955. While employers often reduce hours before laying off employees in economic downturns, the current high number of workers on shortened workweeks may also reflect a growing tendency among employers to keep workers on short workweeks for longer periods,⁶ and the growing number of would-be full-time workers who obtain part-time jobs rather than remain unemployed.

The number of discouraged workers has risen nearly continuously for more than 3 years. The discouraged total reached a high of 1.5 million in the second quarter of 1982, up 375,000 since the end of 1981; about 70 percent of the discouraged cited job-market, rather than personal, factors as reasons for their discouragement.

Women and black and other minorities continued to be overrepresented among the discouraged in 1982. Women accounted for about 60 percent in the second quarter, whereas they comprised only 43 percent of the civilian labor force. While women’s share of discouragement was the same as last year, the black and other minorities share has become even more disproportionate. Some 500,000 discouraged workers were blacks or members of other racial minority groups, 33 percent of the second quarter total and up from 31 percent a year earlier. (Their share of the civilian labor force was 13 percent.)

Alternative measures. While persons involuntarily working part time or discouraged are not included in the official measures of unemployment, the Bureau of Labor Statistics does provide a measure which includes these categories along with the unemployed. Designated as U-7, it is one of six alternative measures of unemployment regularly published by the Bureau; this has been done in recognition of the fact that no single measure of unemployment can satisfy the diverse needs of data users. The definitions for all seven measures are provided below, and their trends during the past decade are presented in chart 1.

- U-1 Persons unemployed 15 weeks or longer as a percent of the civilian labor force.
- U-2 Job losers as a percent of the civilian labor force.
- U-3 Unemployed persons 25 years and over as a percent of the civilian labor force 25 years and over.
- U-4 Unemployed full-time jobseekers as a percent of the full-time labor force.
- U-5 Total unemployed as a percent of the civilian labor force (official measure).
- U-6 Total full-time jobseekers plus half part-time jobseekers plus half total on part time for economic reasons, as a percent of the civilian labor force less half of the part-time labor force.
- U-7 Total full-time jobseekers plus half part-time jobseekers plus half total on part time for economic reasons plus discouraged workers, as a percent of the civilian labor force plus discouraged workers less half of the part-time labor force.

Each measure is representative of a different body of opinion about the meaning and measurement of unemployment. The rationale for U-7 is that involuntary part-time workers should be counted as at least "partially" unemployed and that the situation of discouraged workers is essentially the same as that of the unemployed. In this measure, those seeking only part-time work or voluntarily employed part time are given weight of one-half because the latter only work about half a full-time schedule. As can be seen from chart 1, U-7 has consistently been several points higher than U-5, the official measure. From a high of 12.0 percent in the second quarter of 1975, U-7 declined to 8.0 percent in the second quarter of 1979 before rising under the impact of the last two recessions to a new high of 13.4 percent in the second quarter of 1982.

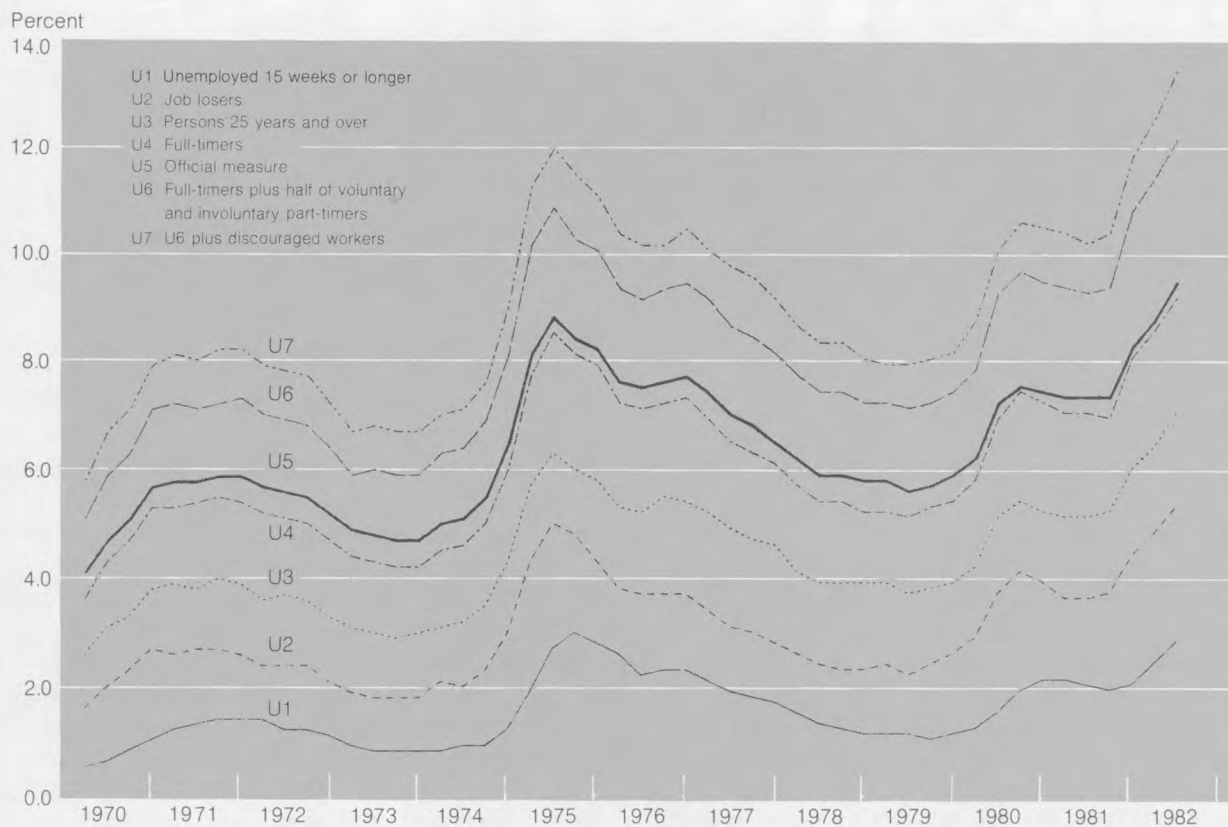
In contrast, several measures are much more restrictive than the official measure. For instance, U-1 includes only those unemployed 15 weeks or longer, while U-2 counts only job losers. The rationale behind U-1 is that joblessness is a problem only when it has con-

tinued long enough to cause substantial hardship, while proponents of U-2 argue that only persons who lose their jobs merit concern because this is what leads to significantly lower income. In second-quarter 1982, U-1 was 3.0 percent, almost matching its high reached in 1975, while U-2 was at an alltime high of 5.5 percent.

Chart 1 shows how consistent the trend in unemployment has been, regardless of the measure one might choose. For example, all measures, with the single exception of U-1 which tends to lag the others by one or more quarters, reached cyclical highs in the second quarter of 1975 and lows in the second quarter of 1979. The magnitude of the impact of back-to-back recessions in 1980 and 1981-82 is evidenced by the fact that every measure reached a record high by the second quarter of 1982, with the exception of U-1.

Joblessness among States. There is considerable variation in unemployment rates at the State level as well as at other subnational levels. The reasons for such differ-

Chart 1. Unemployment indicators, seasonally adjusted quarterly averages, 1970-82



NOTE: Second-quarter 1982 data are April-May averages.

ences are numerous; those often cited include area differences in the composition of industry and the local work forces and a given area's competitive strength and growth rate.⁷ The purpose here is not to examine why the incidence of unemployment varies across areas, but to present an overview of the States most or least affected by the recent downturn in economic activity. The uneven impact of the recent recession is reflected in the following list of States with the largest and smallest changes in jobless rates between the first quarters of 1981 and 1982; during that period, the Nation's unemployment rate increased 1.4 percentage points. (Data on the 10 most populous States come directly from the household survey, while data for the remaining States are based upon estimation procedures provided by the BLS to the States, taking into account data from the household survey, unemployment insurance records, and other sources.⁸)

<u>Increased substantially</u>		<u>Little changed</u>	
<i>State</i>	<i>Percentage point change</i>	<i>State</i>	<i>Percentage point change</i>
Alabama	3.5	North Dakota . . .	-0.9
Idaho	3.2	South Dakota . . .	-0.4
Washington	3.1	New Mexico	-0.2
South Carolina . .	3.0	Wyoming	0.2
Iowa	3.0	Alaska	0.3
Indiana	2.7	New York	0.3
Michigan	2.6	West Virginia . . .	0.3
Pennsylvania	2.6	Maine	0.4
		Nevada	0.4

In general, States with a heavy reliance on durable goods manufacturing such as auto, steel, and logging suffered the largest increases in unemployment, while mineral-rich States were less affected.

The following list of States with extremely high or low jobless rates (not seasonally adjusted) during the first quarter of 1982, when the overall rate was 9.5 percent, provides a slightly different picture:

<u>Above 12 percent</u>		<u>Below 6 percent</u>	
<i>State</i>	<i>Unemployment rate</i>	<i>State</i>	<i>Unemployment rate</i>
Michigan . . .	16.4	Oklahoma . . .	4.9
Alabama	14.3	Wyoming	4.9
Indiana	13.3	Kansas	5.4
Washington . .	12.7	Hawaii	5.7
Oregon	12.5	South Dakota	5.8
West Virginia	12.2	North Dakota	5.8
Ohio	12.1	Texas	5.8
Tennessee . . .	12.1		

A comparison of the two tabulations shows that the four States with the highest jobless rates also posted substantial over-the-year unemployment gains. (The 12-percent cutoff point was chosen only to highlight the

situation and is not meant to imply that any State does not necessarily have an unemployment problem.) Overall, the unemployment situation appears to be most severe in the industrial North and South Central States and in the Pacific Northwest, and least severe in the Plains and Mountain States.

Labor force growth

Growth in the civilian labor force has slowed considerably in recent years, in part because of the smaller number of persons reaching labor force age, but also because of the poor performance of the economy. At 110.2 million in the second quarter of 1982, the labor force had grown only 1.3 million over the year, far below the 2.1-million increase of the previous year. (Labor force movements within the second quarter were unusually large on a seasonally adjusted basis, as the total increased by a million in May and then declined by a similar amount in June.) The following tabulation provides seasonally adjusted labor force levels (in thousands) and participation rates (percent of a group's population that is either employed or unemployed) for the second quarters of 1981 and 1982 for major age-sex groups:

	<u>Second quarter 1981</u>		<u>Second quarter 1982</u>	
	<i>Labor force</i>	<i>Participation rate</i>	<i>Labor force</i>	<i>Participation rate</i>
Total	108,835	64.1	110,168	64.0
Both sexes, 16 to 19 years . .	9,084	55.8	8,569	54.1
Men, 20 years and over . . .	57,243	79.2	57,920	78.9
Women, 20 years and over	42,507	52.3	43,629	52.8

Adult women continued to experience the strongest labor force growth—1.1 million over the year. In contrast, adult men posted an increase of only 500,000, while the teenage labor force declined by 500,000. Most of the teenage decline reflected the drop in their total population.

The overall labor force participation rate was 64.0 percent in the second quarter of 1982, about the same as the record 64.1 percent reached in the second quarter of 1981. The percentage of the population active in the labor force has been rising throughout the last two decades, as increases among adult women and, until recently, teenagers have more than offset declines among adult men.

In spite of the recession, the participation rate for adult women continued to increase, rising one-half of a point over the year to 52.8 percent. However, this was far below increases registered in previous years. At 78.9 percent in the second quarter of 1982, the participation

rate for adult men continued its secular decline, while the rate for teenagers fell 1.7 points over the past year to 54.1 percent, its lowest level in more than 8 years.

BY MIDYEAR, there were some signs that the labor market was improving. Industry job cutbacks had slowed and unemployment appeared to be leveling.

Whether the economy was actually on the road to recovery or merely pausing before further deterioration was still unclear, as economic signals overall were mixed. The behavior of interest rates, the factor that deepened and prolonged the current recession, will undoubtedly play the key role in the timing and degree of a subsequent recovery. □

— FOOTNOTES —

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

² With the release of benchmarked employment data for the payroll series in May 1982, the BLS converted coverage of the Indexes of Diffusion from 172 to 186 industries, incorporating industry series added with the 1972 SIC revision. For comparability, the 172-industries diffusion indexes for the recessionary periods in table 1 are available beginning with the 1960–61 period. The indexes showing the percent of industries in which employment declined over a 6-month span are as follows: August 1960, 76; June 1970, 76; January 1975, 88; April 1980, 78; and January 1982, 79. The 186-industries indexes were not much different from the 172-industries indexes for the same time periods. For a detailed discussion of indexes of diffusion of changes in the number of employees on private nonagricultural payrolls, see John F. Early, "Introduction of Diffusion Indexes," *Employment and Earnings*, December 1974, pp. 7–11.

³ See, for example, Geoffrey H. Moore, "Lessons of the 1973–1976 Recession and Recovery" in William Felner, ed., *Contemporary Economic Problems 1977* (Washington, D.C., American Enterprise Institute for Public Policy Research, 1977), pp. 117–58; Norman Bowers, "Have employment patterns in recessions changed," *Monthly Labor Review*, February 1981, pp. 15–28; and Michael A. Urquhart, "The services industry: is it recession-proof?" *Monthly Labor Review*, October 1981, pp. 12–18.

⁴ For a discussion of the employment-population ratio as a cyclical indicator, see Carol Boyd Leon, "The employment-population ratio: its value in labor force analysis," *Monthly Labor Review*, February

1981, pp. 36–45; and Julius Shiskin, "Employment and unemployment: the doughnut or the hole?" *Monthly Labor Review*, February 1976, pp. 3–10.

⁵ The proportion of blacks in the "black and other" group has been declining; it was 83 percent in 1980. This has resulted from a gradual influx of Asians, particularly Vietnamese, into the U.S. labor force in the 1970's. For this reason, and because of the availability and increased reliability of data for blacks, it is not as necessary as in the past to use data for "black and other" when discussing black workers. Thus, unless otherwise stated, the term black in this article refers exclusively to the "black only" population and not to the "black and other" category, which, in addition to blacks, includes American Indians, Alaskan Natives, and Asian and Pacific Islanders.

⁶ See Robert W. Bednarzik, "Work-sharing in the U.S.: its prevalence and duration," *Monthly Labor Review*, July 1980, pp. 3–12.

⁷ See, for example, Lynn E. Browne, "Regional Industry Mix and the Business Cycle," *New England Economic Review*, November/December, 1978, pp. 35–53; Lynn E. Browne, "Regional Unemployment Rates—Why Are They So Different?" *New England Economic Review*, July/August 1978, pp. 5–26; and Thomas Hyclak and David Lynch, "An Empirical Analysis of State Unemployment Rates in the 1970's," *Journal of Regional Science*, Vol. 20, No. 3, 1980, pp. 377–86.

⁸ Labor force and unemployment estimates for States are part of a cooperative program between the Bureau and State employment security agencies where estimates are prepared under concepts, definitions, and technical procedures established by the Bureau. A fuller explanation of the technical procedures used to develop these estimates appears monthly in the Explanatory Note on State and Area Unemployment Data in the BLS periodical, *Employment and Earnings*. The 10 most populous States (as of the 1970 census) for which estimates come directly from the Current Population Survey are: New York, California, Illinois, Ohio, New Jersey, Pennsylvania, Michigan, Texas, Massachusetts, and Florida.

Imports and domestic employment: identifying affected industries

For its trade monitoring program, the Bureau has developed measures of import penetration; initial data suggest about one-fourth of manufacturing groups might be sensitive to rising imports

GREGORY K. SCHOEPFLE

Concern about the performance of U.S. industries in domestic and international markets has led to increasing interest in the development of indicators of the domestic market share accounted for by imports. Accordingly, the Bureau of Labor Statistics has begun constructing measures which, when applied in conjunction with other information, could be used to identify domestic industries that might be experiencing adverse employment effects or other adjustment problems because of changing international trade patterns. Analysis of the geographic concentration of domestic production and employment for these sectors could help Federal agencies target assistance programs for workers, communities, and industries.

This article considers the problems of constructing indicators of import market share at the 4-digit Standard Industrial Classification (SIC) level,¹ and discusses some of the main features and trends of the BLS trade monitoring statistics. Data examined so far show that, be-

tween 1972 and 1979, the import share of the domestic market for manufactured goods rose moderately. However, among the 318 manufacturing groups studied separately, 72 were found to be "import-sensitive"—that is, having experienced either a sustained high level or a substantial increase in import share of U.S. sales during 1972-79. Employment declines over this period were reported in 38 of the 79 domestic industries which produce products similar to those in "import-sensitive" groups; more than half of these 38 industries were involved in the manufacture of textile, apparel, and leather goods products. The limitations of these measures are examined in the appendix.

Background

Under section 282 of the Trade Act of 1974 (19 USC 2393), the Bureau of Labor Statistics and the Bureau of the Census were given the responsibility of monitoring changes in U.S. imports and related domestic production and employment. The context for this monitoring program was the expanded trade adjustment assistance program established under Title II of the act. The trade monitoring system was intended to inform the Congress and administrators of adjustment assistance programs of those industries and localities in which adjustment

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problems were likely to occur as a result of the expansion of international trade.

The Bureau of the Census and the Bureau of Labor Statistics (BLS) jointly carry out the monitoring. The Census Bureau develops and publishes trade and domestic production data, while BLS has chief responsibility for the development and publication of related employment data, the development of the trade monitoring system, and the establishment of a reporting program on the results.

In connection with its broad responsibility, BLS plans, subject to availability of resources,² to:

- Establish a reliable base of detailed merchandise import, product-based output, and industry employment data on a consistent classification system.
- Set up a timely system for reporting and summarizing the data.
- Provide objective interpretations of the findings.

Currently, the Bureau produces quarterly and annual tabulations on SIC-based merchandise imports and industry employment. Import penetration ratios, that is, the ratio of imports to the sum of domestic product shipments and imports, are computed annually for manufacturing commodity groups.

Concepts

A variety of measures can be developed to assess the United States' relative trade performance, both on an aggregate basis and by industrial sector. Depending upon the ultimate application, certain definitions of these measures may be preferred over others. Of special interest for the examination of potential employment adjustment problems are indicators of the share of the domestic market accounted for by foreign imports and the share of total sales which is accounted for by U.S. exports.

Ideally, a measure of import penetration should compare domestic consumption of a product with imports of the product at a specified market point of distribution; however, no product-specific measure of consumption exists. The best available substitute is domestic demand, often termed "apparent consumption," which is usually defined as U.S. sales (shipments) less net exports (exports minus imports).³ Furthermore, while final sales (retail for consumers) of imports over final U.S. sales from all sources would be the most appropriate measure of the proportion of the domestic market served by imports (that is, import penetration), such data are not reported separately in Federal statistics.

Similar problems arise in the development of measures of export performance. Final sales of U.S. exports (excluding transportation and insurance costs to the point of exportation) over U.S. total final sales would be the best measure of the proportion of domestic eco-

nomics activity accounted for by the exports; unfortunately, data on export sales by U.S. manufacturing establishments are limited.⁴

Import penetration and export proportion measures presented in this article show the market shares of a final commodity which are accounted for by imports and exports, respectively. They do not, however, account for intermediate products used in domestic production. For example, they exclude imported or domestically produced components of end-products which are consumed here or abroad. An analysis of intermediate goods would have to be based on an econometric model or an input-output table.

Taking into account the data limitations which are discussed in greater detail in the appendix and the desire to develop measures for broad industrial trade monitoring, currently available series on U.S. imports and exports, reclassified to the equivalent producer industry, are related to industrial product-based shipments. Four ratios which relate domestic shipments to international merchandise trade may be considered:⁵

$$(a) M / (M + S - X)$$

$$(b) M / (M + S)$$

$$(c) X / S$$

$$(d) X / (M + S)$$

where

M	=	U.S. imports
X	=	U.S. exports
S	=	U.S. product shipments
S - X	=	consumption of domestically produced goods
M + S - X	=	apparent consumption
M + S	=	new supply

Measure (a), the ratio of imports to apparent consumption, is commonly used to assess the import penetration of a domestic market, showing the share of a market which is served by imports. One shortcoming of this market share-based measure from an employment point of view is that it fails to capture the offsetting nature of the domestic industry's involvement in export markets. Measure (b) makes allowances for this factor, representing the ratio of imports to new supply. New supply is defined as imports plus U.S. product shipments. The latter include domestically produced goods which are exported for foreign consumption as well as those which are consumed here. Such a supply-based measure takes into account (and is influenced by) not only domestic demand but also foreign demand for U.S. goods. Increased output in response to increases in either domestic or foreign demand for the product will

usually result in increased domestic employment levels. Therefore, from an employment point of view, measure (b) might be preferred to (a), because it takes into account the foreign demand for U.S. goods. If exports do not play a significant role in the consumption of an industry's output, then ratios (a) and (b) will be nearly the same. However, if exports are important, ratio (b) will be smaller than (a).

Measure (c), the ratio of exports to U.S. shipments, is a commonly used export performance measure. It reflects the proportion of total domestic output which is exported, but fails to capture the influence of imports in U.S. markets. Measure (d), the ratio of exports to new supply, accounts for the influence of imports and possible displacement effects which they might have. From an employment standpoint, any domestic employment displacement due to imports would be conjectural—that is, it is not clear that the same goods could or would be produced domestically if imports were not available.⁶ Therefore, measure (c) might be preferred to (d), because it would directly reflect the actual importance of exports in domestic activities. Ratio (d) will be smaller than (c) if imports are significant; correspondingly, the less significant imports are in new supply, the closer the two measures will be.

Ratio (d) does have a feature which might commend its use in conjunction with measure (b), namely a common denominator. Hence, the difference between measures (d) and (b) could be viewed as a trade gap or balance measure for a sector relative to the size of the sector.

All of the above ratios could be based on either dollar value or a unit of quantity, if a consistent measure of the latter is available. (Perhaps the best evaluation of these ratios from an employment standpoint would be with weighted aggregates of U.S. unit labor requirements.) Measures based on quantity assume that there is a homogeneous and meaningful unit as well as product specification for the classification. For certain well-defined products, such as new automobiles and textile goods, quantity-based measures might be constructed, but the appropriate level of commodity aggregation is often difficult to determine. Furthermore, quantity-based measures often fail to capture quality differences within a product group.

In constructing product-based measures at the aggregate industrial level, value-based measures, while they have some limitations,⁷ are generally more useful, because homogeneous units of quantity either are not available or are not very meaningful for purposes of comparison. About two-thirds of the manufacturing 4-digit SIC-based import commodity groups do not have a homogeneous unit of quantity.

Quality differentials are frequently reflected in value data through prices, which may serve as implicit

weights when aggregating commodity groups. Ideally, the value of imports should be adjusted for price changes, as well as for importer markups, customs duties, subsidies, and costs of transportation and insurance to the market point of distribution. A transaction-based price index would account for any changes in product specification, quality, and conditions of sale. Unfortunately, at the present time, there are no adequate and consistent deflators for SIC-based imports or exports. In general, domestic prices of imported goods include, in addition to the import price, the domestic value added (unloading, inland transit, further manufacture, handling, markups, and so forth) and applicable duties. Because all these costs can vary independently of import prices, domestic price trends are considered to be poor proxies for import price trends.⁸ In addition, the use of calculated import unit-value measures as price indexes for import commodity groups can be misleading, because of variations in product specification and quality within the product category.

In general, value-based measures will differ from those calculated on a quantity basis. For example, value-based import penetration ratios will be smaller than those which are quantity based in those cases where imports consist predominantly of items with lower unit values than similar domestic products (for example, nonrubber footwear and brassieres). The effect of using current-dollar trade and shipment values in place of real (deflated) values in the calculation of the market share measures depends upon the stability of the ratio of import or export prices to domestic prices. In many cases, we would expect domestic and world commodity prices to exhibit similar trends in the absence of domestic price controls or government subsidies. Therefore, it would be expected that import penetration ratios based on current-dollar values would show more stability with regard to inflation than either of their component value-based series on imports or shipments.

Table 1. Two-digit SIC-based share of manufacturing total imports, shipments, and employment, by import penetration level, 1972 and 1979

[In percent]

Import penetration level in 1972 or 1979	Share of manufacturing total							
	Two-digit SIC groups		Import value		Shipments value		Industry employment	
	1972	1979	1972	1979	1972	1979	1972	1979
All SIC groups . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 1 percent	10.0	5.0	0.6	(¹)	4.3	0.5	6.1	0.3
1 and under 2 percent . . .	—	5.0	—	0.4	—	3.4	—	5.9
2 and under 5 percent . . .	30.0	30.0	20.9	18.4	38.0	35.7	31.8	31.6
5 and under 10 percent . .	45.0	20.0	49.7	23.4	42.0	24.7	48.9	19.9
10 and under 20 percent . .	15.0	30.0	28.9	52.1	15.6	34.0	13.2	39.0
20 and under 50 percent . .	—	10.0	—	5.6	—	1.7	—	3.3
50 percent and over	—	—	—	—	—	—	—	—

¹ Less than 0.05 percent.

NOTE: Due to rounding, sums of individual items may not equal 100.

Data

The shipments data for the market-share measures are from the Census Bureau's *Annual Survey of Manufactures*. The value of product shipments is a sampling estimate of the current-dollar value of all products sold, transferred to other plants of the same company, or shipped on consignment, whether for domestic consumption or for export. It represents net sales value (f.o.b. plant), and excludes discounts and allowances, freight charges, and excise taxes. In a few cases, domestic production values, rather than shipment values, are used. Products bought and resold without further manufacture are excluded. The value of shipments for a 4-digit class of products used in the measures is on a wherever-made basis—that is, total shipments of the primary products of the industry, which include sales of the same products made by firms classified in other industries. (See the appendix for further discussion.)

The import and export data are from the Census Bureau's foreign trade statistics.⁹ The import value is current U.S. dollar customs value (usually foreign port value) of imports for consumption and excludes any customs duty, freight, or handling charges. The export value is current U.S. dollar free alongside ship (f.a.s.) value (U.S. port value) of exports of domestic merchandise and includes any markups and freight or handling charges incurred to the port of exportation.

Trends in penetration measures

As part of the current trade monitoring program, BLS tracks 347 4-digit SIC-based manufacturing import groups (as well as 63 agricultural and mineral groups) each quarter for significant increases in the current-dollar value of imports for consumption. In addition, industry employment is analyzed quarterly for significant declines.

While these procedures are useful in highlighting short-term movements in those commodity groups and industries which are experiencing a sudden increase in imports and a decline in current industry employment, it is instructive to consider the structure and composition of import penetration, as well as the long-term trends in industry employment, for those commodity groups for which either import penetration has increased substantially in the recent past or the level of penetration has remained relatively high.

Structure and composition. Chart 1 presents an overview of the structure of import penetration and export proportion in 2-digit SIC-based U.S. manufacturing major groups for the years 1972 and 1979 (latest available). In both years, the all-manufacturing levels of both import penetration and export proportion were in the 5.0- to 9.9-percent range; between those years, import penetra-

tion rose more moderately than export proportion. During the period 1972-79, the leather, miscellaneous manufactures, and apparel major groups experienced the largest increases in import penetration, while the textiles group registered a slight decline. During the same period, the tobacco, instruments, electrical and nonelectrical machinery, and miscellaneous manufactures major groups showed the largest increases in export proportion, while the petroleum refining group experienced a modest decrease.

At the aggregate level, imports appear to contribute significantly (above 10 percent in 1979) to the available new supply of apparel, lumber, leather, primary metals, electrical machinery, transportation equipment, instruments, and miscellaneous manufactures, but have a negligible role in tobacco and printing and publishing. In four of the major groups in which imports contribute significantly to new supply (transportation equipment, electrical machinery, instruments, and miscellaneous manufactures), U.S. exports also play an important role. Other major groups in which a significant proportion of output is exported include tobacco, chemicals, and nonelectrical machinery.

Table 1 presents the percentage distribution of total manufactures import value, product-based shipments, and industry employment by import penetration level in 1972 and 1979, on a 2-digit SIC basis. In both years, 12 of the 20 major manufacturing groups had a level of import penetration of 5 percent or more. In 1972, the corresponding imports accounted for 79 percent of the value of all manufactured imports; by 1979, their imports accounted for about 83 percent of the total.

In 1972, approximately 29 percent of the import value was accounted for by product groups with penetration levels of 10 percent or more, but by 1979, this share had grown to nearly 58 percent. During this period, both the industry employment and product shipments share-of-manufacturing total for the groups with

Table 2. Four-digit SIC-based share of manufacturing total imports and shipments, by import penetration level, 1972 and 1979

[In percent]

Import penetration level in 1972 or 1979	Import penetration level for all SIC groups in range		Share of manufacturing total					
			Four-digit SIC groups		Import value		Shipments value	
	1972	1979	1972	1979	1972	1979	1972	1979
All SIC groups . . .	6.1	7.9	100.0	100.0	100.0	100.0	100.0	100.0
Under 1 percent	0.3	0.4	21.7	18.2	1.1	0.9	22.9	18.3
1 and under 2 percent . .	1.2	1.3	12.0	8.8	1.8	1.2	9.3	7.9
2 and under 5 percent . .	3.4	3.6	26.4	19.8	16.6	8.2	30.8	19.1
5 and under 10 percent . .	7.7	7.1	18.2	22.3	28.2	28.3	22.2	31.8
10 and under 20 percent .	13.9	14.7	11.3	16.0	30.2	37.2	12.2	18.7
20 and under 50 percent .	28.4	28.0	8.5	12.3	15.3	17.3	2.5	4.8
50 percent and over . . .	57.1	61.9	1.9	2.5	6.8	6.9	0.3	0.4

NOTE: Due to rounding, sums of individual items may not equal 100.

Chart 1. Imports as a percent of new supply and exports as a percent of product shipments by major manufacturing group, 1972 and 1979

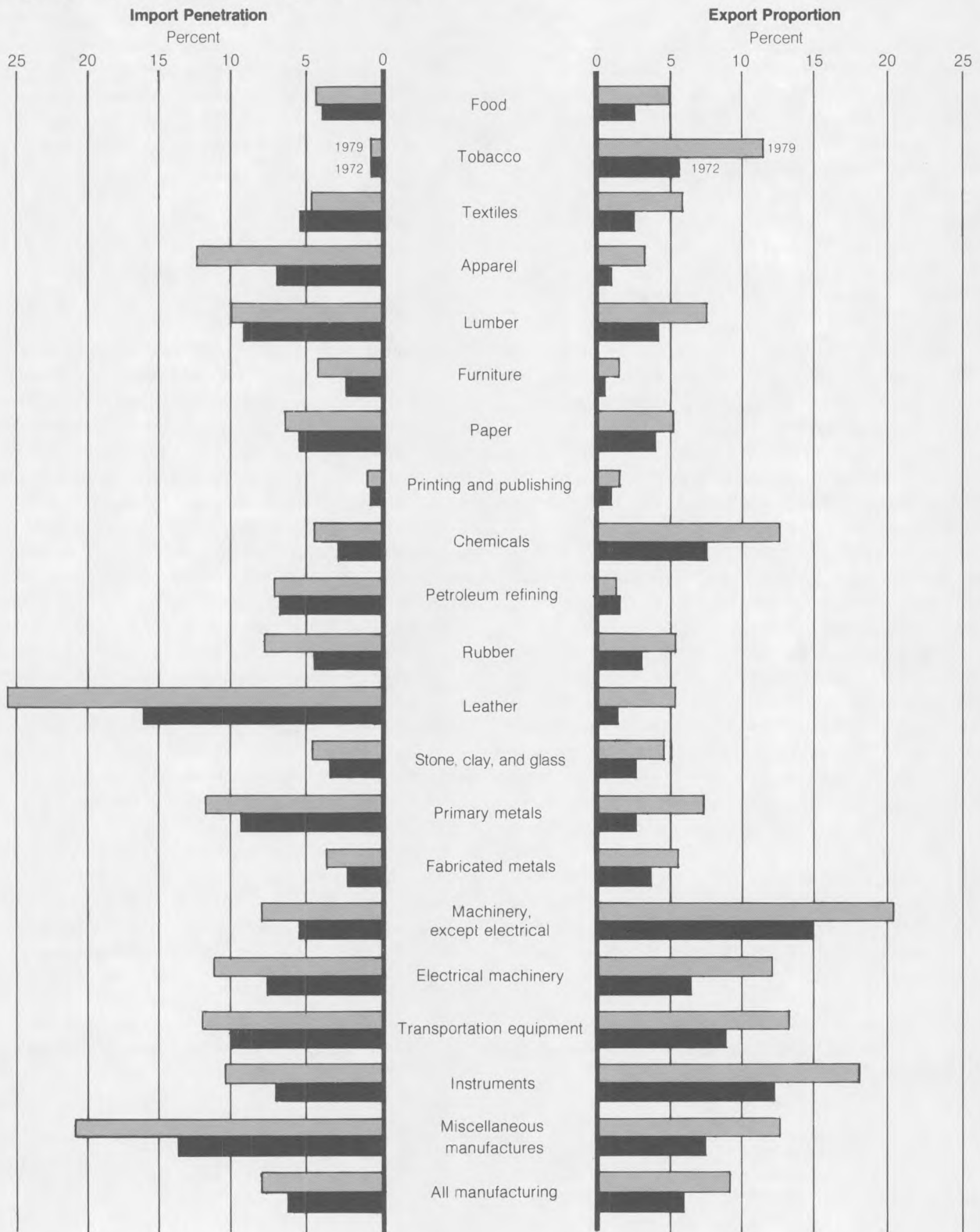


Table 3. Distribution of 4-digit SIC-based manufacturing import commodity groups and value of imports, by import penetration level, 1972 and 1979

[Cumulative frequency in percent]

Import penetration level in 1972 or 1979	Four-digit SIC-based import manufacturing commodity groups				Value of imports for consumption			
	1972		1979		1972		1979	
	Number	Cumulative frequency	Number	Cumulative frequency	Millions of dollars	Cumulative frequency	Millions of dollars	Cumulative frequency
All SIC groups	318	—	318	—	\$45,219.3	—	\$136,598.4	—
Under 1 percent	69	21.7	58	18.2	478.2	1.1	1,184.0	0.9
1 and under 2 percent	38	33.7	28	27.0	809.9	2.9	1,622.7	2.1
2 and under 5 percent	84	60.1	63	46.9	7,527.5	19.5	11,238.9	10.3
5 and under 10 percent	58	78.3	71	69.2	12,751.2	47.7	38,651.2	38.6
10 and under 20 percent	36	89.6	51	85.2	13,655.0	77.9	50,872.2	75.8
20 and under 50 percent	27	98.1	39	97.5	6,936.8	93.2	23,564.6	93.1
50 percent and over	6	100.0	8	100.0	3,060.7	100.0	9,464.8	100.0

NOTE: Due to rounding, sum of individual items may not equal total.

penetration levels of 5 percent or more remained relatively unchanged, in the 58- to 66-percent range. Despite the probability of extensive duplication in the value of product shipments at the 2-digit SIC level, the shipments value share-of-manufacturing total for groups with 1979 penetration levels of 5 percent or more was about 60 percent, whether measured on a final product, industry, or value-added basis.

Table 2 shows the percentage distribution of total manufactures import value and product-based shipments by import penetration level in 1972 and 1979 on a more detailed 4-digit SIC basis. Tables 3 and 4 present some additional information on the 1972 and 1979 distribution of 4-digit SIC-based manufacturing commodity groups by import value and import penetration level.

In 1972, 40 percent of the 318 4-digit product groups had levels of import penetration of 5 percent or more; these product groups accounted for 81 percent of the value of manufactures imports and 37 percent of the value of manufactures product shipments. By 1979, 53 percent of the groups had a penetration level of 5 percent or more and accounted for 90 percent of the value of manufactures imports and 56 percent of manufactures product shipments. While the number of groups, import value, and shipments value share-of-manufacturing totals for 4-digit groups with import penetration

levels between 2.0 and 19.9 percent remained fairly stable between 1972 and 1979, the share distribution within this penetration range reflected a general upward trend because of the growing importance of imports in new supply. For example, during this period, the share-of-manufacturing total of those 4-digit groups with import penetration levels between 10.0 and 19.9 percent increased 4.7 percentage points to 16.0 percent, while the share of groups with import penetration levels between 2.0 and 4.9 percent decreased 6.6 points to 19.8 percent.

In 1972, slightly more than one-fourth (86 out of 318) of the 4-digit manufacturing commodity groups had levels of import penetration less than 10 percent and import values under \$10 million. (See table 4.) By 1979, the number was only one-ninth of the total number of groups. Between 1972 and 1979, the number of 4-digit commodity groups with import values of \$500 million or more increased about 350 percent, from 13 to 58.

To permit examination of the composition of changes within the major manufacturing groups over time, table 5 summarizes the distribution of 4-digit manufacturing commodity groups within each 2-digit major manufacturing group, by 1972 and 1979 import penetration level. Perusal of this table reveals that the 2-digit major

Table 4. Four-digit SIC-based manufacturing commodity groups, by value of imports and import penetration level, 1972 and 1979

[Number of 4-digit SIC groups]

Value of imports for consumption in 1972 or 1979	1972				1979			
	Number of SIC groups	Import penetration level			Number of SIC groups	Import penetration level		
		Under 10 percent	10 and under 20 percent	20 percent and over		Under 10 percent	10 and under 20 percent	20 percent and over
Total, all commodity groups	318	249	36	33	318	220	51	47
Under \$10 million	86	86	—	—	35	35	—	—
\$10 million and under \$50 million	91	77	8	6	79	74	4	1
\$50 million and under \$500 million	128	82	24	22	146	88	32	26
\$500 million and over	13	4	4	5	58	23	15	20

Table 5. Distribution of 4-digit SIC-based manufacturing commodity groups, by import penetration level and 2-digit parent SIC, 1972 and 1979

[Number of 4-digit SIC-based groups]

SIC Code	Commodity group	Number of SIC groups	Imports as a percent of new supply						
			Under 1 percent	1 and under 2 percent	2 and under 5 percent	5 and under 10 percent	10 and under 20 percent	20 and under 50 percent	50 percent and over
			1972						
	Total, manufactured commodities	318	69	38	84	158	36	27	6
20	Food and kindred products	39	18	6	19	1	1	4	—
21	Tobacco manufactures	3	1	—	1	1	—	—	—
22	Textile mill products	20	4	2	5	14	1	3	1
23	Apparel and related products	21	2	1	8	14	4	2	—
24	Lumber and wood products	10	3	1	2	11	1	2	—
25	Furniture and fixtures	1	—	—	1	—	—	—	—
26	Paper and allied products	9	4	2	1	1	1	1	—
27	Printing and publishing	8	1	—	1	1	—	—	—
28	Chemicals and allied products	26	7	5	19	3	1	1	—
29	Petroleum refining	3	2	—	—	1	—	—	—
30	Rubber and miscellaneous plastic products	6	—	1	2	2	—	1	—
31	Leather and leather products	11	—	—	2	—	1	3	—
32	Stone, clay, and glass products	23	5	4	13	6	1	3	1
33	Primary metal products	15	3	1	3	13	3	1	1
34	Fabricated metal products	20	7	2	13	7	1	—	—
35	Machinery, except electrical	38	2	5	16	11	2	2	—
36	Electrical machinery	27	2	3	11	16	3	1	1
37	Transportation equipment	11	2	2	1	4	1	—	1
38	Instruments, optical goods, clocks	10	—	2	3	1	3	1	—
39	Miscellaneous manufactured commodities	17	1	1	3	2	17	2	1
			1979						
	Total, manufactured commodities	318	58	28	63	171	51	39	8
20	Food and kindred products	39	17	7	16	4	1	4	—
21	Tobacco manufactures	3	1	—	1	1	—	—	—
22	Textile mill products	20	4	2	14	4	1	4	1
23	Apparel and related products	21	1	1	2	5	17	4	1
24	Lumber and wood products	10	3	—	1	3	11	2	—
25	Furniture and fixtures	1	—	—	1	—	—	—	—
26	Paper and allied products	9	3	2	2	1	1	1	—
27	Printing and publishing	8	1	5	2	—	—	—	—
28	Chemicals and allied products	26	6	6	17	2	4	1	—
29	Petroleum refining	3	—	1	1	1	—	—	—
30	Rubber and miscellaneous plastics products	6	—	—	2	1	1	—	1
31	Leather and leather products	11	—	—	1	—	3	1	1
32	Stone, clay, and glass products	23	4	2	15	6	2	3	1
33	Primary metal products	15	1	1	4	5	1	2	1
34	Fabricated metal products	20	6	1	14	4	5	—	—
35	Machinery, except electrical	38	2	3	7	14	10	2	—
36	Electrical machinery	27	2	1	5	12	13	4	—
37	Transportation equipment	11	2	—	2	5	1	—	1
38	Instruments, optical goods, clocks	10	—	—	4	1	13	2	—
39	Miscellaneous manufactured commodities	17	1	—	2	2	7	14	1

¹ Level of import penetration for the 2-digit SIC-based group in 1972 or 1979.

group import penetration level, while representative for the group as a whole, does not reflect the level of penetration for each 4-digit group within the major group. In addition, the 4-digit industry size, importance (based on shipments value or employment), and propensity to import or export varies greatly within some 2-digit major groups.

For example, in 1979, 53 percent of all 4-digit manufacturing commodity groups had a level of import penetration of 5 percent or more. Sixty percent—12 of 20—of the 2-digit major groups had overall levels of import penetration of 5 percent or more. Two of these 12 major groups (paper and petroleum refining) had fewer than 50 percent of their constituent 4-digit groups with penetration at or above the 5-percent level. Conversely, in one 2-digit major group (stone, clay, and glass) with a penetration level less than 5 percent, more

than 50 percent of component 4-digit groups experienced penetration levels of 5 percent or more.

Long-term trends. The following tabulation compares the 1972–79 average annual increases in import penetration with the average levels of penetration for all 4-digit SIC-based manufacturing groups:

	Total groups	Average annual change	
		Under 1 percentage point	1 percentage point or more
Total groups	318	274	44
Average level:			
Under 15 percent	266	246	20
15 percent or more	52	28	24

As indicated, 44 of the 318 4-digit manufacturing commodity groups had a 1972-79 average annual increase in import penetration of 1 percentage point or more. (See table 6.) Twenty of the 44 groups had a 1972-79 average level of import penetration of less than 15 percent. During this same period, 5 of the 44 groups experienced a rate of growth in export proportion which equaled or exceeded that of import penetration. Fifty-two of the 318 manufacturing commodity groups had a 1972-79 average level of import penetration of 15 percent or more. (See table 7.) In 28 of these 52 groups, import penetration either declined or had a 1972-79 average annual increase of less than 1 percentage point. Of the 52 groups, 15 exported at least 10 percent of

their shipments, on average, during this period, indicating a high degree of trade activity in both imports and exports.

If we consider those groups for which either (1) the 1972-79 average annual increase was 1 percentage point or more, or (2) the 1972-79 average level of import penetration was 15 percent or more, we obtain a total of 72 import groups which have recently experienced either a sustained high level of import penetration or substantial increase in import penetration. For brevity, we shall refer to these 72 import groups as "import-sensitive" groups.¹⁰

Industry employment related to the "import-sensitive" groups is presented in table 8. In many cases, the

Table 6. Four-digit SIC-based manufacturing commodity groups with average annual increases in import penetration of 1 percentage point or more, 1972-79

SIC-based code	Commodity group	Imports as a percent of new supply				Average annual percentage point change, 1972-79	
		1972 level	Range, 1972-79		1979 level		
			Low	High			
3021	Footwear, rubber or plastic	33.9	33.9	71.7	69.2	52.5	5.0
2279	Floor coverings, nes, of textile or vegetable materials	30.9	30.9	57.2	57.2	42.1	3.8
2385	Rainwear	20.2	20.2	44.9	40.6	33.4	2.9
3149(part)	Leather ski boots and other leather athletic footwear	31.6	31.6	62.2	51.2	46.7	2.8
3263	Earthenware tableware	51.2	49.2	70.0	70.0	56.7	2.7
3873	Watches, clocks, clockwork operated devices, and parts	21.1	21.1	39.9	39.9	30.0	2.7
2066(part); 2099(part)	Chocolate and cocoa products	11.0	11.0	31.6	29.2	19.1	2.6
3171	Women's handbags and purses	20.6	20.6	38.5	38.5	29.1	2.6
2386	Leather wearing apparel, nes	34.6	33.9	57.7	50.4	43.7	2.3
3911; 3915(part)	Jewelry and cigarette lighters of precious metals	4.2	4.2	20.5	20.5	9.9	2.3
3144; 3149(part)	Women's footwear, except athletic	18.9	18.9	33.5	33.5	24.9	2.1
2271	Floor coverings, textile materials, pile inserted	11.3	11.3	28.0	24.3	19.3	1.9
2342	Corsets and allied garments	5.3	5.3	18.8	18.8	12.1	1.9
3339; 3341(part)	Smelter and refined nonferrous metals, nes	50.0	42.7	62.6	62.6	51.2	1.8
3541	Metal-cutting machine tools, and parts, nes	7.7	7.7	19.5	19.5	12.5	1.7
3553	Woodworking machinery, and parts, nes	7.9	7.9	19.7	19.7	12.9	1.7
3674; 3629(part)	Semiconductors, rectifiers, and rectifying apparatus	11.5	11.5	23.2	23.2	19.1	1.7
2371	Fur wearing apparel, and fur articles, nes	3.7	3.7	15.1	15.1	8.9	1.6
3313	Electrometallurgical products	19.7	19.7	36.3	31.1	29.7	1.6
3944	Games, toys, and children's vehicles, except dolls	11.2	11.1	22.2	22.2	14.6	1.6
2381; 2259	Gloves, except sports, leather, or fur gloves	13.8	12.7	24.1	24.1	17.4	1.5
3131	Leather cut to shapes for footwear; leather shoelaces	2.2	2.2	12.9	12.9	6.8	1.5
2321; 2322; 2331(part); 2361(part); 2253(part); 2254(part)	Male shirts, nightwear, and underwear; and female and infants' knit shirts	10.7	10.7	20.6	20.6	14.6	1.4
3676	Resistors for electronic applications	6.2	6.2	16.3	16.3	10.8	1.4
3161	Luggage of leather, textile materials, plastics	15.4	12.6	25.0	24.4	18.5	1.3
3253	Ceramic floor and wall tile	22.9	16.7	32.2	32.2	25.2	1.3
3333; 3341(part)	Smelter and refined zinc	28.5	28.5	43.2	37.4	37.4	1.3
3151	Gloves, leather	22.3	18.3	31.0	31.0	23.0	1.2
3851	Ophthalmic goods and parts, nes	12.4	12.4	20.5	20.5	16.6	1.2
3942	Dolls and stuffed toy animals	21.8	17.5	30.1	30.1	22.7	1.2
2121	Cigars and cheroots	2.3	2.3	9.7	9.7	5.8	1.1
2331(part); 2335; 2361(part)	Women's, girls', and infants' dresses, blouses, and shirts, except knit shirts	4.2	4.1	12.0	12.0	6.9	1.1
2387(part)	Leather apparel belts, with or without buckles	4.8	4.8	12.3	12.3	7.9	1.1
2429	Wood shingles, cooperage stock, and excelsior	26.6	19.3	34.2	34.1	28.2	1.1
2492	Wood particleboard, whether or not face finished	0.6	0.3	8.5	8.5	3.4	1.1
3547	Metal rolling mills, and parts, nes	4.0	3.4	11.4	11.4	5.5	1.1
3675; 3629(part)	Electrical capacitors, fixed or variable	9.6	9.6	17.2	17.2	14.0	1.1
2311; 2329(part)	Men's or boys' suits and coats, except raincoats	6.1	6.1	13.1	13.1	9.8	1.0
2337; 2363	Women's, girls', and infants' coats, suits, and skirts	6.6	6.1	13.7	13.7	9.0	1.0
3269	Ceramic articles, nes	33.7	33.7	45.7	40.6	38.9	1.0
3554	Pulp and paper machinery, and parts, nes	12.6	10.1	19.7	19.7	14.2	1.0
3651	Radio and television receiving sets, phonographs, and audio equipment, nes	34.9	33.3	44.3	42.1	38.7	1.0
3961	Costume jewelry and novelties, except precious metal	10.4	10.4	17.8	17.8	13.6	1.0
3964	Needles, pins, zippers, and similar notions	9.1	9.1	16.3	16.3	12.5	1.0

¹ The 1972-79 average annual percentage point change in export proportion for this group is equal to or exceeds the 1972-79 average annual percentage point change in import

penetration.
nes = not elsewhere specified.

industry employment series are not that well matched to the import groups. The industry coverage may be broader or narrower than that implied by the import product group; some industry employment series are related to more than one import group. Given these and

other limitations which are discussed in the appendix, the employment coverage of the "import-sensitive" groups presented in table 8 should be considered only as approximate.

Fifty-one industry employment series in table 8 relate

Table 7. Four-digit SIC-based manufacturing commodity groups with average levels of import penetration of 15 percent or more, 1972-79

SIC-based code	Commodity group	Imports as a percent of new supply					Average annual percentage point change, 1972-79
		1972 level	Range, 1972-79		1979 level	Average, 1972-79	
			Low	High			
3915(part)	Jewelers' findings and materials, and lapidary work	68.9	68.9	75.6	72.3	172.4	0.5
3263	Earthenware tableware	51.2	49.2	70.0	70.0	56.7	2.7
3751	Motorcycles, bicycles, and parts, nes	65.1	49.8	65.1	52.4	55.6	-1.8
2299	Textile mill products, nes	59.0	39.6	63.7	46.2	154.0	-1.8
3021	Footwear, rubber or plastic	33.9	33.9	71.7	69.2	52.5	5.0
3339;							
3341(part)	Smelter and refined nonferrous metals, nes	50.0	42.7	62.6	62.6	151.2	1.8
3636	Sewing machines, and parts, nes	50.9	41.3	50.9	41.3	146.9	-1.4
3149(part)	Leather ski boots and other leather athletic footwear	31.6	31.6	62.2	51.2	46.7	2.8
3962	Artificial trees, flowers, dried plants, and grasses	41.9	37.2	54.2	45.8	45.9	0.6
2386	Leather wearing apparel, nes	34.6	33.9	57.7	50.4	43.7	-2.3
2279	Floor coverings, nes, of textile or vegetable materials	30.9	30.9	57.2	57.2	42.1	3.8
3262	China tableware	41.0	36.8	44.5	41.0	40.6	0.0
3574(part)	Calculating and accounting machines, excluding parts	40.1	33.6	46.1	40.6	140.4	0.1
3269	Ceramic articles, nes	33.7	33.7	45.7	40.6	38.9	1.0
3651	Radio and television receiving sets, phonographs, and audio equipment, nes	34.9	33.3	44.3	42.1	138.7	1.0
3333;							
3341(part)	Smelter and refined zinc	28.5	28.5	43.2	37.4	37.4	1.3
2385	Rainwear	20.2	20.2	44.9	40.6	33.4	2.9
2611	Pulp mill products	30.4	30.3	32.3	32.3	131.4	0.3
3552	Textile machinery, and parts, nes	36.6	26.1	37.3	33.2	131.3	-0.5
2435	Hardwood plywood and veneer	31.3	27.9	33.1	33.1	31.0	0.3
3873	Watches, clocks, clockwork operated devices, and parts	21.1	21.1	39.9	39.9	30.0	2.7
3313	Electrometallurgical products	19.7	19.7	36.3	31.1	29.7	1.6
2292	Lace goods, nes	21.7	21.7	35.1	27.7	129.6	0.9
3171	Women's handbags and purses	20.6	20.6	38.5	38.5	29.1	2.6
2429	Wood shingles, cooperage stock, and excelsior	26.6	19.3	34.2	34.1	28.2	1.1
2298	Cordage	21.5	20.4	40.3	23.4	25.5	0.3
2085	Distilled, rectified, and blended liquors, except brandy	24.9	24.3	26.4	24.3	25.3	-0.1
3253	Ceramic floor and wall tile	22.9	16.7	32.2	32.2	25.2	1.3
3144;							
3149(part)	Women's footwear, except athletic	18.9	18.9	33.5	33.5	24.9	2.1
2084	Wines, brandy, and brandy spirits	21.3	18.5	28.9	26.2	23.2	0.7
3151	Gloves, leather	22.3	18.3	31.0	31.0	23.0	1.2
3942	Dolls and stuffed toy animals	21.8	17.5	30.1	30.1	22.7	1.2
2091	Canned and cured fish and seafoods	24.8	20.7	25.4	21.0	122.3	-0.5
2833	Medicinals and botanicals	22.0	20.2	24.6	21.7	121.7	0.0
2061-3	Cane or beet sugar, syrup, and molasses; beet pulp	22.5	16.1	24.3	18.5	21.5	-0.6
2271	Floor coverings, textile materials, pile inserted	11.3	11.3	28.0	24.3	19.3	1.9
2066(part);							
2099(part)	Chocolate and cocoa products	11.0	11.0	31.6	29.2	19.1	2.6
3674;							
3629(part)	Semiconductors, rectifiers, and rectifying apparatus	11.5	11.5	23.2	23.2	119.1	1.7
3914	Silverware, plated ware, and stainless steel ware	14.9	14.9	21.6	17.4	18.7	0.4
3161	Luggage of leather, textile materials, plastics	15.4	12.6	25.0	24.4	18.5	1.3
3699(part);							
3629(part)	Electrical articles and electrical parts of articles	17.5	14.9	20.3	20.3	118.3	0.4
2381; 2259	Gloves, except sports, leather, or fur gloves	13.8	12.7	24.1	24.1	17.4	1.5
2369; 2339;							
2329(part);							
2387(part);							
2253(part)	Outerwear, nes, of textile materials	16.3	14.0	20.8	20.0	17.3	0.5
3143;							
3149(part)	Men's footwear, except athletic	14.7	14.7	20.4	20.4	17.2	0.8
3572	Typewriters and parts, nes	16.3	14.8	19.5	18.5	17.1	0.3
3832	Optical instruments and lenses, and parts, nes	17.1	14.3	19.5	15.9	117.1	-0.2
3851	Ophthalmic goods and parts, nes	12.4	12.4	20.5	20.5	16.6	1.2
3949	Sporting and athletic goods and parts, nes	13.0	12.8	19.1	18.6	16.2	0.8
3711,3,6;							
3799(part)	Motor vehicles and passenger car, truck, and bus bodies	13.6	13.4	18.3	18.3	16.0	0.7
3811(part)	Surveying and drafting instruments; balances, nes; measuring equipment, nes	12.5	12.5	22.0	19.0	115.5	0.9
3172	Flat goods of leather and other materials	14.0	10.7	20.1	20.1	15.4	0.9
2421	Lumber and other sawmill and planing mill products, except dimension hardwood	16.3	11.2	17.5	16.9	15.1	0.1

¹ The 1972-79 average level of export proportion for this group exceeds 10 percent. nes = not elsewhere specified.

NOTE: This table includes all 4-digit SIC-based manufacturing commodity groups with imports accounting for 20 percent or more of new supply in 1979, with the exception of the following groups, which all had a 1972-79 average level of import penetration less than 15

percent: SIC 2321-2, 2253(part), 2254 (part), 2331(part), 2361(part) — Male shirts, nightwear, and underwear, and female and infants' knit shirts (20.6 percent); SIC 3911, 3915(part) — Jewelry, of precious metal or stones (20.5 percent); and SIC 3944 — Games, toys, and children's vehicles (22.2 percent).

Table 8. Employment in domestic industries which produce products similar to those in import-sensitive¹ product groups, 1972, 1979, and 1981

SIC code	Industry	Annual average employment (in thousands)			Annual average growth rate (in percent)		SIC code	Industry	Annual average employment (in thousands)			Annual average growth rate (in percent)	
		1972	1979	1981	1972-79	1972-81			1972	1979	1981	1972-79	1972-81
Food and kindred products													
2061-3	Cane and beet sugar	37.1	30.7	31.7	-2.7	-1.7	3149 ³	Footwear, except rubber, nec ²	32.3	23.5	23.0	-4.4	-3.7
2066.7	Chocolate and cocoa products; chewing gum ²	20.7	20.5	19.7	-0.1	-0.5	3161	Luggage	17.3	17.7	15.0	0.3	-1.6
2084	Wines, brandy, and brandy spirits ²	10.5	13.2	14.4	3.3	3.6	3171	Women's handbags and purses ²	19.9	18.5	17.5	-1.0	-1.4
2085	Distilled liquors, except brandy ²	22.8	19.0	17.4	-2.6	-3.0	3172	Personal leather goods, nec ²	13.0	14.3	12.6	1.4	-0.3
2091	Canned and cured seafoods ²	19.9	20.1	18.4	0.1	-0.9	3151,3199	Other leather products, nec ²	14.0	14.5	13.6	0.5	-0.3
Tobacco manufactures													
2121	Cigars ²	14.7	8.0	7.0	-8.3	-7.9	3253,9	Other structural clay products ²	18.8	15.6	13.2	-2.6	-3.9
Textile mill products													
2253 ³	Knit outerwear mills	77.6	70.5	71.5	-1.4	-0.9	3262,3 ³	Vitreous china and earthenware food utensils ²	10.4	9.7	9.4	-1.0	-1.1
2254	Knit underwear mills	34.4	32.0	30.2	-1.0	-1.4	3269	Pottery products, nec ²	12.0	14.6	12.5	2.8	0.5
2258,9	Knit fabric and knitting mills, nec ²	28.6	25.7	21.5	-1.5	-3.1	Primary metal industries						
2271,2,9 ³	Floor covering mills	62.2	60.5	52.6	-0.4	-1.8	3313	Electrometallurgical products ²	15.1	15.0	13.1	-0.1	-1.6
2291-4,7,9 ³	Other textile goods ²	36.3	36.8	35.6	0.2	-0.2	3332,3	Primary lead and zinc ²	9.1	9.5	7.7	0.6	-1.8
2298	Cordage and twine ²	10.9	10.3	9.1	-0.8	-2.0	3339	Primary nonferrous metals, nec ²	8.2	10.7	11.8	3.9	4.1
Apparel and other textile products													
2311	Men's and boys' suits and coats	112.8	81.2	76.5	-4.6	-4.2	3341 ³	Secondary nonferrous metals ²	17.7	24.8	23.7	4.9	3.3
2321	Men's and boys' shirts and nightwear	118.0	102.8	97.4	-2.0	-2.1	Machinery, except electrical						
2322	Men's and boys' underwear ²	20.2	16.2	14.4	-3.1	-3.7	3541	Machine tools, metal cutting types	58.4	77.4	79.5	4.1	3.5
2329 ³	Men's and boys' clothing, nec ²	57.3	59.5	58.4	0.5	0.2	3547	Rolling mill machinery ²	11.8	11.6	10.1	-0.2	-1.7
2331 ³	Women's and misses' blouses and waists	46.0	64.0	62.4	4.8	3.4	3552	Textile machinery	35.5	26.9	26.2	-3.9	-3.3
2335	Women's and misses' dresses	197.4	156.5	137.1	-3.3	-4.0	3553	Woodworking machinery ²	10.8	13.6	11.7	3.3	0.9
2337	Women's and misses' suits and coats	73.4	64.8	61.4	-1.8	-2.0	3554	Paper industries machinery ²	14.8	18.9	19.6	3.6	3.2
2339	Women's and misses' outerwear, nec	105.5	149.4	147.1	5.1	3.8	3572	Typewriters ⁵	45.2	36.2	38.3	-3.1	-1.8
2342	Brassieres and allied garments	31.3	18.7	18.3	-7.1	-5.8	3574	Calculating and accounting machines ⁵					
2361 ³	Children's dresses and blouses	34.0	27.5	27.2	-3.0	-2.4	Electric and electronic equipment						
2363	Children's coats and suits ²	9.7	7.4	6.4	-3.8	-4.5	3629 ³	Electrical industrial apparatus, nec ²	11.4	14.5	12.2	3.5	0.8
2369	Children's outerwear ²	29.8	30.8	30.2	0.5	0.1	3635,6,9	Other household appliances ²	35.1	36.9	31.8	0.7	-1.1
2371	Fur goods ⁴	5.7	4.4	4.0	-3.6	-3.9	3651	Radio and tv receiving sets	114.5	87.5	82.2	-3.8	-3.6
2381	Fabric dress and work gloves ²	14.0	14.5	11.1	0.5	-2.5	3674	Semiconductors and related devices	115.2	201.1	224.6	8.3	7.7
2385	Waterproof outer garments ²	17.8	12.2	11.8	-5.3	-4.5	3675	Electronic capacitors ²	19.2	26.8	27.0	4.9	3.9
2386,7,9 ³	Apparel and accessories, nec ²	21.5	20.1	24.3	-1.0	1.4	3676,8	Electronic resistors and connectors ²	10.5	22.1	19.3	11.2	7.0
Lumber and wood products													
2421	Sawmills and planing mills, general	182.0	196.4	171.5	1.1	-0.7	3699	Other miscellaneous electrical equipment ²	14.0	14.7	14.0	0.7	0.0
2429	Special product sawmills, nec ²	6.1	6.5	4.9	0.9	-2.4	Transportation equipment						
2435	Hardwood veneer and plywood	30.9	27.9	24.8	-1.4	-2.4	3711	Motor vehicles and car bodies	415.2	463.0	352.4	1.6	-1.8
2492,9	Particleboard and wood products, nec ²	65.0	70.8	67.7	1.2	0.5	3713	Truck and bus bodies	46.1	46.1	37.1	0.0	-2.4
Paper and allied products													
2611	Pulp mills ²	13.7	16.1	17.2	2.3	2.6	3751	Motorcycles, bicycles, and parts ²	18.2	19.5	16.8	1.0	-0.9
Chemicals and allied products													
2833	Medicinals and botanicals ²	14.8	17.2	18.6	2.2	2.6	Instruments and related products						
Rubber and miscellaneous plastics products													
3021	Rubber and plastic footwear	28.7	22.7	22.2	-3.3	-2.8	3811	Engineering and scientific instruments	64.5	72.4	78.5	1.7	2.2
Leather and leather products													
3131	Boot and shoe cut stock and findings ²	13.4	11.7	11.2	-1.9	-2.0	3832	Optical instruments and lenses	17.6	31.6	33.4	8.7	7.4
3143	Men's footwear, except athletic	63.8	57.9	57.2	-1.4	-1.2	3851	Ophthalmic goods	37.1	45.1	40.7	2.8	1.0
3144	Women's footwear, except athletic	86.6	59.3	52.9	-5.3	-5.3	3873	Watches, clocks, and watchcases	29.6	27.7	20.1	-0.9	-4.2
Miscellaneous manufacturing industries													
Jewelry, precious metal													
Silverware and plated ware²													
Jewelers' materials and lapidary work²													
Dolls, games, toys; and children's vehicles													
Sporting and athletic goods													
Costume jewelry													
Artificial flowers and buttons²													
Needles, pins, and fasteners²													

¹ Import commodity groups for which either (1) the 1972-79 average annual increase in import penetration was 1 percentage point or more, or (2) the 1972-79 average level of import penetration was 15 percent or more.

² Unpublished establishment survey data. Employment data are of good quality, but have not been published due to an inadequate sample for publication of non-employment data types.

³ Industry employment series is related to more than one import-sensitive product group.

⁴ Unpublished establishment survey data. Employment data are of low quality and have not been published due to an inadequate sample for publication of any data types.

⁵ Unpublished establishment survey data. Employment data represent a combination of unpublished confidential series to avoid disclosure of any individual industry estimates.

nec = not elsewhere classified.

NOTE: There are a few industry employment series which have not been included because either data are not available for 1972 or industry coverage of the employment series is too broad to be matched with the import-sensitive product group.

SOURCE: Bureau of Labor Statistics, Payroll Employment Program, Establishment Survey, March 1981 benchmark.

to the 44 import commodity groups in table 6 with 1972-79 average annual increases in import penetration of 1 percentage point or more; 28 industry employment series relate to the 28 import groups in table 7 that had 1972-79 average annual increases in import penetration of less than 1 percentage point, but an average level of import penetration of 15 percent or more.

Of the 79 employment series in table 8, 38 show a declining 1972-79 average annual rate of change; 51 show a declining rate for the period 1972-81. (The larger number of declines for the 1972-81 period may be due to the downturn in the business cycle during 1980.) Twenty-two of the 38 industries with 1972-79 employment declines and 27 of the 51 with 1972-81 employment declines are in the textile, apparel, and leather goods groups. During the period 1972-79, total manufacturing employment grew at an average annual rate of 1.4 percent; for the period 1972-81, the growth rate was 0.6 percent. Further analysis would be required to determine whether imports were the major factor in the long-term employment decline in these 38 (or 51) industries. However, the foregoing does illustrate how analysis of import penetration and change in industry employment might be used as a screening tool to focus on potential import problems which an industry might be facing.

Usefulness of the measures

A review of some of the major methodological and measurement problems in relating trade data to domestic output and industry employment is presented in the appendix. Given these problems, the absolute values of the measures of import penetration and export proportion are of limited use, for example, in inter-industry comparisons. However, they are valid for the study of direction and magnitude of change over time, if all oth-

er relevant factors remain unaltered (for example, no structural or reporting changes).

Changes in import penetration are usually more important than levels when examining for possible employment displacement in a particular industry. However, it should be noted that a rapid rise in import penetration is not necessarily undesirable, because it might reflect a greater product specialization within an industry. This might involve higher levels of both imports and exports, reflecting greater net competitiveness. For this reason, measures of import penetration should be examined in conjunction with measures of export proportion as well as other indicators.

The BLS measures of import penetration have been developed on a 4-digit SIC basis because domestic employment measures are available only on that basis. However, by confining import penetration measures to the 4-digit SIC level, which often represents combinations of broad product groups, we may overlook some potential adjustment problems if these groups contain a mixture of very competitive and less competitive products.

AS MORE COMPLETE DATA become available, it may be possible to further refine and improve the quality of the measures which BLS has developed for use in its trade monitoring program. However, the interpretation of import penetration measures may be affected by factors in addition to the data limitations indicated above. For example, the stage of the business cycle, as reflected in U.S. and world demand, will help determine the level and composition of both imports and exports. Shifts in consumer demand due to changing tastes or product substitution, strikes, the weather, and new government regulations are other exogenous factors. Long-term secular changes in capital investment, technology, and labor force characteristics also are influential. □

FOOTNOTES

¹Commodity classification is based upon the *Standard Industrial Classification Manual: 1972* (Washington, U.S. Government Printing Office), and its 1977 Supplement. See the appendix for a more detailed description of the methods used to classify imports, exports, and domestic output.

²While BLS has received no appropriation for its role, it has devoted some resources from other programs to trade monitoring. The Census Bureau has received some limited funding for its role which has resulted in improved comparability between reported domestic production, import, and export commodity data, as well as more timely and detailed reporting of domestic production data.

³An alternative measure might be based upon a production or output basis, that is, imports relative to shipments less net inventories and net exports. In most cases, inventory change data are not generally available for adjusting product shipments data. If this measure were based over several years, the year-to-year fluctuations in inventories over the business cycle probably would not create severe distortions and would likely parallel analysis based on a domestic demand or apparent consumption basis.

⁴See, "Origin of Exports of Manufacturing Establishments," in *1976 Annual Survey of Manufactures*, M76-AS-8 (Bureau of the Census, 1978).

⁵A fifth measure, the ratio of imports to U.S. product shipments, M/S , is not discussed here. This ratio is equivalent to the ratio of the relative shares of new supply of imports-to-shipments, that is, $[M/(M+S)]/[S/(M+S)]$. Algebraically, it can be derived from ratio (b) as follows: let $M/(M+S) = B$, then $M/S = B/(1-B)$. Note that B may take on any value between 0 and 1; (M/S) is nonnegative but not necessarily bounded from above.

⁶A solution to this problem would involve distinguishing "directly competitive" imports (primarily finished manufactures) from "supporting" imports such as raw materials (for example, petroleum, lumber, certain mineral and agricultural products, and semi-finished manufactures), and analyzing the supply and product availability of domestically produced substitutes. Substitution of domestic goods for foreign goods and resources will depend on both consumer tastes and industry technology. On the consumer side, income and price (cross) elasticities of demand, and on the producer side, capacity utilization,

productivity, and the possibility of resource bottlenecks, will influence the adjustment (both in the short run and the long run) to replacement of imported commodities with domestically produced goods.

⁷ The value-based measures presented in this article should be considered as approximations intended for broad industrial monitoring. Further adjustments would need to be made for a detailed analysis of a specific sector. These might include adjustments in import value to make it more equivalent to a domestic valuation, and attempting to account for different cost and wage structures among countries, the changing composition of the product basket, point of sale, and timing of sale.

⁸ BLS produces U.S. import and export price indexes which are based on the nomenclature of the Standard International Trade Classification (SITC) System of the United Nations, 1974 Revision. Monthly net transaction price data are collected by BLS for approximately 14,500 products from more than 6,000 companies (importers and exporters). The product areas surveyed for the import price indexes

account for about 96 percent of the value of U.S. imports and cover all imported commodities, excluding chemicals. The product areas surveyed for the export price indexes account for approximately 64 percent of the value of all U.S. exports and include machinery and transportation equipment, and selected categories of chemicals, intermediate products, crude materials, and food.

⁹ Import data are BLS SIC-based aggregations of Census Bureau IM-145 monthly import tapes. Export data are from the Census Bureau's EA-675, U.S. Exports of Domestic and Foreign Merchandise, SIC Division by SIC-Based 2-Digit, 3-Digit, and 4-Digit Product Code.

¹⁰ It should not be concluded that the remaining 246 groups are insensitive to import changes. The choice of average annual increase of 1 percentage point and average level of 15 percent for the period is completely arbitrary and made only for the purpose of reducing the number of groups considered for analysis. The selection criteria could be adjusted according to any desired level of discrimination.

APPENDIX: Data limitations

There are several conceptual and measurement difficulties in comparing domestic output and employment data to commodity trade data. These problems vary with the product or industry considered, the definition of the industrial market, and the scope of the measure. Because each of the factors enumerated below affects comparability among trade and domestic data to some degree, the BLS measures of import penetration and any related employment coverage for import groups should be viewed only as approximations.

Market mismatches. For the analysis of trade-related employment effects, it would seem reasonable to consider the output at the industrial level (4-digit SIC), because workers usually are mobile between establishments which produce similar products. However, for any meaningful analysis, there must be a defined market with distinct products, the definition depending, in part, upon the degree of vertical integration within the industry. In the above article, markets were defined at the industry level (4-digit SIC), but the pertinent market could be broader in some cases (for example, steel—SIC 331) or narrower (as for canned mushrooms, SIC 20333, within canned vegetables, SIC 2033). This is an important caveat, because the degree of import penetration calculated will vary with the definition of the 'industry' (2-, 3-, or 4-digit) or product category (5- or 7-digit) used.

Commodity versus industry base. Data on U.S. manufacturers' shipments are available on two bases: 1) industry shipments—total shipments of firms classified in a given industry, which include other secondary products, and 2) product-class shipments—total shipments of the primary products of the industry, which include sales of the same products made by firms classified in other industries. Because international trade classifications are commodity-based, it was decided to match imports and exports to domestic sales of a commodity on a product-class basis.

A product class is a group of individual products of an industry. It is designated by a 5-digit code, the first four digits indicating the SIC (industry), and the fifth, the specific group of products. In some cases, a 5-digit product class is, by definition, limited to products of a particular manufacturing process (for example, ferrous wire made in wiredrawing plants, SIC 33151, as distinguished from ferrous wire not produced by wiredrawers, SIC 34961). Accordingly, the output of all 5-digit classes with similar end products must be combined before comparisons are made with import levels, because the import

classifications do not make these differentiations.

Because employment data are available only on an industry basis, we must consider the commodity-to-industry mismatch when relating product-based measures of import penetration or export proportion to industry employment. Two available measures are useful in evaluating this problem. The first is the specialization ratio, defined as primary product output within the industry divided by total industry output (primary and secondary). The second measure, the coverage ratio, is the primary product output produced within an industry divided by total output of the primary product by all industries. If these two measures are fairly constant over time, then the industry-to-commodity mismatch should not present a major problem when changes in commodity-based import penetration or export proportion are compared with changes in industry-based measures, such as employment.

Data duplication. In computing measures of import penetration at the 4-digit SIC level, domestic product-based output must be aggregated and matched to imports. Aggregation of 5-digit product-class shipments to a 4-digit level will result in duplication to the extent that these commodities are used as materials in other commodities produced within the industry considered. (There are no similar problems of duplication in the import data, because only final products are recorded.) Most domestic output classes covering contract and commission work have been excluded to minimize duplication in the valuation of output. However, in lieu of an appropriate general measure of duplication, such as the percentage of output currently accounted for by intraindustry sales, it can only be noted that, if there is substantial duplication in the measurement of domestic output, the corresponding measure of import penetration will be understated.

Comparability of commodity classes. The available trade data are not ideal for the calculation of import penetration ratios or export proportions. Limitations include problems of valuation, timing, coverage, and comparability with classifications for domestic output.

Perhaps the most critical problem is the incongruity among classifications used for reporting domestic production, U.S. imports, and U.S. exports. Reported domestic production (as well as employment) is based on the classification of domestic economic activity of establishments according to the *Standard Industrial Classification (SIC) Manual*, 1972 edition. U.S. imports are reported on the basis of more than 10,000 legal tariff

commodity classifications, designed for the collection of duties, in the *Tariff Schedules of the United States Annotated* (TSUSA). Finally, U.S. exports are reported on the basis of the Commerce Department's more than 4,000 Statistical Classifications of U.S. Exports (Schedule B).

The three classification structures (SIC, TSUSA, Schedule B) were designed for different uses. The SIC nomenclature is organized by stage of processing (for example, raw materials, manufactured products, services, and so forth). The origin of production is the establishment primarily responsible for output. In some cases, the method of manufacture or process, or market use, is important for industry classification. On the other hand, the trade classifications are commodity based; that is, they define objective commodity characteristics, material content, operating characteristics, and so forth, which may cross industry lines. In the case of imports, these commodity characteristics are important for the determination of any applicable duty.

For the purpose of relating imports (exports) to output, individual TSUSA (Schedule B) commodity numbers are assigned to a 5-digit SIC-based product class. In cases where the TSUSA (Schedule B) numbers include items which should be classified under two or more SIC-based output codes, an assignment is made to that code under which the principal content of the TSUSA (Schedule B) number appears to belong, if such an assignment will not significantly overcount the SIC classification to which the TSUSA (Schedule B) number is assigned or undercount the other SIC classifications to which it partially belongs. Where it appears that distortions will result from the assignment of an entire TSUSA (Schedule B) number to a single SIC-based output code, the principal SIC-based output classes are combined to form a more comprehensive SIC-based import (export) code, and the pertinent TSUSA (Schedule B) data are assigned to the combination. For the 1972 edition of the SIC, and its 1977 Supplement, there are 452 4-digit SIC-based manufacturing output codes and 347 (409) 4-digit SIC-based manufacturing import (export) codes. As one can see, the concordance between domestic output and either SIC-based imports or exports (and for that matter, even between SIC-based imports and exports) is not perfect.

Under Section 608 of the Trade Act of 1974, the Departments of Commerce and Treasury, along with the International Trade Commission, are working to improve the different classifications used for reporting domestic production, imports, and exports. Since the signing of the Act, significant improvements have been made. A completely new Schedule B classification for exports, structured after the TSUSA numbering scheme for imports, was introduced in 1978. In addition, new and more detailed TSUSA classifications are introduced each year, which in many cases permit better associations with domestic output classifications. But while these improvements in comparability are critical for relating trade to domestic economic activity, they present substantial problems for time-series analysis, because the improvements are often achieved at the cost of breaks in individual classification series. For example, only 318 of the 347 4-digit SIC-based import classifications currently available can be matched to output on a consistent basis for the years 1972-79.

In some cases, it is inappropriate (or impossible) to calculate a measure of import penetration, because comparable import data are not available for certain domestic output classifications (for example, morticians' goods, screw machine products, and so forth). In most cases this is not because these items are not imported, but because the different classification structures used for imports (TSUSA) and output (SIC) do not distinguish product characteristics on the same basis. In some

cases, the tariff classifications are not defined precisely enough to permit association of import data with 5-digit detailed domestic output classifications. However, where it is likely that the domestic product class is subsumed in imports at the 4-digit level, it is included in the calculation of the import penetration measure. (For example, products like canned baby foods, SIC 20321, are assumed to be included in the broader import grouping for canned and preserved fruits and vegetables.)

The value of manufactures shipments at the 4-digit commodity level often includes a small amount which is not distributed among the individual 5-digit product classes. When SIC-based import groupings represent combinations of product classes from different 4-digit groups, a share of the undistributed output for the 4-digit output class is allocated to each output product class according to the 5-digit product-class share of the 4-digit total. Because this allocation is an approximation, the value of shipments for the 4-digit import commodity group might be slightly misstated.

Valuation. Differences in the method and point of valuation of imports and exports present major problems in comparisons with domestic output. Output shipments values are sample estimates, subject to error, and usually relate to the point of production. They include interplant transfers and are gross output measures (value added plus cost of materials).

In the above analysis, exports were valued at the point of exportation—seaport, borderpoint, or airport. The export value represents the selling price, or cost if not sold, and includes expenditures for freight, insurance, and other charges to the export point. In addition, the exporter's trade margin above cost boosts the export value in relation to producers' values. Information on the magnitude of this incremental margin is not available on a commodity-by-commodity basis. And, because export values pertain only to direct exports, and not to commodities which are incorporated into other, more finished products and exported in finished form, the relation of exports to shipments for intermediate products (such as steel shapes) is considerably understated.

Beginning in 1974, the Census Bureau began reporting imports on an f.a.s. basis (transaction value, f.o.b. port of exportation) and on a c.i.f. basis (value of the import at the first port of entry), in addition to the previously reported customs value. The customs value, which is used in this article, has been the basic valuation for duty-collection purposes since the inception of the tariff schedules. It usually represents the value in the foreign country and excludes duties, insurance, and other charges. Until recently, customs values did not necessarily represent transaction values. Certain products were valued for customs purposes on the basis of their American Selling Price (ASP), which in most cases was above the actual transaction value. However, under the Customs Valuation Code of the Trade Agreements Act of 1979, the ASP valuation practice is to be phased out and replaced with a transaction-based valuation. As a result, beginning with the compilation of 1982 trade statistics, the Census Bureau is substituting the transaction-based customs value for the f.a.s. value, and discontinuing the compilation of f.a.s. import values.

Of the three alternative import valuations, customs value, f.a.s., and c.i.f., the last would be preferred, because it would reflect the purchase price, freight, insurance, and other charges (except overland charges from Mexico or Canada). To obtain a landed value, customs duties assessed should also be added. This landed value would be the most appropriate measure to use in comparisons with domestic output. Because customs value was used in the above analysis, the import values under-

state the landed U.S. market value. However, the Census Bureau has tabulated SIC-based import penetration measures for 1974 using all three valuation bases, finding that in most cases there are no major differences, while in some there might be differences of as much as 2 percentage points.

Both imports and exports exclude low-valued shipments and mail entry items. To the extent these items are important in a product category, the valuation will be understated.

With few exceptions (for example, used tractors, cars, and tires), used or rebuilt commodities are classified in the same import or export group as new merchandise. Import penetration measures will be overstated to the extent that used or rebuilt products are significant in trade, because domestic shipments data usually do not include such commodities.

Differences in labor requirements for imported commodities present a major problem in value comparisons with domestic output when inferences are made about the employment associated with a particular commodity group. A commodity

group should be defined with sufficient product detail to ensure homogeneity with regard to labor requirements. But in the foregoing analysis, imports are not differentiated by supplying country, a primary determinate of labor input and costs. Products are assumed to be homogeneous within world industrial sectors, and are distinguished only between those which are imported and those which are produced domestically. Imports are compared with like or similar domestically produced commodities on a dollar-for-dollar basis. While this method is probably more valid for the analysis of the balance of payments, it has severe limitations if such a one-to-one correspondence between output and imports is inferred. Different wage and cost structures in each country will affect current dollar value comparability between domestically produced and imported goods. Furthermore, any estimate of the U.S. labor requirements necessary to produce output equivalent to the imported amount would be affected by differences in the valuation of imports and output.

Productivity and people

A number of economic factors have created a new awareness of the human factor in the productivity equation: inflation, the high cost of money, slow economic growth, high energy costs, and increased foreign competition have all served to broaden our perspective. Although in the past top management has tended to downgrade or minimize the importance of the human factor, there is a new awareness of its significance today. A national opinion survey of leadership in the United States in 1979 revealed that government leaders considered improved employee relations to be one of the principal avenues of productivity improvement. Increasing awareness by the chief executive officers in American industry of this source of productivity will also focus corporate attention on more innovative programs within the workplace.

—JEROME M. ROSOW, ED.

Productivity: Prospects for Growth

(New York, Van Nostrand Reinhold Co.,
1981), p. 256.

How valid are estimates of occupational illness?

While the annual BLS survey measures few chronic, long-latent, or fatal illnesses, estimates derived from other studies can prove statistically flawed and inaccurate

HARVEY J. HILASKI AND CHAO LING WANG

Incidence rates of occupational disease, published each year by the Bureau of Labor Statistics, understate the total impact of the work environment on workers' health.¹ This is so because the statistics virtually exclude chronic types of illnesses, as well as illnesses having a long latent period whose relationship to the job often surfaces only after retirement or death.

Alternative methods of measurement confirm that an undercount exists, but differ concerning its magnitude. This article examines some of the alternative methods of estimating occupational diseases and suggests that a consensus on the adequacy and reliability of the estimates is not likely.

One of the first studies to highlight the scope of occupational disease in this country was a pilot study sponsored by the National Institute for Occupational Safety and Health (NIOSH). Confined to cross-sectional samples of workers in designated small industries in Oregon and Washington, the study was designed to determine the usefulness of a set of medical procedures for diagnosing occupational disease, and to ascertain how much new data on occupational illnesses would be generated by this method. The results of the study, published in 1975, underscored the issue of a large undercount in current occupational illness statistics, primarily those of BLS.²

When analysts compared counts of cases of "probable occupational disease" from the pilot study with those from employer logs maintained under regulations of the Occupational Safety and Health Administration (OSHA), and with employer workers' compensation records, they found that nearly 90 percent of the cases (approximately 400) uncovered in the pilot study were not listed in employers' files.³ In effect, the findings indicated that the procedures normally followed by employers in recording and reporting occupational illnesses in fulfillment of legal requirements result in a gross underestimate of occupational disease in the United States.

It should not be surprising that most of the "probable occupational disease" cases found in the pilot study were not included in employer records. Consider, for example, that of the 346 cases discovered in the study, hearing loss was most prominent, amounting to about 28 percent. This condition usually has a gradual onset, with the result that the worker may be unaware of any defect in hearing unless he or she undergoes a hearing test such as that administered in the study. Moreover, hearing loss is often part of the aging process; without baseline data and subsequent periodic testing of the work environment and resulting effects on the worker, the occupational relationship can be seriously challenged.⁴

The NIOSH study results may be questioned in several aspects, including possible bias inherent in the special procedures used to assess the health status of surveyed workers. However, the design is a feasible method for

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dealing with the detection of occupational diseases which are not readily apparent. Unlike the BLS annual survey, which measures the incidence of occupational disease, or the number of new cases recognized by employers as occupational in keeping with regulatory criteria, the NIOSH study measured the prevalence of occupational illness, or the level of occupational illnesses existing at a given time. For some purposes, prevalence is the more meaningful measure, in that it reflects the universe of persons with disease whose medical and economic needs may warrant special attention. However, high prevalence does not necessarily indicate high risk; instead, it may reflect an increase in survival, perhaps due to improved medical care. Conversely, low prevalence may reflect either a rapidly fatal process or cure of disease. The incidence measure is better adapted to keep a "running tab" on the health effects of workplace hazards, except for that component of occupational disease which is chronic in nature or of long latency.

Indirect estimates

Other studies and reports on occupational health problems have also pointed to an undercount in current illness estimates, but they are largely based on indirect evidence. The lack of reliable measures of occupational illnesses nationally has necessitated use and manipulation of surrogate data from epidemiologic or other studies to produce rather specific estimates of occupational diseases. On the basis of such data, a 1979 Labor Department report to Congress claimed that a conservative estimate of the prevalence of byssinosis among nearly 560,000 workers exposed to cotton dust at current levels was 83,610.⁵ In 1980, another congressional report by the Department (hereinafter referred to as the Interim Report) provided several estimates of respiratory disease prevalence or deaths from worker exposure to asbestos, silica, beryllium, cadmium, chromium, arsenic, nickel, coal tar products, and diisocyanates.⁶ Among other things, the Interim Report stated that, of 1 million workers currently exposed to silica, an estimated 59,000 will develop "some level" of silicosis; it also predicted 43,230 lung impairments as a result of exposure to diisocyanates, chemicals used to produce plastic products.

Much like the NIOSH study results, these estimates suggest a substantial undercount in the regularly published national statistics, which for 1980 showed 2,200 cases of all "dust diseases of the lungs."⁷ (The BLS survey does not ask employers to specify recognized occupational illnesses such as asbestosis, byssinosis, and silicosis and thus provides no direct estimates of the incidence of these diseases.) It seems worthwhile, therefore, to examine more closely the major methodologies and techniques commonly used in deriving indirect estimates of occupational disease.⁸

Prevalence of disease. Prevalence rates were used to derive the estimate for silicosis cited above. These rates express the proportion of the population having a disease at a given time, regardless of time of onset. But because epidemiological studies, the major source of prevalence estimates of occupational disease, are confined to a particular population with a specific exposure, extrapolation of the findings to other, larger populations requires caution. Table 1, excerpted from the Interim Report, will be used to illustrate some of the limitations in the use of prevalence rates for this purpose.

The exposed population figures, obtained from a variety of sources, including the Mine Safety and Health Administration and NIOSH, are not representative exclusively of the exposed work force. The more important figures in this table are the prevalence rates, which were obtained from various special studies. Estimates of the numbers of disease cases were calculated by multiplying the exposed populations by the prevalence rates.

The crucial problem in applying prevalence rates derived from special studies to an entire production work force is the lack of assurance that the composition and levels of exposure of the larger population are the same as those of the worker group studied. The group of workers selected for epidemiological study is usually not a statistical sample of all production workers in the industry; therefore, the prevalence rates from such a study cannot be generalized to the larger population.

Use of the specialized prevalence rates in deriving the silicosis estimates probably led to biased results. For example, the 10-percent prevalence rate for the granite industry, which was adapted from an article published in the *Archives of Environmental Health* in 1974,⁹ was not a prevalence measure of silicosis or other respiratory disease, as would be expected. The source data related only to current dust exposures in the Vermont granite

Table 1. Estimated number of cases of silicosis among currently exposed workers

Industry	Population exposed	Prevalence per 100 persons	Estimated number of disease cases
Total	1,057,000		59,102
Mining:			
Metal	24,000	3.4	816
Coal	126,000	.5	630
Nonmetal	7,000	.8	56
Quarry:			
Granite			
Sand or gravel	4,000	10.0	400
	40,000	10.0	4,000
Stone, clay, and glass products	511,000	2.0—20.0	31,500
Foundries:			
Iron and steel	192,000	4.0—9.0	16,700
Nonferrous	75,000		
Abrasive blasting	78,000	6.5	5,000

Source: U.S. Department of Labor, *An Interim Report to Congress on Occupational Diseases*, June 1980, table A-2, pp. 130-31.

sheds. But for estimating purposes, it was assumed that sand and gravel workers have the same "prevalence rate" as the granite workers, under further assumption of a similar degree and duration of exposure. In the case of the stone, clay, and glass products industry, a specific prevalence rate was selected for estimating purposes, although special studies showed a range of rates. While the chosen rate—6.16 percent—appears conservative, there is no reason to assume that it is a better estimate than any other within the wide 2- to 20-percent range of individual study results. If prevalence rates had been calculated from sample data, the precision of the estimates could be measured by standard errors. But for the data in table 1, the standard error of estimated prevalence is not available, and the precision of the estimates is therefore not known.

Dose-response. Dose-response studies generally attempt to establish a statistical relationship between dose (exposure) and response (onset of disease or death). For simplicity, this will be illustrated by example. Eight of 22 North Carolina textile manufacturing plants were selected for a 1970–71 study of cotton textile workers.¹⁰ A dose-response curve was fitted to the resulting data on the prevalence of byssinosis among a group of 1,259 workers in the cotton preparation and yarn area. (See table 2.) From the fitted curve, the byssinosis prevalence rates and their 95-percent confidence limits for workers in the cotton preparation and yarn area were predicted at various cotton dust levels of exposure:

Dust level (mg/m ³)	0.1	0.2	0.5
Predicted prevalence per 100 workers	6.5	12.7	25.8
95-percent confidence interval	5.0–8.5	10.8–14.9	22.5–29.3

The referenced study suggested that a reasonably safe level of lint-free cotton dust is 0.1 mg/m³ in the cotton preparation and yarn area, because nearly 94 percent of the workers exposed at this level had no symptoms of byssinosis.

As indicated in table 3, the authors of the Interim Report used the results of the North Carolina study to calculate the total number of expected byssinosis cases by multiplying 1977 BLS data for production workers in six yarn manufacturing industries by the prevalence rate of 25.8 per 100 workers—the prevalence predicted by the textile worker study for dust level exposure of 0.5 mg/m³. But it is unrealistic to assume that all workers in yarn industries generally are exposed to such high levels of cotton dust. This assumption might not even be true of cotton preparation and yarn workers nationwide, the types of workers among whom the prevalence study was done. Even if it were, however, the results of this special study should not be construed as necessarily

Table 2. Data on byssinosis prevalence by median dust level

Item	Median dust level (mg/m ³ rounded)									
	.05	.07	.10	.15	.23	.34	.51	.77	1.2	1.7
Sample size (n)	145	71	193	279	78	208	147	65	31	42
Cases of byssinosis (r)	5	2	14	27	10	39	37	30	14	17
Prevalence (r/n × 100)	3.4	2.8	7.3	9.7	12.8	18.8	25.2	46.2	45.2	40.5

representative of production workers in all yarn manufacturing industries, because the occupational composition of other industry segments would probably not be similar to that of the cotton preparation and yarn area.

Closer scrutiny of the dose-response relationship in the cotton preparation and yarn area makes the selection of the 25.8 prevalence rate even more puzzling, as only about 285, or 23 percent, of the 1,259 workers fell in the categories exposed to median dust levels 0.5 mg/m³ or above. According to the data in table 2, the average overall byssinosis prevalence for the entire study was 15.5 per 100 workers, or 195 persons.

For the study of illnesses such as byssinosis, information on duration or years of exposure to the hazard is also crucial. This factor should be taken into account because a worker with 10 or 20 years of work exposure would seem to be more susceptible to byssinosis than a worker with a few years of exposure. Moreover, a worker's exposure level may change over the years, due to changes (not always for the worse) in working conditions, including ventilation, industrial hygiene practices, and so forth. In short, a worker normally experiences different amounts of exposure, of varied duration, over the course of his or her employment. If the dose-response relationship curve is not adjusted for the extent of exposure, its accuracy is diminished. Unfortunately, comprehensive data on the intensity, duration, and fluctuation of exposure are rarely available, particularly in retrospective studies of the type used in making the above estimates.

In general, dose-response relationship curves are nonlinear, monotonic (increasing or decreasing), and have lower and upper asymptotes (usually, but not always, 0 and 100 percent). The models tend to operate well in a restricted range of exposure or dosage levels, but not over the entire range; that is, they may be useful in determining the "safe" level of exposure, but they are not suitable for developing national or industry-wide statistics on occupational illnesses.

Standardized mortality ratio. The standardized mortality ratio has been widely used as a summary index of mortality in occupational epidemiologic studies. The ratio is a method commonly used to accomplish indirect age adjustment by applying age-specific death rates of a standard population to a study population to yield a

Table 3. Expected numbers of byssinosis cases, selected yarn manufacturing industries

Yarn manufacturing	Standard Industrial Classification Code	Exposed workers	Assumed prevalence (in percent)	Expected cases
Broad woven fabric mills, cotton	2211	86,600	25.8	22,340
Circular knit fabric mills	2257	1,000	25.8	300
Yarn spinning mills	2281	34,400	25.8	8,880
Texturizing, throwing, twisting, and winding mills	2282	13,900	25.8	3,590
Thread mills	2284	3,600	25.8	930
Tire cord and fabric	2296	1,600	25.8	410

SOURCE: U.S. Department of Labor, *An Interim Report to Congress on Occupational Diseases*, June 1980, table A-1, p. 126.

number of "expected" deaths. It is defined as:

$$SMR = \frac{\text{total observed deaths in a study population}}{\text{total expected deaths in the population}}$$

A ratio greater than 1 means that more deaths have been observed in the study group than would be expected on the basis of rates for the standard population; conversely, fewer deaths than expected are indicated by a ratio less than 1. A test, such as chi-square, is generally used for determining the level of significance of the results.

If the focus is on mortality from hazards in the workplace, an ideal standard population would include all workers in the Nation. But because mortality data are not available in this detail, the total U.S. population, or the male population, is generally selected as the standard. Consequently, misunderstanding sometimes arises in applying standardized mortality ratios to estimate the total number of deaths caused by certain diseases in industry.

In the Interim Report, the ratio was used to derive estimates of work-related lung cancers.¹¹ Data from three sources were used in the computations:

- (1) The number of workers exposed to beryllium compounds and oxides in end-user processes, estimated at 50,000, was obtained from the NIOSH 1972 National Occupational Hazard Survey.
- (2) The mortality ratio of 1.6 for lung cancer among beryllium workers was taken from epidemiologic studies.
- (3) The 1976 U.S. age-adjusted incidence for lung cancer of 116 per 100,000 males over age 20 was used.

The number of expected deaths from lung cancer among workers in end-user industry processes was then calculated as: $50,000 \times 1.6 \times (116/100,000)$, or about 93 lung cancer deaths. Is this a valid estimate of all lung cancer deaths in this industrial population which were due to exposure to beryllium compounds?

First, it is important to understand that a stan-

dardized mortality ratio of 1.6 does not mean that the mortality rate of the study population is 1.6 times that of the standard population and can thus be used as a multiplying factor to obtain the number of deaths in a broader population. Even when exposed to the same health hazards and having the same age-specific death rates for all age groups, different study populations will yield different values of the standardized mortality ratio if their age distributions differ. Obviously, then, the ratios should not be used in estimating the number of deaths due to disease in populations which differ in composition from a study population.

Second, a high ratio does not imply that all deaths from lung cancers, for example, are caused by occupational exposure; it tells us only that the study population has an unusually high mortality risk. We do not know what percentage of deaths actually resulted from exposure, in this case to beryllium. Even if the standardized mortality ratio were interpreted to mean that the number of deaths of the study population is 1.6 times that of the standard population, 58 (that is, $93/1.6$) deaths per year from lung cancer would have occurred in the study population irrespective of any exposure to beryllium. That leaves 35 deaths per year (or about 38 percent of total estimated deaths) which might be attributed to, or aggravated by, exposure to beryllium compounds. At most, the estimate of 93 deaths depicts the total cancer toll among the occupational group, not the excess cancer resulting from beryllium exposure.

Relative risk. Because incidence or other direct measures of occupational disease are generally lacking, epidemiologic study of occupational morbidity often relies on a measure of excess risk of a disease among workers in specified working environments to determine the association between certain occupational factors and the incidence of disease. One such measure is relative risk.

As we will see, relative risk also is subject to misuse in making estimates of occupational disease in industry, perhaps because of confusion about its definition. This can be illustrated again by an example from the Interim Report. From the National Occupational Hazard Survey, 98,090 workers were estimated to be exposed to chromates in chromate pigment production and, as noted, the 1976 U.S. male age-adjusted incidence rate of lung cancer for those over age 20 was 116 per 100,000. Based on these two figures and a chosen relative risk of 5, the estimated number of lung cancers per year among the 98,090 workers was 570 cases: (exposed population) \times (incidence rate of male population) \times (relative risk) = $(98,090) \times (116/100,000) \times 5 = 570$ cases.

The report stated: "Based on three studies reporting relative risks from 2.3 to 38, a relative risk of 5 will be used for workers exposed to chromate compounds. . . ."¹²

Seemingly, this is a conservative choice, but in reality there is no way to tell whether the relative risk of 5 is appropriate or not, because we have no information on its precision. More basic issues are whether relative risk should even be used to estimate the incidence of lung cancer cases, and what is involved if one does so.

Relative risk is a measure of the strength of the association of the disease with a certain factor, such as exposure to a specific chemical, and thus is an important statistical tool in retrospective epidemiological studies. It is defined as the ratio of the incidence rate of those exposed to a factor to that of those not exposed. Conversely, relative risk can be used to compare groups of subjects diagnosed as having a disease to determine if the groups differ in the proportion of persons who had been exposed to the specific factor or factors. However, because retrospective study entails looking at the historical frequency of the suspected cause in a diseased group and a control group, the incidence rates of the diseased among the exposed and unexposed cannot be estimated directly but only approximated by relative risk, an odds ratio (or risk ratio).

Consider the following tabulation, in which the total T_i of the i th group of workers in a study population T ($T = \sum_{i=1}^K T_i$), where K equals the total number of groups, is divided as:

	<i>With disease</i>	<i>Without disease</i>	<i>Total</i>
Exposed to factor	A_i	B_i	$A_i + B_i$
Not exposed to factor . .	C_i	D_i	$C_i + D_i$
Total	$A_i + C_i$	$B_i + D_i$	T_i

Data classified in the table may be obtained from prospective, cross-sectional, or retrospective studies. According to the tabulation above, the proportion of workers exposed to a factor and having the disease is $A_i/(A_i + B_i)$, while the corresponding proportion of unexposed workers with the disease is $C_i/(C_i + D_i)$. Thus, the relative risk of disease for exposed workers is: $A_i(C_i + D_i)/C_i(A_i + B_i)$. But because the incidence of a specific disease in a population tends to be low, the calculation $(A_i D_i)/(B_i C_i)$ —that is, $(A_i/B_i)/(C_i/D_i)$ —provides a close approximation of the relative risk (but not of the incidence of disease) for the i th group of individuals. For an overall relative risk, a commonly used formula is:¹³

$$R = \frac{\sum_{i=1}^K (A_i D_i / T_i)}{\sum_{i=1}^K (B_i C_i / T_i)}$$

Because age is an important factor affecting incidence of disease, it should be accounted for in measurements of overall relative risk. In such an age-adjusted risk ratio, T_i is the total of the i th age group. The chi-square

test is commonly used to determine whether the relative risk is significantly different from 1. Using a risk ratio from a particular study and an incidence rate for the general male population to estimate the extent of occupational disease in a larger population exposed to a specific factor assumes similarity among the age and sex distributions of all groups. However, in the Interim Report's estimate of disease from exposure to chromate compounds, the composition of the general male population and the exposed population may not be similar to that of any special study population. Therefore, use of the relative risk of 5, selected from a range, may produce biased results.

In brief, relative risk is a measure only of the strength of the association between the disease and the exposure factor. If significantly different from 1, it indicates only that the disease is strongly associated with the exposure factor, not that the factor necessarily causes the disease. Any firmer conclusion would require further study. Relative risk is surely a critical measure for assessing the etiologic role of a factor in disease, but it is not suitable for estimating the incidence of disease.

Cancer related to occupational factors

What fraction of cancer incidence in this country is attributed to occupational exposure to carcinogens in the workplace? An unpublished 1978 report prepared jointly by several research institutes indicated that about 20 percent of all cancers are occupationally related and stated: "If recent evidence is considered and if the full consequences of occupational exposures in the present and recent past are taken into account, estimates of at least 20 percent . . . may even be conservative."¹⁴ The report concluded that earlier estimates that only 1 to 5 percent of all cancers in the United States were attributable to occupational factors had not been scientifically documented and that Dr. Philip Cole's 1977 estimates of less than 15 percent for men, and less than 5 percent for women, contained a large element of uncertainty.¹⁵ The results from the joint report have been cited in numerous publications, and questions have been raised concerning their validity.

The 20-percent overall estimate resulted from a two-step merger of the results of several separate studies. The first step developed estimates of the fraction of cancers due to asbestos exposure, while the second compared the risks from asbestos exposure with those from five other high-exposure substances, with the final result based on that comparison. Details of the estimation procedure follow.

According to the report, about 8 to 10 million workers have been exposed to asbestos since the beginning of World War II, and approximately 4 million have had heavy exposure. On the basis of a longitudinal study of a cohort of insulation and shipyard workers, the report

indicated that, of deaths of heavily exposed workers, 20 to 25 percent were from lung cancer, 7 to 10 percent from pleural or peritoneal mesothelioma, and 8 to 9 percent from gastrointestinal cancer. Summed up, this suggests that 35 to 44 percent of cohort deaths were attributable to cancer diseases. Accordingly, the joint study group concluded that, over the next 30 years, at least 1.6 million (about 40 percent of the 4 million) heavily exposed workers would die from the asbestos-related cancers listed above. Based on an assumption suggested by data from a second source, the excess risk to the remaining less heavily exposed workers (4 to 7 million) was estimated to be one-fourth of that for the heavily exposed (a 10-percent risk, obtained as $\frac{1}{4} \times 40$ percent), yielding a cancer estimate for this group of 0.4 to 0.7 million. This raises the total to between 2.0 and 2.3 million cancer deaths over the next three decades, with expected averages of 58,000 to 75,000 cancer deaths per year associated with asbestos alone. The joint study indicated that this excess number of cancer deaths would account for roughly 13 to 18 percent of all expected cancer deaths.

In the second step, the study presented data on carcinogenic risks to workers found to be exposed to five substances in addition to asbestos during a 1972-74 National Occupational Hazard Survey.¹⁶ Table 4, adapted from the study, shows selected results. The risk ratios were either standard mortality ratios or risk ratios selected from a range of values obtained from other epidemiological studies. The report indicated that the figures were not precise estimates, but reasonable ones for comparison purposes, because they were all derived by the same method.

Other conclusions pertaining to the second step of the joint study:

- Excess cases for the other five substances combined are about 33,000 cancers per year, versus 13,900 for asbestos alone (table 4). The data show that these five agents together pose hazards similar to or greater than those posed by asbestos.
- The projected numbers of excess cancers are only for the 1972-74 groups of N-size workers. But because of workplace turnover, the actual number of workers exposed over time will be several times larger than N.
- Consequently, the excess number of cases from asbestos (13,900) among the 1972-74 group underestimates the annual expected number of cancer deaths related to asbestos—58,000 to 75,000, as derived in step 1—by a factor of 4 to 5.
- Because the data for the five other substances listed in table 4 were derived in the same way as those for asbestos, the estimates may likewise underestimate the number of cancers attributable to these substances.

Table 4. Risks of disease associated with exposure to selected substances

Chemical substance	Estimated number of workers exposed, 1972-74 (N) (in millions)	Diseases of risk	Risk ratio (R) (assumed)	Age-adjusted incidence of disease (I) (per 100,000)	Projected number of excess cases (R-1)NI
Asbestos	1.6	Lung cancer Mesothelioma	6.6 (one third of lung cancer)	116 131	10,400 3,500
Arsenic	1.5	Respiratory cancer	4.7	131	7,300
Benzene	2.0	Leukemia	5	17.9	1,400
Chromium	1.5	Respiratory cancer	5	131	7,900
Nickel	1.4	Respiratory cancer	5	131	7,300
Petroleum products	3.9	Lung cancer	3	116	9,100

SOURCE: National Cancer Institute, National Institute of Environmental Health Services, National Institute for Occupational Safety and Health, *Estimates of the Fraction of Cancer in the United States Related to Occupational Factors*, September 1978, (unpublished), table 2, p. 33-38.

- According to results from the first study step, asbestos alone will account for between 13 and 18 percent of all cancer deaths over the next 30 years. The data for the five other substances suggest at least 10 to 20 percent additional cancer deaths. Hence the study conclusion that occupationally related cancers may make up 20 percent or more of cancer deaths in forthcoming decades.

Closer examination of the joint study findings indicates that they may not be fully supported by data from the various studies used in their development, a conclusion corroborated in a report prepared for the Office of Technology Assessment, U.S. Congress.¹⁷

First, a study of causes of nearly 2,300 deaths among a cohort of 17,800 asbestos insulation workers contributed the finding that 35 to 44 percent of workers heavily exposed to asbestos died of cancer. The joint study group selected 40 percent as an approximation of the cohort's fatal cancer risk, and applied this percentage to a national population of 4 million workers considered to be heavily exposed to asbestos. This extrapolation was based on the unstated and probably unjustified assumption that the cohort of asbestos insulation workers was representative of the worker population of mixed industries. The mixed industry population might well differ from the cohort group not only in levels and length of asbestos exposure, but also in terms of population factors, such as age, sex, race, and percentage of smokers, which play significant roles in risk assessment. From the statistical point of view, application of the results from a study population to other populations of different composition and exposure experience usually produces biased estimates. The assumption that the risk of cancers for the less heavily exposed group of 4 to 7 million workers is one-fourth that of the heavily exposed group is similarly questionable. Consequently, the re-

sulting total estimate of 58,000 to 75,000 asbestos-related cancer deaths per year is highly suspect.

Second, the analytic results by "causes" of death in the cohort group of asbestos insulation workers showed only the percentage distribution by disease, irrespective of cause; they did not indicate what fraction of cancer was induced or aggravated by asbestos alone or by any other specific exposure. Although it may be highly abnormal to find 20 to 25 percent of lung cancers and 8 to 9 percent of gastrointestinal cancers as causes of death among a group of workers, the actual percentage of cohort-group deaths specifically associated with exposure to asbestos remains uncertain.

Third, the method of estimating excess cancer cases or deaths for each exposure substance shown in table 4 may result in either overestimates or underestimates. Risk ratios do not in themselves provide the magnitude of risk, because they are greatly affected by the composition of the study population. In that the risk ratio is a ratio of observed to expected disease cases or deaths, any small increase in observed cases will greatly increase the risk ratio if the expected number of cases is small. This is especially true when the study population is small. Assume, for example, that study results indicate that 1,400 deaths were observed when only 1,000 were expected, yielding a risk ratio of 1.4. The chi-square value for the level of significance will be: $X^2 = (\text{observed-expected})^2/\text{expected} = 160$. To achieve the same level of significance for an expected number of 10, the observed number would have to be 50, and the resulting risk ratio would be 5. Thus, a small study population has a better chance to yield a large risk ratio than a large study population, if both experience the same hazards and have the same population composition. It is not surprising, therefore, to find that risk ratios vary widely among epidemiologic studies of workers exposed to the same chemical substance. It is more important to know whether the value of the risk ratio is significantly different from 1, which indicates that the risks for the exposed and nonexposed groups are not identical, than to determine the absolute magnitude of the ratio itself.

Fourth, the joint report considered 13,900 excess cases per year due to asbestos exposure to be underestimated by a factor of 4 to 5 under the assumption of high turnover of the work force. Because the report had already estimated 58,000 to 75,000 asbestos-related deaths per year in an exposed population estimated at 8 to 11 million, further inflation by this factor results in an incredible number of occupational cancers. Based on the age-adjusted incidence shown in table 4, the number of expected lung cancer deaths, excluding mesothelioma, among a 1.6 million male population over age 20 would be 11.6 million \times (116/100,000) or 1,856, in the absence of any exposure to asbestos. It follows, then, that

excess lung cancer deaths due to asbestos exposure alone (10,400) amount to 85 percent of all lung cancer deaths in this 1.6 million exposed population—that is, 10,400/(1,856 + 10,400). Add to this calculation the mesothelioma cases, and the figure becomes 88 percent, a rather astounding share considering all other cancer causes.

Estimates of the excess number of predominantly respiratory type cancer cases due to the five other substances for the given groups of exposed workers also are indicated in table 4. For these groups, the expected numbers of cancer cases in the absence of exposure would be: 1,970 (arsenic), 360 (benzene), 1,970 (chromium), 1,830 (nickel), and 4,520 (petroleum products), by direct application of the corresponding incidence rate. This means that the proportion of total cancer cases associated with each of these five chemicals would amount to 79 percent, 80 percent, 90 percent, 80 percent, and 67 percent, respectively. These proportions appear unreasonably high.

Finally, the joint study group considered the excess number of cancers attributed to the five other substances to be underestimated also, based on the two-step findings for asbestos and applying the same logic. However, this inference is not justifiable, because estimates for the other substances were obtained independently, and the magnitudes of the estimates were greatly affected by the value of the risk ratio chosen for each.

Disability-impairment data

Three types of disability data are available to the occupational health analyst: Social Security Administration data from the various surveys of disabled adults; the Social Security Administration's disability applicant files; and the National Center for Health Statistics' Health Interview Survey data. These data sets also suggest that there are greater numbers of health problems with some occupational connection than published data from employer-based surveys would indicate, but they do not necessarily establish a causal connection between work and disease. Therefore, it may be beneficial to discuss briefly the conceptual framework of these data bases.

The disability study. This study was an analysis of disability data obtained from an interview survey of 18,000 persons age 20 to 64, who had been selected from the 1970 5-percent census sample.¹⁸ The survey was conducted by the Bureau of the Census for the Social Security Administration. Of the 18,000-member sample, 11,700 had been selected from among those persons who had a disability prior to October 1969 as indicated on the 1970 census questionnaire. A mail screening in 1971 resulted in selection of another 1,200 recent onset cases and 5,100 nondisabled persons. Disability in the study was defined "severe," if it precluded work alto-

gether, or "partial," if it limited the kind or amount of work performed.

Based on survey results, it was estimated that about 15 million persons age 20 to 64 nationwide were disabled from all causes. To determine the job-relatedness of a disability, the survey respondent was asked: "Was your (main condition or illness) caused by your job?" Of the resulting estimated 2.4 million job-caused disabilities, 1.7 million were attributed by the author of the study to occupational disease. (For purposes of the study, occupational diseases were defined as all cases of disability which were not caused by an accident on the job.) The study further stated: "Because of limited understanding of what diseases are occupational in nature, it is likely that the actual number of occupational disease cases is much higher" (page IV).

The study indicated that, of the 1.7 million persons disabled by occupational disease, 1.1 million or two-thirds were partially disabled. Among the 0.6 million severely disabled, musculoskeletal and cardiovascular conditions accounted for almost 60 percent of all conditions reported. About 25 percent had mental and digestive ailments and 9 percent, respiratory conditions. Cancer caused by occupation was estimated among the severely disabled at little more than 1 percent, slightly over 6,000 cases.

Can we say that these are good estimates? As the author of the study points out, the survey provided a snapshot of the population at a given time.¹⁹ Thus, the resulting estimates measured the prevalence of occupational disease, counting as they did all existing disabilities without regard to time of onset or diagnosis. The occupational relationship was subjectively perceived by respondents and may or may not have been corroborated by objective medical evidence. Except perhaps for the musculoskeletal impairments, the other conditions were of a type for which objective evidence of occupational causality might have been difficult to obtain.

Finally, while national estimates based on survey data of self-perceived work-related disabilities suggest that an undercount in employer-based occupational illness estimates does exist and in some identifiable parameter, it appears that those diseases which have long latent periods and have yet to be diagnosed are missed in this approach as well. Many long-latent diseases or aggravating disease symptoms of possible occupational origin are recognized beyond the cutoff age of most direct surveys. When disease appears after a worker has lived at least a normal life span, other factors, related to the aging process, enter which may lessen the urgency to determine precise causes.

Disability applicant files. The Social Security disability program provides benefits to disabled adults with work experience in employments covered by the Social Security

Act, and to adults disabled since childhood who are dependents of disabled or retired work beneficiaries or of deceased insured workers. To qualify, claimants for Social Security Disability Insurance must prove that they are both disabled and unable to engage in any substantially gainful work due to their medical condition. Two sample data files from disability applicant records are maintained by the Social Security Administration (SSA), the Continuous Disability History Sample (CDHS) and the Longitudinal Sample of Disability Insurance Applicants (LSDIA). CDHS contains about 25 percent of allowed claims and 10 percent of denied claims, while LSDIA is a 5-percent longitudinal sample of disability applicants.

Disability applicant records contain demographic information, such as sex, race, date of birth, education, occupation, and industry of employment, as well as important medical information, such as diagnosis (primary, secondary, and tertiary), listings of impairments, principal body system involved, and severity and duration of impairment. It is important to note, however, that in the recording and coding of disability cases, work-related illnesses are not distinguished from nonwork-related ones. That is, for adjudicative purposes, an occupational relation to the disease or disability does not have to be established. (Although occupations are associated with worker claimants, no causal relationship is required or intended.) According to a 1974 report by the U.S. Department of Health, Education, and Welfare, the leading causes of disability by diagnosis were listed as chronic ischemic heart, schizophrenia, osteoarthritis, emphysema, displacement of intervertebral disc, diabetes mellitus, rheumatoid arthritis, acute cerebrovascular disease, malignant neoplasm of trachea and lung, neuroses, pulmonary tuberculosis, and mental disorders.²⁰ This listing also contains types of diseases for which, obviously, objective evidence of occupational causation would be hard to come by.

To qualify for disability insurance, a claimant must have a health condition sufficiently incapacitating to be unable to engage in any substantial, gainful work. Thus, a worker may have an occupational disease, but be disallowed disability benefits because pursuit of gainful employment is still possible. Therefore, disability estimates based on SSA records are not precise and comprehensive indicators of occupational impact. In addition, the occupational history of an applicant is limited to his or her longest full-time occupation in the 10-year period preceding the alleged date of onset. Because a job-caused disability, especially one of a chronic nature, may have been due to an earlier exposure, and perhaps, to a different job, there is a potential bias in the use of these statistics for epidemiological study. While the SSA disability files are an important source of data for development of morbidity ratios which identify disease and

occupational relationships worthy of further study, they are not suitable for deriving estimates of occupational disease.²¹

Health Interview Survey data. The Health Interview Survey of the National Center for Health Statistics is a nationwide survey of approximately 40,000 households, conducted on a continuous basis. It is designed to gather information on personal and demographic characteristics, illnesses, injuries, impairments, chronic conditions, and other health topics. Respondents are asked whether they worked in the 2 weeks prior to the interview week, and in what occupation and industry. Each year's sample includes about 120,000 persons, of whom roughly 50 percent are employed.

As data are processed and tabulated, the center publishes analytical reports on various topics. While very few reports have been published on the work force population as the primary study target, data files are available for research purposes. Like the Social Security Administration disability applicant data the center's

data can serve important epidemiological research objectives, but should not be used to derive precise estimates of occupational disease incidence.²²

DESPITE THEIR SHORTCOMINGS, the results of the studies and applied methodologies discussed above do, in combination, point to a larger impact of the workplace on the health of workers than is borne out in regularly published statistics, although the magnitude of the understatement remains uncertain. Continued efforts towards improved or new methods are needed to produce national estimates of greater credibility for the chronic and long latent disease component of job origin. Such efforts might include improved techniques for diagnosing occupational diseases; more sophisticated and efficient means of monitoring workers' health; education and training of doctors and workers regarding health hazards on the job; conduct of epidemiological studies representative of national experience; and establishing methodology for determining the contribution of job exposure to the origin and course of disease. □

—FOOTNOTES—

¹ Harvey J. Hilaski, "Understanding statistics on occupational illnesses," *Monthly Labor Review*, March 1981, pp. 25-29.

² David P. Discher, Goldy D. Kleinman, and F. James Foster, *Pilot Study for Development of an Occupational Disease Surveillance Method* (Washington, U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, 1975).

³ In the survey, the examining physician determined a condition to be one of five types: probable occupational disease; doubtful occupational disease; suggestive history; cannot be evaluated; probably nonoccupational. Probable occupational disease was considered to be present when "manifestations of disease are consistent with those known to result from excessive exposure to a given injurious agent; this injurious agent is present in the patient's working environment and significant contact in course of usual duties is likely." Discher and other, *Pilot Study*, p. 25.

⁴ Although OSHA had a noise standard as early as 1971, environmental and audiometric testing was not formalized at the time of the pilot survey. Under the Hearing Conservation Amendment, which became effective Aug. 22, 1981, the permissible exposure level (PEL) remains at the 90 decibel (dB) level as an 8-hour time weighted average but an 85 decibel time weighted average was established as an action level which triggers the initiation of hearing conservation programs, including exposure monitoring, audiometric testing of employees, training, and some recordkeeping.

⁵ U.S. Department of Labor, *Cotton Dust: Review of Alternative Technical Standards and Control Technologies*, Report to the Congress, May 1979.

⁶ U.S. Department of Labor, *An Interim Report to Congress on Occupational Diseases*, June 1980. Also see "Labor Month in Review," *Monthly Labor Review*, August 1980, p. 2.

⁷ See *Occupational Injuries and Illnesses in the United States by Industry, 1980*, Bulletin 2130 (Bureau of Labor Statistics, 1982), p. 32, table 7.

⁸ This study was undertaken in the spring of 1980 as part of the Bureau's continuing evaluation of occupational safety and health statistics.

⁹ Gilles P. Theriault, William A. Burgess, Lou J. DiBerardinis, and John M. Peters, "Dust Exposure in the Vermont Granite Sheds," *Archives of Environmental Health*, Vol. 28, 1974, pp. 12-17.

¹⁰ James A. Merchant, John C. Lumsden, and others, "Dose Re-

sponse Studies in Cotton Textile Workers," *Journal of Occupational Medicine*, Vol. 15, No. 3, 1973, pp. 222-30.

¹¹ *An Interim Report*, pp. 21-23.

¹² *Ibid.*, p. 26.

¹³ See Nathan Mantel and William Haenszel, "Statistical Aspects of the Analysis of Data from Retrospective Studies of Disease," *Journal of the National Cancer Institute*, Vol. 22, No. 4, 1979, pp. 719-48, for a full discussion of the various relative risk formulas.

¹⁴ National Cancer Institute, National Institute of Environmental Health Services, National Institute for Occupational Safety and Health, *Estimates of the Fraction of Cancer in the United States Related to Occupational Factors*, September 1978 (unpublished), p. 1.

¹⁵ *Ibid.*, pp. 5-8.

¹⁶ Exposure information for all substances, except arsenic, was derived from the National Occupational Hazard Survey conducted by NIOSH during 1972-74. Exposure information for arsenic was contained in criteria for a 1975 recommended standard developed by NIOSH.

¹⁷ Richard Doll and Richard Peto, "The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today," *Journal of the National Cancer Institute*, June 1981, pp. 1238-45.

¹⁸ Glen M. Shor, *Occupational Disease and Compensation: An Analysis of the 1972 SSA Survey of Disabled Adults*, prepared under contract for the Office of the Assistant Secretary for Policy, Evaluation and Research, U.S. Department of Labor, October 1979.

¹⁹ Shor, *Occupational Disease*, p. 2.

²⁰ *Social Security Disability Applicant Statistics 1970* (Washington, U.S. Department of Health, Education, and Welfare, 1974).

²¹ For a recent study of Social Security disability data, see *NIOSH Research Report, Occupational Characteristics of Disabled Workers* (Washington, U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, 1980).

²² For analysis of Health Interview Survey data, see *NIOSH Research Report, Industrial Characteristics of Persons Reporting Morbidity During the Health Interview Surveys Conducted in 1969-1974* (Washington, U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, 1980).

Disability benefits for employees in private pension plans

Although benefits vary, for many 20-year employees aged 55, a private pension and social security would replace about one-half of the worker's pre-disability earnings

DONALD BELL AND WILLIAM WIATROWSKI

Although private pension plans are thought of primarily as a source of cash income for the elderly, they typically serve other functions as well. For example, they usually contain early retirement features and often provide pensions to workers who lose their jobs because of disability.

The high proportion of pension plans with disability retirement features is dramatized in data from the Bureau of Labor Statistics' annual survey of the incidence and characteristics of employee benefit plans in medium and large establishments.¹ Of the 1,002 private pension plans found in the 1980 survey, 86 percent had disability retirement features.² This article analyzes the various eligibility requirements for disability retirement and typical benefit levels, as found in these plans.

Disabled workers may have other protection as well. They often are eligible for social security benefits and also may be covered by private long-term disability insurance plans. This study includes retirement benefits and related long-term disability and social security benefits. However, excluded from the study are separate long-term disability plans which would be the only source of private disability income, and general early retirement provisions without specific disability features.

Two-thirds of the 861 pension plans with disability provisions offered immediate disability benefits. The remaining third deferred benefits until the employee reached the early or normal retirement age stipulated by the plan. However, immediate long-term disability in-

surance benefits were typically available to employees under deferred disability retirement plans. (Long-term disability benefits were less common when immediate disability pensions were paid.) Such private benefits are provided in addition to payments under the social security system when a worker is incapacitated.

Under retirement plans providing immediate disability pensions, benefits were available to workers meeting plan definitions of disability; commonly, service or age requirements, or both, were specified as well. Employees covered by deferred-benefit plans also had to reach the stipulated early or normal retirement age to receive benefits.

Illustrative benefit levels from all potential sources—disability retirement, long-term disability insurance, and social security—were calculated as a percent of pre-retirement earnings for a hypothetical worker disabled at age 55, with 20 years of service. Under these conditions, combined private pension and social security benefits tended to replace about half of pre-disability earnings in instances when private pension plans provided immediate retirement benefits. Replacement rates in many cases were more liberal where retirement packages furnished deferred pensions integrated with long-term disability benefits. As a rule, social security, rather than private plans, was the larger income source for the disabled worker.

Immediate and deferred benefits

Sixty-eight percent of the 861 disability retirement plans examined offered immediate pensions. The balance (32 percent) deferred benefit payments until the normal

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retirement age or in some instances, at the employee's option, until the early retirement age.

A key element in any pension plan is the formula included for calculating benefits. (Common formulas involve percentages of an employee's career or terminal earnings and dollar amounts per year for which an individual is covered by the plan.³) Most of the pension plans studied used the same basic formula to calculate disability and normal retirement benefits.

Immediate disability retirement. Of the 583 plans with immediate disability retirement provisions, nearly three-fourths used an unreduced normal benefit formula for disabled workers. (See table 1.) That is, beneficiaries received pensions calculated as if disability occurred at the normal retirement age;⁴ no reduction in benefits was made solely because of the early retirement age. Nevertheless, these disability pensions tended to be lower than those for normal retirement because benefits typically were based on shorter service.

An additional 15 percent of plans with immediate disability benefits reduced pensions because of the relatively young age of those who retire on disability. Nearly half of these plans provided for actuarial reductions; pensions for retirement at age 55 usually were about 61 percent below those for normal retirement at age 65 with the same service. The remainder of these plans provided for less than actuarial reductions, the average benefit for disability at age 55 being approximately 43 percent less than that for normal retirement at age 65.

The remaining 14 percent of the plans with immediate disability pensions based benefits on formulas designed to temper reductions caused by shortness of service or to yield higher returns than under the normal retirement formula.

Generally, plans do not provide for later modification of the benefits determined at the time of disability retirement. However, 7 percent of the immediate disability retirement plans specified a recalculation of benefits at age 65, mainly either to increase compensation for persons whose benefits were reduced because their disability occurred before normal retirement age or to raise benefits for those with short service at the time of disability retirement. Four percent recalculated benefits at age 65 based on the normal retirement formula and service at the date of disability; 3 percent recalculated on the basis of credited service at the time of disability plus the period of disability.

Deferred disability retirement. In sharp contrast to the typical practice under plans providing immediate benefits, only 16 percent of the deferred disability retirement plans based benefits solely on service at the time of disability. (See table 2.) Benefit calculations under most of the deferred plans granted service credit for all or part

Table 1. Pension plans with immediate disability retirement provisions by type of benefit formula, medium and large establishments, 1980

Benefit formula	Plans with immediate disability retirement	Percent of:	
		Plans with immediate disability retirement	All disability retirement plans
Total	583	100	68
Unreduced normal benefits	418	72	49
Reduced normal benefits	85	15	10
Actuarially reduced formulas	39	7	5
Same as early retirement	29	5	3
Percent per year reduction between retirement and specified age	17	3	2
Other than normal benefits	80	14	9
Flat amount formulas	19	3	2
Dollars times years of service	24	4	3
Percent of unreduced benefit minus social security	20	3	2
Percent of earnings minus social security	12	2	1
Percent of earnings in highest of last years worked	5	1	1

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

of the period between disability and the initiation of pension payments. Thus, 77 percent of these plans allowed service credit to accrue during all of the deferral period, while 7 percent allowed partial credit, usually for 1 or 2 years.

Coordination of pensions and social security. Benefits under private pension plans may be coordinated with those under the social security system. This occurs through either offset or integration provisions in the private plans. Under the former approach, private benefits are reduced by all or part of the social security payment. Integration provisions apply separate benefit formulas to earnings above and below the social security taxable wage base; for example, 1 percent of earnings up to the social security tax base and 1.5 percent of earnings above that tax base for each year of service. Thirty percent of all pension plan participants in the 1980 study were covered by offset provisions; 16 percent were in plans with integrated formulas for normal retirement benefits.⁵ Such coordination typically was applicable to disability retirement, too.

Long-term disability insurance

A review of disability benefits must also consider long-term disability insurance, which often supplements or serves as an alternative to disability pensions. Generally, these payments begin after sick leave and accident and sickness insurance are exhausted and continue as long as a disabled employee remains incapacitated, or until retirement age is reached. Forty percent of persons covered by the Bureau's 1980 survey of employee bene-

fit plans participated in long-term disability plans. Specified benefits, including payments from social security and other government programs such as workers' compensation, were usually a fixed percent of monthly earnings. Almost two-thirds of the participants were in plans designed to provide 50 to 60 percent of pre-disability earnings; however, resulting dollar benefits were often limited by maximum coverage restrictions so that persons with high earnings may receive a lower percent of earnings for disability benefits.⁶

As expected, long-term disability insurance plans were more prevalent where retirement pension plans provided deferred disability benefits. Table 2 shows that 89 percent of deferred plans were in establishments with long-term disability plans financed either solely by the employer or jointly by the employer and employees. Nine percent of the deferred disability retirement plans were in establishments providing an optional long-term disability plan paid for entirely by the employees. Thus, only 2 percent have workers who cannot receive immediately available disability benefits from private sources related to their employment.

Long-term disability insurance plans were less prevalent when pension plans provided immediate disability retirement benefits. Twenty-seven percent of these pension programs were tied in with the insurance plans.

Coordination of long-term disability benefits with disability pensions and social security was almost universal. The most common method of coordination was by offset; long-term disability benefits were reduced by the amount of private pension and social security a disabled worker received. The total benefit received by an employee covered by such a program was the amount specified by the long-term disability plan, gen-

erally 50 to 60 percent of pre-retirement earnings. Offset provisions were in four-fifths of the long-term disability plans in establishments with either immediate or deferred disability retirement benefits. Substantially all of the remainder specified an overall maximum benefit from all sources, most often 70 or 75 percent of pre-retirement earnings.

Eligibility requirements

To qualify for a disability pension, a worker must meet the plan's definition of total and permanent disability and, frequently, a service requirement. A minimum age may also be specified. These requirements often differ from those applicable to social security disability benefits.

Definitions of disability. As a rule, definitions of disability are designed to make benefits available only to workers whose incapacities require them to withdraw from the labor force. About three-fourths of the disability retirement plans defined disability either in the same way as social security (25 percent) or more restrictively (48 percent). The Social Security Act defines disability as incapacity for substantial gainful work at any job that exists to a considerable extent in the U.S. economy; such incapacity is expected to result in death or to last for a year or more.⁷ Many private plans have a more restrictive definition, stating that persons must be disabled for "any type of occupation or employment." Consequently, workers meeting the eligibility requirement of nearly three-fourths of the private plans also met the social security test.

However, one-fourth of the disability retirement plans defined disability as occurring when an employee was unable to continue in his or her job with the company. Individuals meeting this criterion would not necessarily qualify for social security disability benefits.⁸ But, half of the plans containing this relatively liberal definition offered a supplemental benefit which continued until eligibility for social security disability or retirement benefits or a specified age, such as 65, for persons not covered by social security. In this manner, they provided benefits more comparable to those obtained by employees eligible for social security disability payments.

Age and service requirements. Comparison of findings of this study with those of a 1966 Bureau analysis⁹ indicates a growing emphasis on service rather than on age in defining eligibility for disability pensions. This brings private plans closer to the social security approach, which now includes only a service requirement. (A minimum age requirement for social security disability benefits was removed in 1960.) The following tabulation summarizes the various age and service requirements made by the plans.

Table 2. Pension plans with deferred disability retirement provisions by service credited and integration with long-term disability insurance, medium and large establishments, 1980

Characteristic	Plans with deferred disability retirement	Percent of:	
		Plans with deferred disability retirement	All disability retirement plans
Service credited:			
Total	278	100	32
Service when disabled	44	16	5
Service plus credit to normal or early retirement	215	77	25
Service plus partial credits	19	7	2
Integration with long-term disability insurance:			
Total	278	100	32
Insurance paid by employer or jointly by employer and employee	248	89	29
Insurance paid entirely by employee	25	9	3
No insurance	5	2	1

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

Requirements	Number of plans	Percent of plans
Total	861	100
No age or service	138	16
Service only	499	58
Age only	9	1
Age and service	112	13
Meets qualification for long-term disability benefits	103	12

Almost three-fifths of the disability retirement plans in the 1980 study included a service requirement, but did not specify a minimum age for benefits. The average length of service required by these plans was 11 years. This was more restrictive than the social security stipulation which stated that an individual must be fully insured¹⁰ and work in covered service 20 of the last 40 quarters (5 of the last 10 years).

Only 14 percent of the plans specified a minimum age; most combined age and service requirements, commonly age 45 with 10 years of service or age 50 with 15 years of service. The average age requirement in these plans was 46 years. Just 1 percent of the plans had only an age requirement, averaging 54 years.

The remainder of the plans (241) did not specify either an age or a service requirement *per se*. However, more than 40 percent of this group required that the eligibility for associated long-term disability plans be met, which most often had a minimal service requirement.

Waiting periods. Immediate disability retirement and long-term disability benefits typically were payable after an initial waiting period, usually 5 or 6 months. The waiting period, similar to the 5 months imposed by social security, is designed to ensure the validity of a claim before initiating payment of long-term benefits. However, most of the employees in the study were covered during all or part of the waiting period by sick leave or short-term accident and sickness insurance.¹¹

Illustrative benefits

The following replacement rates illustrate typical disability retirement benefits among various types of plans and relate benefit levels to pre-disability earnings. Replacement rates—ratios of disability benefits to pre-disability earnings—were calculated for a hypothetical employee, age 55, retiring on a disability pension after 20 years of service under his or her current private pension plan. This is in contrast to assumed normal retirement at age 65 after 30 years. The hypothetical employee also had been covered for 30 years under social security, and met the social security definition of disability. Earnings equaled the average in the broad industry group in which employed, and followed a typical growth pattern over the years.

As noted, the majority of private pension plans giv-

ing immediate disability benefits were not coordinated with long-term disability plans and provided pensions unreduced solely for early disability retirement age. These plans, under the hypothetical conditions, would provide a pension estimated to average 21 percent of pre-retirement earnings. Adding social security payments—32 percent—total benefits would be just over half of earnings before disability.¹²

Replacement rates would vary under alternative benefit formulas. For example, a small portion of immediate disability retirement plans actuarially reduce benefits for early retirement age. These plans would commonly replace only 8 percent of the earnings of the hypothetical worker,¹³ resulting in combined private pension and social security benefits of two-fifths of pre-retirement earnings. (In practice, replacement rates would deviate from those calculated here, depending on the actual age-service status of individual disabled workers.)

Replacement rates in the immediate disability benefit plans studied would generally continue unchanged after normal retirement age, except for the 50 percent increase in social security benefits provided for married employees with one wage earner in the family.¹⁴

Table 3. Full-time participants in private pension plans by provisions for disability retirement, medium and large establishments, 1980

Characteristic	Participants			
	All	Professional and administrative	Technical and clerical	Production
Total with disability retirement benefits	87	85	81	91
Minimum requirements for disability retirement				
Total	100	100	100	100
No age or service	16	18	21	13
Age only	1	1	1	1
Service only	61	51	48	70
Age and service	11	9	11	12
No age or service—meets qualification for long-term disability benefits	11	21	18	5
Benefit provisions				
Total	100	100	100	100
Immediate disability retirement	70	52	51	84
Unreduced normal formula	55	41	39	67
Reduced normal formula	7	6	7	8
Other than normal formula ¹	8	6	5	10
Deferred disability retirement	30	47	49	16
With benefits based on:				
Service when disabled	5	6	7	4
Service plus credit to normal retirement date	24	39	38	12
Service with some credit	2	3	4	1

¹ Includes flat amount benefits, dollar amount formulas, percent of unreduced normal benefits less social security, and percent of earnings formulas both with and without social security offsets.

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

The discussion of replacement rates under immediate disability retirement plans has ignored long-term disability benefits which are available to only a small fraction of the workers affected. However, these benefits are the primary private source of pre-retirement age earnings when deferred disability pensions are provided. In these instances, long-term disability payments—combined with social security—commonly yield either 50 or 60 percent of pre-disability earnings.

Under deferred disability pension plans, replacement rates change at the normal retirement age, both because of the addition of spouse's benefits under social security and the switch from long-term disability to private pension benefits. As observed above, pension benefits normally reflect service credit for the period of long-term disability benefits. For a worker retiring at age 55, an additional 10 years of credit would, on the average, raise the pension at age 65 from 21 to 30 percent of pre-retirement earnings; total yield—including social security—would then be 62 percent for a single employee and 78 percent if married.¹⁵ Deferred and long-term disability benefit packages were more prevalent among non-negotiated plans for salaried personnel than among collectively bargained plans for hourly rated employees;

therefore, white-collar workers tended to enjoy higher replacement rates than blue-collar employees when retiring on disability.

Participants in pension plans

Estimates of the extent of worker participation in pension plans of medium and large establishments are found in *Employee Benefits in Industry, 1980*, Bureau of Labor Statistics, Bulletin 2107. Table 3 contains pertinent findings of that study. The findings, it should be stressed, are based on review of the same data source as was analyzed for the current article. As shown in the table, 70 percent of all participants in pension plans with disability retirement provisions could receive immediate retirement benefits. The present analysis found immediate benefits specified in 68 percent of the plans. The closeness of the two calculations is striking, even after recognizing that both percentages were derived from the same survey data.

A breakdown of findings by occupational group is available for plan participant data only. Among the findings is that deferred disability benefit plans are markedly more common for white-collar than for blue-collar employees. □

FOOTNOTES

¹ The survey is conducted in a sample designed to represent all private sector establishments in the United States, excluding Alaska and Hawaii, employing at least 50, 100, or 250 workers, depending on the industry. Industrial coverage includes: mining; construction; manufacturing; transportation, communications, electric, gas, and sanitary services; wholesale and retail trade; finance, insurance, and real estate; and selected services. For additional details on the survey, see *Employee Benefits in Industry, 1980*, Bulletin 2107 (Bureau of Labor Statistics, 1981). See also Robert Frumkin and William Wiatrowski, "Bureau of Labor Statistics takes a new look at employee benefits" in this issue of the *Review*.

While the bulletin contains information for a universe of employees, data tabulations in this article are simple counts of the number of pension plans containing the characteristics under analysis. The data relate solely to the specific plans included in the study. No attempt has been made to project findings to the entire universe of pension plans.

² For an independent source of data on the incidence of disability retirement plans, see Jonathan Sunshine, *Disability*, Office of Management and Budget Staff Technical Paper, 1979, p. 113. An earlier BLS study of disability benefits, which excluded both related long-term disability insurance and deferred disability benefits, is reported in Stanley S. Sacks, "Disability Benefits Under Private Pension Plans," *Monthly Labor Review*, April 1966, pp. 389-95.

³ *Employee Benefits*, pp. 6, 25.

⁴ Normal retirement is the point at which a worker can retire and immediately receive all accrued benefits by virtue of service and earnings, without reduction because of age.

⁵ *Employee Benefits*, pp. 6, 25.

⁶ *Ibid.*, p. 3.

⁷ For a more complete definition see *Social Security Programs in the United States*, (Department of Health, Education, and Welfare, Social Security Administration, January 1973), p. 31.

⁸ There may be differences among private plans and the social security system with respect to coverage of disabilities associated with ner-

vous conditions, alcoholism, drugs, self-inflicted injuries, and criminal activity.

⁹ Sacks, "Disability Benefits."

¹⁰ Generally, to be fully insured a worker must have one quarter of coverage for each year from age 21 to date of disability.

¹¹ *Employee Benefits*, pp. 2-3.

¹² Coordination of private disability and social security benefits is accounted for in the calculation of the replacement rate for private benefits.

¹³ The 8-percent replacement rate was derived by multiplying the unreduced normal retirement formula replacement rate of 21 percent by 39 percent. (As described above, plans actuarially reducing pensions for early retirement usually lowered benefits about 61 percent for quitting work 10 years before the normal retirement age.)

¹⁴ Social security benefits are increased after each year in which the Consumer Price Index rises 3 percent or more. Such escalation is ignored in this analysis, because price changes cannot be accurately forecast.

¹⁵ Both the 21-percent replacement rate for employees retiring under private pension plans with 20 years of service and the 30-percent rate for retirement after 30 years were derived by BLS from data in a study by James H. Schulz, Thomas D. Leavitt, Leslie Kelly, and John Strate, *Private Pension Benefits in the 1970's* (Bryn Mawr, Pa., McCahan Foundation, 1982). Schulz and his associates calculated replacement rates for retirements after varying lengths of service, for men and for women. Their calculations were based on an analysis of all pension plans in the 1979 BLS survey of employee benefit plans. The study calculated replacement rates for normal rather than disability retirement. However, because normal and disability retirement benefits are commonly based on the same formula, separate computations for disability retirement would not, in general, be appreciably different. For an earlier Schulz study, see James H. Schulz, Thomas D. Leavitt, and Leslie Kelly, "Private pensions fall far short of preretirement income levels," *Monthly Labor Review*, February 1979, pp. 28-32.

Bureau of Labor Statistics takes a new look at employee benefits

Initiated in 1979, annual survey provides a comprehensive study of benefit plan coverage and provisions in medium and large firms

ROBERT FRUMKIN AND WILLIAM WIATROWSKI

In 1981, employees in medium and large size establishments received, on average, about 10 paid holidays each year and nearly 16 days of paid vacation annually after 10 years of service. For 3 of 5 participants in a life insurance plan, coverage was based on earnings, with the prevalence of earnings-related plans much higher among white-collar employees. Seventy-one percent of the workers covered by the survey participated in health insurance plans that were fully paid for by their employers, and just under one-half also received employer-paid coverage for their dependents. Eighty-four percent of the employees were covered by private retirement pension plans (in addition to social security); 79 percent were in plans fully paid for by the employer.

As these statistics indicate, benefit plans are important elements in the typical employee compensation package. Employer outlays for legally required and private benefits, including paid leave, constituted about one-fourth of all expenditures for employee compensation in 1977, when this subject was last studied by the Bureau of Labor Statistics.¹ Moreover, the rate of growth in outlays for these benefits has substantially outpaced that for wages and salaries over the 40-year period since benefits began to gain prominence.

For many years, BLS tracked growth of benefit plans by studying both their provisions and their cost to employers.² Recently, BLS initiated an annual survey on the incidence and characteristics of employee benefit plans.

This article describes the design, coverage, output, and availability of results from this new survey, which was first conducted in 1979.

The survey reports detailed characteristics of paid leave, insurance, and pension plans, yielding extensive data on employee benefit plan provisions. In addition, it produces estimates of the percent of employees covered by these plans or eligible for other benefits, such as profit sharing and educational assistance. Data are published for all full-time workers in three occupational groups: professional-administrative, technical-clerical, and production.

The program originally was designed to provide the Office of Personnel Management (OPM) with data on specific provisions of private sector employee benefits for a new approach to evaluating pay and benefits of Federal employees. This approach compares the Federal wage-benefit package with that in private industry.³ (Current legislation requires that pay rates for Federal civilian workers, but not their benefits, be set on a comparability basis.) To meet OPM's needs, BLS developed a survey to provide extensive data on employee benefits, covering the same industry and size scope as the Bureau's annual Professional, Administrative, Technical, and Clerical Pay Survey that is currently used to evaluate Federal white-collar salary rates.⁴

Survey coverage

The employee benefits survey covers medium and large size private sector establishments in the contiguous United States, employing at least 50, 100, or 250 workers, depending on the industry. A subsample of

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1,500 establishments from the Professional, Administrative, Technical, and Clerical Pay Survey, covering a wide range of manufacturing and nonmanufacturing industries, is selected to yield national estimates.⁵ Data are collected by personal visits of Bureau field representatives to the sampled establishments. Respondents are requested to provide data on the coverage and details of selected types of plans for paid time off—lunch time, rest periods, holidays, personal leave, vacations, and sick leave. Rather than ask company officials for extensive information, brochures are collected which contain descriptions of insurance and pension plan characteristics. Data are also obtained from the Department of Labor's Employee Retirement Income Security Act files.⁶ Information on approximately 7,400 paid leave plans and 6,800 insurance and pension benefit plans were collected for analysis in the 1981 survey. The use of brochures for plan analysis eliminates some of the burden put on the respondent's time. Insurance plans included in the survey cover health, life, accident and sickness, and long-term disability benefits. Retirement pension plans are also studied in detail. Besides plan provisions, the number of persons participating in each plan is reported. Information also is collected on the percent of employees eligible for other benefits, such as profit-sharing and stock plans, employee discounts, educational assistance, and parking.

Because of their complexity, insurance and pension plans require the recording of considerable detail on benefit provisions. For each benefit, several common provisions are examined: eligibility requirements, in the form of age or service attainment, or both, which are necessary to join the plan; the waiting period before certain benefits begin; and cost of the plan to the employee. Plans for which an employee pays 100 percent of the cost are not included in the study.

Health insurance plan analysis includes provisions for hospital room and board, surgical care, doctor visits, diagnostic x-ray, prescription drugs, private duty nursing, and mental health care. In each of these areas, analysis covers such limitations on benefits as deductible and co-insurance provisions, maximum dollar amount payable, and maximum numbers of days covered. In addition, each plan is carefully studied for details of dental coverage, maternity care, and scheduled dollar amounts payable for certain surgical procedures.

In the examination of pension plans, age and service requirements are studied for normal, early, and disability retirement and for pension vesting (the point at which an employee has the legal right to some pension benefit regardless of any further service under the plan). The most significant feature of pension analysis is the review of the benefit formulas. A variety of formulas is used to determine retirement payments; for example, percentage of the employee's career or terminal earn-

ings, or a dollar amount for each year an employee is covered under the plan. Other pension provisions analyzed are survivor benefits, reductions in pensions for early retirement, supplemental payments provided in addition to normal retirement benefits, and cost-of-living adjustments.

Life insurance plans are reviewed for the amount of insurance, effects of disability on the insurance contract, and payment for accidental death. Accident and sickness insurance analysis includes the weekly benefit formula and duration of benefits, while for long-term disability insurance, the analysis includes benefit amounts and the integration of long-term disability insurance payments with other sources of income, such as social security, workers' compensation, and railroad retirement.

As for paid time off, the amount of lunch and rest time is recorded, together with the number of holidays and personal leave days granted each year. Analysis of vacation plans includes development of a schedule showing the variations in vacation time and payments by length of service. A similar schedule reports sick leave benefits, showing the number of days paid at full pay, partial pay, or both, as well as any waiting period before benefits may begin. For both vacation and sick leave, the incidence of cash-in or carry-over provisions, or both, for unused benefits is noted.

Limited data are collected on a number of other benefit plans which may add significantly to employee com-

Table 1. Full-time employees participating in selected benefit plans, medium and large establishments, 1981

[In percent]

Plan	All employees	Professional and administrative employees	Technical and clerical employees	Production employees
Paid time off:				
Holidays	99	100	100	99
Vacations	99	100	100	99
Personal leave	23	31	32	14
Lunch period	10	4	4	15
Rest time	75	60	76	82
Sick leave	65	92	92	41
Accident and sickness insurance:				
.....	50	30	35	66
Fully paid by employer	41	22	26	55
Long-term disability insurance:				
.....	41	61	52	28
Fully paid by employer	32	47	40	23
Health insurance for:				
employee	97	98	96	97
Fully paid by employer	71	67	58	79
Health insurance for dependents:				
.....	94	96	91	94
Fully paid by employer	48	45	36	55
Life insurance:				
.....	96	98	95	96
Fully paid by employer	81	81	78	82
Retirement pension:				
.....	84	88	85	82
Fully paid by employer	79	81	80	77

NOTE: Participation is defined as coverage by a paid leave, insurance, or pension plan. Employees subject to a minimum service requirement before they are eligible for a benefit are counted as participants even if they have not met the requirement at the time of the survey. If employees are required to pay part of the cost of a benefit, only those who elect the coverage and pay their share are counted as participants. Benefits for which the employee must pay the full premium are outside the scope of the survey.

pensation, such as profit-sharing, savings, and stock plans. The incidence of these benefits is examined separately for each employee group in each establishment. In addition, data are collected on the full or partial defrayment of cost for relocation allowance, recreation facilities, subsidized meals, parking, educational assistance, and employer-provided automobiles.

Availability of results

Major survey findings are reported annually in a bulletin published by BLS. The data and analysis center on the extent of employee participation in specified benefit plans and the provisions of these plans. The results of the pilot survey (in 1979) were published in 1980 in a report entitled *Employee Benefits in Industry: A Pilot Survey*.⁷ This report contained 20 tables on worker coverage under various types of provisions for paid leave, insurance, and pension plans. Data collected in 1980 are contained in a more comprehensive bulletin, *Employee Benefits in Industry, 1980*, and reflect improvements in survey procedures and techniques, as well as changes in benefit practices in private industry.

A bulletin with estimates from the 1981 survey, entitled *Employee Benefits in Medium and Large Firms, 1981*, will be available in early September.⁸ The bulletin contains details on three employee groupings demonstrated in accompanying tables: all employees covered by the survey (table 1); employees who participated in a particular type of benefit plan (table 2); and employees covered by a particular type of provision within a benefit area to provide a closeup look at an important feature (table 3). In addition, articles on the results of additional research on various benefit plan provisions, such as the article on disability retirement in this issue, are occasionally published in the *Monthly Labor Review*. Other articles in preparation include the growth of major medical insurance coverage and spouse benefits in pension plans.

Employee benefit data collected during the annual survey, including detailed plan provisions and participant figures, are available on magnetic data tapes.⁹ In accordance with a pledge of confidentiality to survey respondents, all information that could identify a specific reporting establishment is removed. The tapes may be used to derive national estimates, similar to those presented in the bulletin, for those provisions on the data base that are not regularly tabulated by BLS.

Future direction

This research program on incidence and characteristics of employee benefits evolved from a pilot study to an annual survey and is continuing to expand. More intensive methods of analysis, as well as an increased number of data items, will lead to the publication of more comprehensive findings. Currently, such subjects

Table 2. Participants in a pension plan by age and associated service requirements for normal retirement, medium and large establishments, 1981

[In percent]

Age and service requirements ¹	All participants	Professional and administrative participants	Technical and clerical participants	Production participants
No age requirement	14	6	7	22
Fewer than 30 years of service	(²)	(²)		(²)
30 years of service	14	5	7	21
More than 30 years of service	(²)	(²)	(²)	(²)
Age 55	4	7	4	3
20 years of service	2	6	3	(²)
25 years of service	(²)	(²)	(²)	(²)
30 years of service	2	1	1	3
Age 56 to 59	2	1	1	2
15 or 20 years of service	1	(²)	(²)	1
30 or more years of service	1	1	1	1
Age 60	³ 10	³ 13	³ 13	³ 6
No service requirement	2	4	3	1
10 years of service	2	2	3	2
15 years of service	1	2	2	1
20 or 25 years of service	(²)	(²)	1	(²)
30 years of service	3	3	3	2
More than 30 years of service	(²)	1	1	(²)
Age 62	⁴ 18	⁴ 19	⁴ 18	⁴ 19
No service requirement	4	4	5	3
5 years of service	1	1	1	1
10 years of service	8	7	6	10
15 years of service	2	2	2	1
20 or 25 years of service	2	2	1	2
30 years of service	2	2	2	1
Age 63 to 64	1	1	3	1
No service requirement	1	1	3	(²)
30 years of service	(²)	(²)	(²)	(²)
Age 65	⁵ 44	⁵ 44	⁵ 47	⁵ 42
No service requirement	39	42	45	35
5 years of service	1	1	(²)	1
10 years of service	3	1	2	5
15 years of service	(²)	(²)	(²)	(²)
Sum of age plus service	7	9	7	6
Equals less than 80	2	2	2	2
Equals 80	(²)	1	(²)	(²)
Equals 85	3	6	3	3
Equals 90 or more	1	1	2	1

¹ If a plan had more than one age and service requirement, the earliest age and associated service requirement was tabulated.

² Less than 0.5 percent.

³ Includes 0.5 percent or fewer participants who were in plans with service requirements other than specified.

⁴ Includes 0.7 percent or fewer participants who were in plans with service requirements other than specified.

⁵ Includes 0.1 percent or fewer participants who were in plans with service requirements other than specified.

NOTE: Normal retirement is the point at which the participant could retire and immediately receive all accrued benefits by virtue of service and earnings, without reduction due to age. Because of rounding sums of individual items may not equal totals. Dashes indicate no employees in this category. Data are for full-time workers only.

as Health Maintenance Organization coverage, social security offset and integration with pension benefits, and differences in benefits for production and white-collar workers are being researched on the basis of data collected in the 1981 survey.

Collection of benefit data for 1982 includes, for the first time, information on post-retirement pension increases. In addition, more detailed information is being secured on health and life insurance coverage for retir-

Table 3. Participants in health insurance plans with dental benefits, by type of procedure and extent of coverage, medium and large establishments, 1981

[In percent]

Type of dental procedure	Total	Scheduled cash allowance	Incentive schedule ¹	Percent of reasonable and customary charge										Not covered
				Total	50	60	61-74	75	80	85	90	91-99	100	
All participants														
Examinations	100	17	3	80	1	1	1	4	25	(²)	2	—	47	—
Dental x-rays	100	18	3	79	1	1	1	4	27	7	10	—	28	(²)
Fillings	100	29	3	68	3	1	1	5	33	8	10	—	7	(²)
Dental surgery	100	27	3	69	3	2	1	5	33	7	10	—	9	(²)
Periodontal care	100	26	3	68	5	2	1	4	31	8	10	—	7	3
Inlays	100	28	1	68	31	4	1	1	14	6	7	—	3	3
Crowns	100	29	1	68	32	4	1	1	13	6	7	—	3	2
Orthodontia	100	14	—	53	44	3	(²)	(²)	2	(²)	(²)	(²)	3	34
Professional and administrative														
Examinations	100	19	4	77	1	1	1	3	27	(²)	1	—	43	—
Dental x-rays	100	20	4	76	1	1	1	3	29	4	6	—	31	(²)
Fillings	100	31	4	65	4	2	1	3	38	6	6	—	5	(²)
Dental surgery	100	29	3	68	4	2	1	3	37	6	6	—	9	(²)
Periodontal care	100	28	3	67	6	3	(²)	3	35	7	6	—	7	2
Inlays	100	30	1	66	35	5	1	1	13	4	3	—	3	3
Crowns	100	30	1	66	35	6	1	1	13	4	3	—	3	2
Orthodontia	100	16	—	54	46	4	(²)	—	1	(²)	(²)	(²)	3	29
Technical and clerical														
Examinations	100	19	4	77	(²)	1	1	4	27	(²)	2	—	42	—
Dental x-rays	100	20	4	76	(²)	1	1	4	30	3	5	—	31	(²)
Fillings	100	34	4	62	3	2	1	4	35	4	5	—	6	(²)
Dental surgery	100	33	4	63	3	2	1	4	35	4	5	—	8	(²)
Periodontal care	100	30	4	63	5	3	(²)	4	33	4	5	—	8	2
Inlays	100	32	1	63	32	5	2	1	13	3	3	—	3	3
Crowns	100	33	1	63	32	6	2	1	13	3	3	—	2	3
Orthodontia	100	16	—	47	37	3	(²)	2	2	(²)	(²)	(²)	2	37
Production														
Examinations	100	15	2	83	1	1	(²)	5	23	(²)	2	—	51	—
Dental x-rays	100	15	2	82	1	1	(²)	5	25	10	15	—	26	—
Fillings	100	26	2	72	2	1	1	6	30	11	14	—	7	(²)
Dental surgery	100	24	2	73	2	1	1	6	30	9	14	—	10	(²)
Periodontal care	100	23	2	71	4	1	1	6	29	11	14	—	7	3
Inlays	100	25	1	72	29	3	1	1	14	9	11	—	3	3
Crowns	100	26	1	72	29	3	1	1	14	9	11	—	3	2
Orthodontia	100	12	—	54	47	2	(²)	(²)	2	(²)	(²)	—	3	34

¹ Reimbursement arrangement in which the percentage of dental expenses paid by the plan increases if regular dental appointments are scheduled.
² Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no employees in this category. Data are for full-time workers only.

ees. Unscheduled post-retirement pension increases are being analyzed along with pension formula provisions. Retiree health and life insurance coverage is now studied as well as the cost of this insurance to the retiree.

Information from this survey is helpful to a range of users, including personnel managers, employee benefit administrators, and industrial relations managers in private industry; unions; government agencies; academic

researchers; and consultants, to name a few. To provide more comprehensive information to these users, BLS is investigating the possibility of expanding the scope of the survey to include small establishments and to cover some of the currently excluded industries. The survey's content and procedures will be evaluated continuously and additional analysis on private sector employee benefits will be developed as appropriate. □

— FOOTNOTES —

¹ *Employee Compensation in the Private Nonfarm Economy, 1977*, Summary 80-5 (Bureau of Labor Statistics, 1980), p. 3, table 1.

² For example, major provisions of benefit plans were summarized periodically and published in the Bureau of Labor Statistics' *Digest of Selected Health and Insurance Plans* and *Digest of Selected Pension Plans*. The series ran from 1955 to 1979. In addition, surveys of expenditures for employee compensation were conducted in the 1959-77 period. These programs have been discontinued because of budget constraints. The Bureau's Employment Cost Index, a quarterly mea-

sure of change in the rate of compensation, includes benefits as well as wages and salaries.

³ The Office of Personnel Management processed the Bureau's 1979 and 1980 employee benefits data base through their total compensation comparability computer system. See Office of Personnel Management, *Total Compensation Comparability: Background, Method, and Preliminary Results*, July 1981, for a description of the total compensation comparability program.

⁴ Technical specifications for the salary survey are in *National Sur-*

vey of Professional, Administrative, Technical, and Clerical Pay, March 1981, Bulletin 2108 (Bureau of Labor Statistics, 1981). The survey collects pay data for occupations defined to reflect duties and responsibilities of employees in private industry and that correspond to specific General Schedule grades in the Federal sector. Hence, the establishments selected for the survey are limited to those likely to have positions similar to those in the Federal service. For this reason, small establishments (fewer than 50, 100, or 250 employees, depending on the industry) and some industries (primarily in the services sector) are excluded from the scope of the PATC survey. Industrial coverage includes: manufacturing; mining; construction; transportation, communications, electric, gas, and sanitary services; wholesale trade; retail trade; finance, insurance, and real estate; and selected services. The selected services are limited to business services such as advertising, credit reporting and collection agencies, computer and data processing services, research and development laboratories, commercial testing laboratories, and management and public relations services; engineering and architectural services; noncommercial research organizations; and accounting, auditing, and bookkeeping services.

⁵ For an account of the sampling techniques, see the Technical Note in *Employee Benefits in Industry, 1980*, Bulletin 2107 (Bureau of Labor Statistics, 1981).

⁶ The Employee Retirement Income Security Act of 1974 requires benefit plan administrators to file summary plan descriptions with the Department of Labor. A summary plan description gives information on what the plan provides and how it operates and must be updated within 210 days after the end of the plan year (calendar or fiscal) in which the change is adopted.

⁷ *Employee Benefits in Industry: A Pilot Survey*, Report 615 (Bureau of Labor Statistics, 1980).

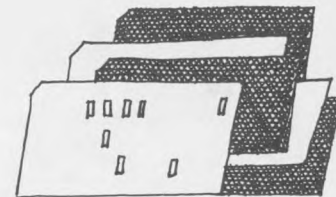
⁸ *Employee Benefits in Medium and Large Firms, 1981*, Bulletin 2140 (Bureau of Labor Statistics, forthcoming), for sale by the Superintendent of Documents, Washington 20402, or by BLS regional offices listed on cover.

⁹ The tapes may be purchased from the Office of Wages and Industrial Relations, Bureau of Labor Statistics, Washington, D.C. 20212.

A note on communications

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

Research Summaries



Weekly family earnings: a quarterly perspective

HOWARD HAYGHE

Most American families depend on wages and salaries for their livelihood. About 74 percent receive wage or salary earnings while another 7 percent obtain earnings solely from self employment. The rest—18.4 percent—report no earnings whatsoever, living instead on income from public or private pensions, social security, investments, personal savings, public assistance, or other sources.

A statistical series, introduced by the Bureau of Labor Statistics in 1980, provides information on the combined usual weekly wage and salary earnings of families on a quarterly basis.¹ Separate earnings statistics are also published for families with at least one unemployed member. Such information can be of value to policymakers and analysts concerned with how changes in employment, unemployment, and wages affect the economic well-being of American families.

Prior to 1980, the BLS had published statistics on usual weekly earnings by demographic characteristics, but only on an annual basis.² Such once-a-year observations were limited in their capacity to record the impact of economic changes. While an older monthly series on average weekly and hourly earnings from payroll records is more timely and provides detail by industry and geographic area, it does not include demographic or family information.³

This article discusses the newer, family-oriented earnings series, and focuses on the earnings situations of various categories of families at the end of 1981. Also discussed are developments in unemployment and inflation as they relate to family earnings.

Earnings by family type

There were about 60.1 million families in the United States in the fourth quarter of 1981. Of these, a little

over 11 million had no employed members, more than 4.3 million had only self-employed workers, and another 4.2 million had both self-employed and wage and salary workers. The remaining 40.5 million families had only wage and salary workers (table 1). Because information is not collected on the earnings of the self-employed in the Current Population Survey, the following discussion focuses on those families with only wage and salary employment.

More than half of the 40.5 million wage-earning families contained at least two workers (table 2). At \$585, the median weekly earnings of these families were nearly twice the earnings of families with one worker (\$299). The fact that so many families now have two workers or more is directly attributable to the dramatic changes in women's labor force behavior over the past decade or so. During the 1970's—despite two recession periods—the number of working women grew by an average of about a million a year, and more than half of these women were wives. Also accelerating the trend toward two-worker couples was the tendency of couples to either postpone having children or to have fewer of them, and the willingness of mothers to enter or reenter the labor force sooner after childbirth than in the past. In March 1970, for instance, 24 percent of the wives with children under age 2 were in the labor force. Ten years later, the proportion was 39 percent.

Among married-couple families, about 19 million, or 58 percent of those with wage and salary earnings, had at least two workers in the fourth quarter of 1981. The median weekly earnings of such families were \$601, compared with \$336 for the 13.9 million one-worker families. Whether for one-earner or multiple-earner families, earnings were highest when the husband worked. For example, in one-earner families, median earnings were \$383 when the husband worked, but were between \$179 and \$198 when the wife or some other family member was the only person employed. For those with at least two wage and salary workers, where the husband worked, usual median family earnings ranged from \$574 to \$780, depending on which other family members were also employed. In contrast, when the husband was not working, median family earnings were \$380 and a little over \$400.

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As has long been the case, families maintained by women are characterized by very low earnings.⁴ Moreover, the number of such families has grown considerably over the last decade; in March 1970, they numbered 5.6 million and by the end of 1981, they totaled 9.3 million. In the latter year, median weekly earnings of the 5.9 million families maintained by women with wage and salary workers were only about half those of married couples. The low earnings reflect both the small proportion of such families having two workers or more, as well as the generally low earnings of women who maintain their own families. Fewer than 3 out of 10 families maintained by women contained more than one worker.

To a certain extent, the low earnings levels of women maintaining families are a result of fewer years of schooling. A relatively high proportion who were in the labor force—over one-fourth—had not completed high school. And, as is well known, a high school diploma is frequently either the key to higher-paying jobs or to the additional training needed to compete for these occupations. Women maintaining families are also more likely than wives to have preschool children whose presence may restrict not only the mother's job-seeking efforts but her choice of jobs as well.

Race and Hispanic origin. Weekly earnings for black married couples (\$412) were 84 percent of those of whites (\$492), and Hispanic family earnings averaged 80 percent of white family earnings:

	White	Black	Hispanic
Married-couple families	\$492	\$412	\$394
Families maintained by women	252	226	225
Families maintained by men	413	353	263

The earnings of black and Hispanic families that were maintained by women were 90 percent of those of their white counterparts.

The primary factor underlying the racial or ethnic differentials in earnings among married-couple families

Table 2. Median weekly earnings by type of family, and number and relationship of workers, fourth quarter 1981

[Not seasonally adjusted]

Type of family and relationship of worker(s)	Number (in thousands)	Percent	Median earnings
Total families with wage or salary workers ¹	40,513	100.0	\$442
One worker	19,304	47.6	299
Two workers or more	21,209	52.4	585
Married-couple families	32,920	100.0	486
One worker	13,949	42.4	336
Husband	11,077	33.6	383
Wife	2,227	6.8	179
Other family member	644	2.0	198
Two workers or more	18,972	57.6	601
Husband and wife only	13,204	40.1	574
Husband, wife, and other(s)	2,895	8.8	780
Husband and other family member(s)	2,318	7.0	603
Wife and other family member(s)	408	1.2	380
Other family members only	146	.4	405
Families maintained by women ²	5,889	100.0	245
One worker	4,274	72.6	204
Householder	3,331	56.6	212
Other family member	943	16.0	176
Two workers or more	1,615	27.4	399
Families maintained by men ²	1,704	100.0	405
One worker	1,082	63.5	327
Householder	857	50.3	368
Other family member	225	13.2	204
Two workers or more	622	36.5	545

¹ Excludes families in which the husband, wife, or householder is self-employed.

² No spouse present.

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

is the level of the husbands' earnings. White husbands working full time had median usual weekly earnings of \$402 in the fourth quarter, compared with around \$300 for black or Hispanic husbands. These earnings differences can be largely attributed to the fact that black and Hispanic husbands tend to work in occupations that are relatively low-paying. In March 1981, for example, about half of the black and Hispanic husbands working full time were operatives, laborers, or service workers, compared with one-fourth of the white husbands. In contrast, 37 percent of the white husbands were in professional or managerial jobs, compared with 17 percent of black or Hispanic husbands.

Inflation. For families with wage and salary earners, there was not as much loss in purchasing power in 1981 as during the year before (table 3). Between the fourth quarters of 1980 and 1981, median weekly earnings of families grew by 6.5 percent, while consumer prices (as measured by the CPI-W)⁵ advanced by 9.4 percent. Families with two or more wage and salary workers nearly kept pace with rising prices but the earnings of one-worker families grew by only 4.5 percent in nominal terms and thus declined considerably in real terms. In the previous year, the increase in earnings (7.0 percent) offset only a little more than half the rise in prices (12.6 percent).

Table 1. Distribution of families by weekly earnings status, fourth quarter 1981

[Not seasonally adjusted]

Weekly earnings status	Number (in thousands)	Percent
Total families	60,077	100.0
No earnings	11,074	18.4
With earnings	49,002	81.6
With self-employed workers only	4,324	7.2
With wage or salary workers	44,678	74.4
Husbands, wives, or householders self-employed	4,166	6.9
All other families with wage or salary workers ¹	40,513	67.4

¹ May include some members (other than husband, wife, or householder) who were self-employed.

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

Earnings of married-couple families rose 9.0 percent from a median of \$446 in the fourth quarter of 1980 to \$486 in the fourth quarter of 1981. Weekly earnings of families where there was only one worker advanced by 5.0 percent while the earnings of two-worker families increased by 8.9 percent. In contrast, the usual weekly median earnings of families maintained by women advanced at a slower pace—7.0 percent.

Unemployment and family earnings

Unemployment grew rapidly during the closing months of 1981. The national unemployment rate jumped from 7.3 percent in August (a level which had been maintained throughout most of the calendar year) to 8.8 percent in December 1981. As a result, the number of families with unemployed members rose by about 800,000, or 14 percent, over the year ending in the fourth quarter of 1981. However, this increase was not as steep as the rise during the year ended in the fourth quarter of 1980 when the number of families with unemployed members grew by 27 percent.

In the fourth quarter of 1981, nearly 6.6 million families (over 10 percent of all families) contained at least one unemployed person; 1.8 million of these had no earners (table 4). In 7 out of 10 married-couple families with both wage and salary workers and unemployed members, the wife, son, or daughter (or some other member) was jobless, not the husband. Likewise, in nearly 90 percent of the families maintained by women and 75 percent of those maintained by men, the unemployed member was someone other than the householder.

Median usual weekly earnings for the 4.3 million families with both unemployed members and wage and salary workers in the fourth quarter were \$312. Married-couple families reported median earnings of \$335 a

Table 4. Families with unemployment by presence and relationship of worker(s) to unemployed members, total weekly wage and salary earnings, and family type, fourth quarter 1981

[Not seasonally adjusted]

Type of family and relationship of worker(s) to unemployed	Number (in thousands)	Percent	Median earnings
Total families	6,588	100.0	—
No one employed ¹	1,843	28.0	—
Some employed, no wage or salary workers	290	54.4	—
With wage or salary workers	4,455	67.6	—
Husband, wife, or householder self-employed	191	2.9	—
All other families	4,265	64.7	\$312
Married-couple families	3,326	100.0	335
Husband unemployed	961	28.9	193
Wife only worker	785	23.6	185
Wife and other worker(s)	105	3.2	332
Other worker(s) only	71	2.1	(²)
Wife unemployed	1,095	32.9	338
Husband only worker	933	28.1	319
Husband and other worker(s)	147	4.4	520
Other worker(s) only	14	4	(²)
Other member(s) unemployed	1,271	38.2	493
Husband or wife worker	599	18.0	408
Husband and wife workers	613	18.4	619
Other combinations of workers	59	1.8	(²)
Families maintained by women ³	731	100.0	231
Householder unemployed	88	12.0	(²)
Other member(s) unemployed	643	88.0	236
Families maintained by men ³	208	100.0	282
Householder unemployed	51	24.5	(²)
Other member(s) unemployed	157	75.5	330

¹ May include small number of families in which the only worker is an unpaid family worker.

² Median not shown where base is less than 100,000.

³ No spouse present.

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

Table 3. Total weekly wage and salary earnings of families by number of workers and family type, quarterly averages, 1979-81

[Not seasonally adjusted]

Type of family and number of workers	Median earnings			Percent change	
	1979 IV	1980 IV	1981 IV	1979 IV to 1980 IV	1980 IV to 1981 IV
Total families with wage or salary workers ¹	\$388	\$415	\$442	7.0	6.5
One worker	271	286	299	5.5	4.5
Two workers or more	495	539	585	8.9	8.5
Married-couple families	419	446	486	6.4	9.0
One worker	305	320	336	4.9	5.0
Two workers or more	509	552	601	8.4	8.9
Families maintained by women ²	217	229	245	5.5	7.0
Families maintained by men ²	349	385	405	10.3	5.2
Consumer Price Index ³	—	—	—	12.6	9.4

¹ Excludes families in which the husband, wife, or householder is self-employed.

² No spouse present.

³ For Urban Wage Earners and Clerical Workers.

week—about 45 percent higher than the earnings of families maintained by women (\$231) and 19 percent more than those of families maintained by men (\$282).

For the most part, the earnings of families with unemployment depend on which family member is jobless. In married-couple families with an unemployed husband, earnings averaged \$193 a week in the fourth quarter of 1981, compared with \$338 for families with a jobless wife, and \$493 when some member other than the husband or wife was unemployed. Furthermore, these medians varied considerably depending on which family members were working. For instance, in families with an unemployed husband and a working wife, earnings totaled \$185 a week; but, when the wife was joined by other family workers, earnings were \$332.⁶

INCREASINGLY, POLICY-ORIENTED ANALYSES and interpretations of the family earnings data will involve consideration of long-term demographic trends. For instance, as the population ages, growing numbers of families will contain persons past retirement age. Also, divorce and separation may continue to raise the proportion of families that are not married couples. Moreover, because of these trends as well as others related to family formation and dissolution, the number of mar-

ried couples is projected to increase more slowly in coming years. Such changes will undoubtedly have some impact on the family earnings profile. Thus, to understand the significance of changes in family earnings, analysts will need to examine the many demographic trends relating to families. □

—FOOTNOTES—

¹ The Bureau of Labor Statistics first released quarterly family earnings data in a press release entitled "New Data Relate Workers' Earnings to the Families in Which They Live," USDL 80-188, Mar. 27, 1980. The data continue to be published on a quarterly basis.

Earnings information is obtained from the Current Population Survey (CPS) only for families with wage or salary workers. The CPS is a sample survey of some 60,000 households (65,000 prior to May 1981) conducted monthly for the Bureau of Labor Statistics by the Bureau of the Census, with coverage in all 50 States and the District of Columbia. The survey provides basic information on the labor force, employment, and unemployment. The earnings information is collected each month from only a quarter of the sample and cumulated to provide quarterly and annual estimates. For a description of the procedures used to develop the weekly earnings data, see *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey*, Bulletin 2113 (Bureau of Labor Statistics, 1982).

² For an extensive discussion of these data, see *Weekly and Hourly Earnings Data from the Current Population Survey*, Special Labor Force Report 195 (Bureau of Labor Statistics, 1977).

³ For a description of these data, see "Explanatory Note" in *Employment and Earnings*, January 1981, pp. 228-35.

⁴ See Beverly L. Johnson, *Women Who Head Families*, Special Labor Force Report 213 (Bureau of Labor Statistics, 1978).

⁵ The CPI-W refers to the Consumer Price Index for Urban Wage Earners and Clerical Workers. For a discussion of the general method of computing the Consumer Price Index, see *The Consumer Price Index: Concepts and Contents over the Years*, Report 517 (Bureau of Labor Statistics, 1978).

⁶ It should also be noted that in 1981, on average, about 2.9 million people a week received unemployment insurance benefits which averaged a little over \$100. Data on unemployment insurance recipients and amounts can be obtained from the U.S. Department of Labor, Employment and Training Administration, Unemployment Insurance Service, Division of Actuarial Services.

⁷ For a discussion of demographic trends and how they will affect families by the end of the century, see George Masnick and Mary Jo Bane, *The Nation's Families: 1960-1990* (Joint Center for Urban Studies of MIT and Harvard University, 1980).

Analysis of work stoppages in the Federal sector, 1962-81

EUGENE H. BECKER

Since 1962, 39 work stoppages by Federal Government workers have been recorded by the Bureau of Labor Statistics and the Office of Personnel Management.¹ These

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stoppages occurred despite legislation explicitly prohibiting any type of strike activity by Federal workers.

The statutory prohibition began with the Lloyd-LaFollette Act of 1912. This act gave postal workers the right to organize, as long as they did not join unions asserting the right to strike.² Later, the strike ban was extended to cover other Federal workers and was codified in section 305 of the Labor-Management Relations Act of 1947, which read, in part:³

It shall be unlawful for any individual employee of the United States or any agency thereof including wholly owned government corporations to participate in any strike. Any individual employed by the United States or any such agency who strikes shall be discharged immediately from his employment, and shall forfeit his civil-service status, if any, and shall not be eligible for reemployment for three years by the United States or any such agency.

Criminal penalties were added to the body of antistrike legislation in 1955.⁴ In 1966, strike activity by Federal workers was further proscribed in the U.S. Code relating to Federal employment. The statutes prohibited the holding of a Federal job by persons who (1) participate in a strike, (2) assert the right to strike, or (3) belong to an organization that asserts the right to strike against the U.S. Government. The penalties for noncompliance were a fine of not more than \$1,000, or a jail sentence of up to a year and a day. More recently, the ban on Federal strike activity has been codified in Title VII of the Civil Service Reform Act of 1978, which states that, for a Federal employee, "... it shall be an unfair labor practice . . . to call, or participate in, a strike, work stoppage or slowdown, or picketing of an agency in a labor-management dispute if such picketing interferes with an agency's operations, or . . . to condone any activity described in this paragraph by failing to take action to prevent or stop such activity"⁵

In 1971, the United Federation of Postal Clerks challenged the constitutionality of the laws proscribing strike activity by U.S. Government employees.⁶ Among other complaints, the union contended that terms such as "strike" and "participates in a strike," language common to all the laws in question, are so vague as to be unconstitutional. However, the court held that there was no vagueness in the two terms, and that, indeed, they "occupy central positions in our labor statutes and accompanying case laws" Subsequently, the U.S. Supreme Court affirmed the ruling of the lower court that the laws under attack were constitutional.⁷

Work stoppages by Federal employees occurred as far back as 1835, when civilian blue-collar yard workers of the Navy Department in Washington, D.C., struck over working hours and for a "general redress of grievances."⁸ After appealing to the Secretary of the Navy, but gaining little satisfaction, the workers returned to

Table 1. Work stoppages by Federal employees, 1962-81

Beginning date	Duration (calendar days)	Establishment and location	Union involved	Workers involved	Issues	Penalties
1962: Jan. 16	2	Tennessee Valley Authority, Paradise Power Plant; Drakesboro, Ky.	International Brotherhood of Electrical Workers (AFL-CIO)	190	Dispute over alleged unsafe working conditions	Employees returned to work without penalty after labor-management interviews.
Mar. 16	6	Tennessee Valley Authority, Paradise Power Plant; Drakesboro, Ky.	International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America (Ind.)	85	Assignment of truck driving duties to driver temporarily idle	Employees returned to work following labor-management interviews; three employees were suspended for 28 days.
June 20	10	Tennessee Valley Authority, Paradise Power Plant; Drakesboro, Ky.	International Brotherhood of Boilermakers, Iron Shipbuilders, Blacksmiths, Forgers and Helpers (AFL-CIO); International Association of Bridge, Structural and Ornamental Iron Workers (AFL-CIO)	350	Jurisdictional dispute over erecting slag tanks by employees represented by Iron Workers	Employees returned to work without penalty after labor-management interviews.
July 30	24	Tennessee Valley Authority, Paradise Power Plant; Drakesboro, Ky.	Sheet Metal Workers International Association (AFL-CIO)	2,500	Work assignment procedures and pay scales	Employees returned to work following labor-management interviews; the 85 sheet metal workers who began the stoppage were fired.
1968: Nov. 30	3	St. Elizabeth Hospital; Washington, D.C.	American Federation of State, County and Municipal Employees (AFL-CIO)	103	Alleged violation of position classification standards, work relationships, and laundering of uniforms of male nursing assistants	Issues settled through labor-management meetings. No penalties were imposed.
Dec. 11	8	Tennessee Valley Authority, Brown's Ferry Nuclear Plant; Athens, Ga.	International Brotherhood of Electrical Workers (AFL-CIO)	1,496	Suspension of entire electrical crew for violating published job rules	Employees returned to work without penalty following labor-management interviews.
Oct. 9	2	Hunter's Point Naval Shipyard; San Francisco, Calif.	Laundry and Dry Cleaning International Union (AFL-CIO)	80	Grievance procedures, working conditions, and disciplinary actions	Employees returned to work without penalties when shipyard agreed to immediate negotiations on a contract.
1969: June 18	2	Federal Aviation Administration; interstate	Professional Air Traffic Controllers Organization (AFL-CIO)	485	Alleged remarks made by head of FAA downgrading the role of controllers in policing air traffic	About 100 workers were temporarily suspended and PATCO lost its dues check-off privileges.
July 1	2	U.S. Post Office Department; New York City	National Association of Letter Carriers (AFL-CIO); National Postal Union (Ind.)	72	Size of second year wage increase	Employees called in sick; those found not to have been sick were placed on leave without pay for 2 weeks.
1970: Mar. 18	9	U.S. Post Office Department; nationwide	National Association of Letter Carriers (AFL-CIO); National Postal Union (Ind.); United Federation of Postal Clerks (AFL-CIO); The National Association of Special Delivery Messengers (AFL-CIO)	152,100	Retroactive pay increase, postal reform, and compression of pay schedule	All issues were settled by special legislation (PL 91-23), which provided for a 6-percent retroactive pay increase and the enactment of the Postal Reorganization and Salary Adjustment Act. No penalties were imposed.
Mar. 25	22	Federal Aviation Administration; nationwide	Professional Air Traffic Controllers Organization (AFL-CIO)	2,319	Employee reassignment, mediation of grievances, and union recognition	66 controllers were fired; about 1,800 were suspended 1 day for each day they stayed off the job.
May 25	1	U.S. Government Printing Office; Washington, D.C.	Columbia Typographical Union (AFL-CIO)/International Typographical Union	1,400	Manner in which the pay-setting formula was applied	Formula was revised. No penalties were imposed.
June 8 ¹	7	U.S. Department of Agriculture; Alabama	American Federation of Government Employees (AFL-CIO)	Not known	Federal poultry inspectors refused to cross a National Farmer's Organization picket line for fear of physical harm	Inspectors who had not reported for work were considered absent without leave and were not paid for the time of their absence.
1971: April 5	10	Tennessee Valley Authority, Nuclear Project; Daisy, Tenn.	International Association of Bridge, Structural and Ornamental Iron Workers (AFL-CIO)	990	Work assignment	No information available.
May 4 ¹	3	Department of Housing and Urban Development; Washington, D.C.	None	175	Alleged bias in employment practices	Some employees were charged with being absent without leave; others were warned about their actions.
June 17 ¹	1	Naval Publication and Forms Center; Philadelphia, Pa.	Laborer's International Union of North America (AFL-CIO) was official representative but judged not to be involved	19	Dissatisfaction over workload and low pay	Involved workers were listed as absent without leave and given formal letters of reprimand; two supervisors were given 1-day suspensions.
June 23	5	Library of Congress; Washington, D.C.	None	35	Wages and working conditions	All employees suspended and ordered to report back to work; 13 who did not were fired.
1973: Jan. 1	1	St. Elizabeth Hospital; Washington, D.C.	None	14	Position classification	Letter given to each employee spelling out the illegality and consequences of concerted actions against the Federal Government.
May 1 ¹	5	Army Air Force Exchange; Charleston, Ohio	American Federation of Government Employees (AFL-CIO)	61	Job classification	Three employees were discharged; the others were not paid for the time they were out.
July 31 ¹	1	Air Force base post exchange, Ft. Dix; McGuire, N.J.	None	60	Reduction in workweek from 40 to 35 hours	No penalties were imposed.
Sept. 24	12	Tennessee Valley Authority, Brown's Ferry Nuclear Construction Site; Athens, Ala.	United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States (AFL-CIO)	460	Hiring of nonunion welders because union allegedly did not furnish TVA with union welders	Following labor-management interviews, 165 steamfitters were fired; others returned to their jobs.

Table 1. Continued—Work stoppages by Federal employees, 1962-81

Beginning date	Duration (calendar days)	Establishment and location	Union involved	Workers involved	Issues	Penalties
1974: Jan. 21	4	U.S. Postal Service: Jersey City, N.J.	American Postal Workers Union (AFL-CIO)	475	Change in working hours	U.S. District Court ordered workers to return to work and submit grievances to arbitration.
May 1 ¹	2	Mare Island Naval Shipyard: California	Metal Trades Council	80	Change in pay structure	Employees were not paid for the days they were out.
May 9	3	Army and Air Force Exchange Service: Charlestown, Ind.	American Federation of Government Employees (AFL-CIO)	64	Protest over Department of Defense wage and salary survey	Employees returned to work without penalty following labor-management talks.
May 16 ¹	3	Puget Sound Naval Shipyard: Washington	Metal Trades Council	60	Change in pay structure	Employees were not paid for the days they were out.
May 16	1	Washington National Airport Police: Virginia	International Brotherhood of Police Officers (NAGE)	33	New work rules prohibiting airport police officers from carrying home their service revolvers	No penalties were imposed.
1977: June 30 ¹	1	Federal Aviation Administration: Los Angeles/Oakland, Calif.	None	16	Job classification	No penalties were imposed.
1978: July 21	8	U.S. Postal Service Bulk Mailing Center: New Jersey and California	American Postal Workers Union (AFL-CIO)	4,750	Dissatisfaction over terms of tentative agreement reached by union and Postal Service (main issue was size of wage increase)	About 125 workers were fired, 120 temporarily suspended, and 2,500 received letters of warning.
1979: Nov. 11 ¹	1	Norfolk Naval Shipyard: Virginia	None	23	Pay rules in effect for trial run of new aircraft carrier	No penalties were imposed.
1980: April 21 ¹	1	Department of Energy (Phoenix Western Area Power Administration): Arizona	None	60	Retroactive pay	Involved workers charged with being absent without leave.
June 20 ¹	1	Department of the Interior (Grand Coulee Dam): Arizona	International Brotherhood of Electrical Workers (AFL-CIO)	183	Protest over size of Federal wage increase	No penalties were imposed.
June 25 ¹	1	U.S. Army Corps of Engineers (hydroelectric dams in Oregon, Idaho, Washington, and Montana)	None	250	Protest over size of Federal wage increase	59 workers were reprimanded.
July 28	10	Tennessee Valley Authority, Phipps Bend Nuclear Plant: Surgoinsville, Tenn.	15 construction unions	900	Discharge of ironworker who allegedly struck supervisor.	42 workers were fired and 210 were suspended for 1 year.
Aug. 5 ¹	1	Immigration and Naturalization Service: New York City	American Federation of Government Employees (AFL-CIO)	50	Immigration and Naturalization Service policy towards Iranians	No penalties were imposed.
Aug. 19 ¹	1	Veterans Administration: Denver, Colo.	None	12	Disapproval of proposed pay raises	Involved workers charged with being absent without leave and reprimanded.
Sept. 17 ¹	1	Federal Aviation Administration: Anchorage, Alaska	None	15	Recruitment policies	Involved workers charged with being absent without leave and reprimanded.
Dec. 15 ¹	1	Veterans Administration Hospital: Los Angeles, Calif.	None	13	Disapproval of proposed special pay rates	Involved workers charged with being absent without leave and reprimanded.
Dec. 20 ¹	1	Veterans Administration Hospital: San Francisco, Calif.	None	18	Pay comparability	Involved workers charged with being absent without leave and reprimanded.
1981: Aug. 3	81	Federal Aviation Administration: nationwide	Professional Air Traffic Controllers Organization (AFL-CIO)	12,500	Size of wage increase, length of workweek, and early retirement	About 11,500 workers who did not return to work during a presidentially mandated grace period were fired.

¹ Information provided by the Office of Labor-Management Relations of the Office of Personnel Management (formerly the U.S. Civil Service Commission).

their jobs. Between 1835 and 1937, there were at least 25 other stoppages by Federal employees, mostly civilian blue-collar workers of the Army and Navy Departments. These stoppages were "primarily strikes of mechanics for wage and hour improvements just as were strikes of such workers in the private sector."⁹

There were some exceptions to the general rule of Federal strikes by only blue-collar workers. For example, in 1907, 26 postal employees in Butte, Mont., struck over wage and reclassification issues. Eight of them were replaced when they failed to return to their jobs. In 1937, a strike by Federal public health workers

ended when the national union, the American Federation of Government Employees, expelled the local for violating the no-strike clause in its constitution.

Between 1937 and 1957, the Bureau of Labor Statistics did not keep separate statistics on Federal strikes. Rather, it distributed such data among the industries in which the strike occurred. There were no Federal strikes during 1958-61. However, between 1962 and 1981, there were 39 stoppages involving Federal workers.¹⁰ (See table 1.) No stoppages occurred in 8 of the years, and almost a quarter of them occurred in 1980.

All types of workers—blue-collar, white-collar, ser-

vice, professional and technical, and laborers—have participated in strikes against the Federal Government. Eight of the 39 strikes involved construction workers at Tennessee Valley Authority installations, most of which were under construction at the time of the strike; four involved postal carriers and mail clerks, and the 1970 postal strike involving 150,000 workers was the largest Federal stoppage; air traffic controllers participated in five strikes, including an 81-day dispute in 1981, the longest Federal strike on record, which resulted in the firing of approximately 11,500 controllers; U.S. Naval shipyards had four stoppages; Army and Air Force post exchanges and the Veterans Administration each had three; and other Federal stoppages involved police, hospital workers (nurses' aides), custodial workers, typographers, and clerical workers. (See table 1.)

The issues surrounding Federal work stoppages were as broad as those found in private sector strikes. Stoppages occurred over safety issues, work assignments, jurisdictional questions, pay scales, job classification, working conditions, job rules, wages, union recognition, union security, working hours, and general grievances.¹¹ However, wages or wage-related issues were either primary or secondary causes of more than half the strikes, suggesting that Federal employees, like their counterparts in private industry, most often strike to improve their economic standing.

Penalties for Federal employees who engage in strikes include dismissal, suspension for various periods of time, written warnings and reprimands, and loss of pay. The following tabulation summarizes the penalties imposed in the 39 Federal work stoppages (multiple penalties were imposed in some stoppages):

Penalty	Incidence
Reprimand	9
Loss of pay	11
Temporary suspension	8
Discharge	8
No penalty	14
Information not available	1

For most Federal employees, the settlement of disputes is governed by the Civil Service Reform Act of 1978. This act gives the Federal Labor Relations Authority the responsibility of deciding unfair labor practices cases which, among other things, include engaging in or failing to prevent or stop a strike or work stoppage. For the Tennessee Valley Authority, however, the penalties are determined by a labor-management board, the Committee of the Tennessee Valley Trades and Labor Council. The council members interview all participants of a strike to determine: (1) the cause of the dispute; (2) the person(s) primarily responsible for the strike; (3) if the participant(s) may return to work; (4) what statement, if any, to include in the employee(s) records, and (5) the appropriate penalty against individu-

als found to have instigated the strike or who failed in their responsibility to attempt to prevent the action. Since 1962, the council has determined that dismissals were the appropriate remedy in 3 of the 8 TVA strikes, and suspensions for varying lengths of time in at least two strikes; in three others, the workers returned to work without penalty.

In 2 of the 4 postal strikes, workers were discharged or suspended for varying lengths of time and received letters of reprimand. No penalties were imposed in the other two stoppages, including the 9-day strike in 1970 which involved more than 150,000 postal employees.

Air traffic controllers were penalized in 4 of their 5 stoppages, having multiple penalties imposed in at least one stoppage. In addition, the Professional Air Traffic Controllers Organization temporarily lost its dues checkoff privileges as a result of their 1969 walkout and was decertified as the controllers' bargaining agent following their nationwide stoppage in 1981. This is the only incidence of decertification in any Federal dispute since 1962.

The most prevalent disciplinary action was being charged absent without leave and, in most cases, losing a day of pay for each day off the job. Written reprimands were the second most frequent penalty, followed by temporary suspensions and discharge. □

—FOOTNOTES—

¹ Information on 18 of the 39 stoppages was obtained from unpublished records of the Office of Personnel Management.

² 37 Stat. 555 (1912), 5 U.S.C. 652. The act states, in part, that membership in unions "imposing an obligation or duty . . . to engage in any strike or proposing to assist . . . in any strike against the United States" would result in grade reduction or loss of the employee's job. See David Ziskind, *One Thousand Strikes of Government Employees* (New York, Columbia University Press, 1940).

³ Section 305 of the Labor Management Relations Act was repealed in 1955. However, at the same time, 5 U.S.C., Secs. 118p and 118r were enacted, retaining the prohibitions against strikes by Federal employees. These two sections were subsequently replaced in 1966 by 5 U.S.C., Secs. 3333 and 7311, and by 18 U.S.C., Sec. 1918.

⁴ Title 5, Sec. 118r of the United States Code.

⁵ Title VII had its antecedent in Executive Order 10988, which declared that an orderly and constructive relationship between unions and management was government policy. The number of Federal workers represented by unions increased substantially after this Executive Order was issued in 1962. See *Wage Chronology: Federal Employees Under the General Schedule Pay System, July 1924–October 1974*, Bulletin 1870 (Bureau of Labor Statistics, 1975), p. vii.

⁶ The challenged laws were 5 U.S.C., Sec. 7311 (3) which forbids anyone from accepting or holding a Federal job who "participates in a strike;" 18 U.S.C., Sec. 1918 which makes strikes against the Federal government a criminal offense and provides penalties for violations; 5 U.S.C., Sec. 333 (par. C) which requires no-strike affidavits from Federal workers; and Executive Order 11491. See *United Federation of Postal Clerks v. Blount*, D.C.D.C. 1971, 325 F Supp. 879.

⁷ 92 S.Ct. 80, 404 U.S. 802, 30 L.Ed.2d38.

⁸ Ziskind, p. 24.

⁹ Ziskind, p. 32; the last Federal strike noted by Ziskind occurred in 1937.

In addition, during 1917–20, when the United States vested control

of the Nation's railroads and harbors in the Federal Railroad Administration, there were 46 stoppages involving railroad, marine, and waterfront employees. However, because of the temporary and emergency nature of Federal involvement in these industries, these stoppages are not considered bona fide Federal stoppages, nor are the large number of stoppages by participants in Depression-era Federal public works projects.

¹⁰ These disputes include all Federal work stoppages lasting a shift, full day, or longer, and involving at least six workers. The Office of Personnel Management, in addition, takes account of all Federal job actions including informational picketing, walkouts (however short), sickouts and sitins, and other actions that may interrupt or have the potential to interrupt work routine. However, unless the job action met the Bureau's definition of a full shift and at least six workers, it was not included in the 39 stoppages noted. Stoppages culled from the Office of Personnel Management records are noted in the table.

¹¹ Federal law limits collective bargaining by Federal employees to nonwage issues. Exceptions to this rule, however, are air traffic controllers and employees of the Postal Service, Government Printing Office, and Tennessee Valley Authority. Seven of the twenty wage-related stoppages involved employees of these four agencies.

An overview of the population below the poverty level

The number of persons below the poverty level rose from 24.5 million in 1978, to 25.3 million (11.6 percent of the total population) in 1979. Statistically significant is the fact that the percentage of the population below the poverty level was unchanged.

Although the poverty rate for all persons was 11.6 percent, many groups had poverty rates well above or below the national average. For example, persons in families maintained by women with no husband present, had a poverty rate of 30 percent, compared with persons in families maintained by men which had a poverty rate of only 6 percent. Despite the increase in the total number of persons below the poverty level during 1978-79, only a few of the major subgroups within the population experienced significant increases in the number of poor or the poverty rate.

There were 16.8 million whites and 7.8 million blacks below the poverty level in 1979—not significantly different from the previous year. As in earlier years, the poverty rate for whites (9 percent) was much lower than the rate for blacks (31 percent). Blacks accounted for 12 percent of the total U.S. population, but they

made up 31 percent of the poverty population. About 2.9 million persons of Spanish origin were below the poverty level (11 percent of the poverty population) in 1979. Their poverty rate, 22 percent, was the same as in 1978.

The number of poor persons 65 years old and over increased from 3.2 million in 1978 to 3.6 million (a 15-percent poverty rate) in 1979. This increase probably occurred because their income (other than Social Security) did not keep up with inflation (which rose to 11.3 percent in 1979).

There were 15.7 million persons below the poverty level living in metropolitan areas. Of these, 9.5 million lived in central cities and 6.2 million lived in suburban areas. Poverty rates were the highest in 1979 for central city residents (16 percent) and lowest for suburban area residents (7 percent).

Of the 25.3 million persons below the poverty level in 1979, 42 percent lived in the South. The poverty rate for persons living in the South was 15 percent, compared with 10 percent for those in the North and West Region (combined regions).

The poverty level for families with a female householder, no husband present (30 percent) was much higher than the rates of married-couple families (5 percent) and families with a male householder, no wife present (10 percent). In 1979, the majority of white families below the poverty level were married-couple families (59 percent). By contrast, most poor black families were maintained by women with no husband present (72 percent). Nevertheless, for both races, the proportion of poor families maintained by women has increased substantially since 1970.

Finally, 5.6 million unrelated individuals (15 years old and over, living alone or with nonrelatives) were below the poverty level in 1979; 1.9 million men and 3.7 million women. This group increased by 400,000 between 1977 and 1979, and accounted for 12 percent of all persons and 22 percent of persons below the poverty level.

The full report, *Characteristics of the Population Below the Poverty Level: 1979*, U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 130, is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. □

Major Agreements Expiring Next Month



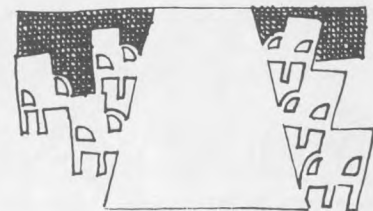
This list of collective bargaining agreements expiring in September is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Labor organization ¹	Number of workers
Acme-Cleveland Corp., National Acme Co. Division (Cleveland, Ohio) . . .	Machinery	Mechanics Educational Society	1,200
American Protective Services, Inc., Uptown Agreement (San Francisco, Calif.)	Services	International Union of Security Officers (Ind.)	2,200
Bronx Realty Advisory Board, Inc. (New York, N.Y.)	Real estate	Service Employees	11,000
Bruno Food Stores, Inc. and Food World, Inc. (Alabama)	Retail trade	Food and Commercial Workers	2,700
Caterpillar Tractor Co., Towmotor Corp., Central Agreement (Interstate)	Machinery	Auto Workers	25,000
Chicago and Suburban Refuse Disposal Association (Illinois)	Sanitary services	Teamsters (Ind.)	1,500
Chrysler Corp., 4 agreements (Interstate)	Transportation equipment	Auto Workers	75,300
Deere and Co. (Iowa and Illinois)	Machinery	Auto Workers	32,000
Deere and Co., John Deere Horicon Works (Horicon, Wis.)	Machinery	Machinists	1,200
Food Employers Council, Inc., 3 agreements (California)	Wholesale trade	Teamsters (Ind.)	7,000
FMC Corp., Bearing and Chain Divisions (Indianapolis, Ind.)	Machinery	Steelworkers	2,000
General Electric Co., Tube Products Department (Owensboro, Ky.)	Electrical products	Allied Industrial Workers	1,050
Greater New York Folding Box and Display Manufacturers Association (New York)	Paper	Paperworkers	3,000
GTE Sylvania (Ottawa, Ohio)	Electrical products	Electrical Workers (IBEW)	1,850
Jewel Companies, Inc., Jewel Food Stores Division (Indiana and Illinois)	Retail trade	United Retail Workers	14,000
Kaiser Steel Corp. (California)	Mining	Building and Construction Trades Council	1,150
Kelly-Springfield Tire Co. (Tyler, Tex.)	Rubber	Rubber Workers	1,150
Kern County Floor Covering Association (California)	Construction	Painters	1,700
Sanyo Manufacturing Corp., Forrest City, Arkansas Plants (Arkansas)	Electrical products	Electrical Workers (IUE)	1,900
Security Agencies, Uptown Agreement (San Francisco, Calif.) ²	Services	International Union of Security Officers (Ind.)	2,000
Sportswear Agreement (San Francisco, Calif.) ²	Apparel	Ladies' Garment Workers	3,000
Western States Field Construction Agreement (Interstate) ²	Construction	Boilermakers	3,500
	Government activity	Labor organization¹	
Florida: Dade County Fire Department	Fire protection	Fire Fighters	1,000
Dade County Police Department	Public safety	Dade County Police Benevolent Association	2,200
New York: New York City Board of Education	Education	Teachers	60,000
Ohio: Columbus Municipal Employees	Multidepartments	American Federation of State, County and Municipal Employees	4,000

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

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

Developments in Industrial Relations



Pattern-setting agreement in garment industry

About 150,000 workers in the dress, coat and suit, and sportswear industries were covered by a settlement between the Ladies Garment Workers and various employer groups. The 3-year agreements are expected to set a pattern for 50,000 other workers and were effective on the June 1 termination date of the prior agreements. The initial 35-cent-an-hour wage increase was deferred to December 1, 1982, and will be followed by a 35-cent increase on June 1, 1983, and a 40-cent increase on July 1, 1984. Under the prior contracts, hourly pay rates ranged from \$5.50 to \$5.75.

A cost-of-living clause was established. Under the formula, the workers will receive a February 1984 pay adjustment of 10 cents an hour if the Consumer Price Index rises 8.5 percent between June 1, 1982, and December 1, 1983, plus 5 cents for each additional 0.5-percentage point rise in the index, subject to a 25-cent cap. Prior contracts did not have a cost-of-living clause but were subject to reopening if the CPI rose by specified amounts.

Other terms included an additional paid holiday and, for sportswear employees, a 1.5-percent (of payroll) increase in employer financing of benefits.

Employer groups involved in the settlement included the Affiliated Dress Manufacturers Association, Apparel Manufacturers Association, New York Coat and Suit Association, and New York Skirt and Sportswear Association.

Strike against American Standard ends

A 207-day strike against plants of American Standard, Inc., subsidiaries in Wilmerding and Swissvale, Pa., ended when the company and Local 610 of the United Electrical Workers resolved the last major issue by agreeing on grievance-arbitration procedures for deter-

mining if the company was justified in firing 22 of the strikers for alleged picket line violence. Other major issues were company demands for increased productivity and installation of a computer system to aid in keeping inventories and managing the flow of work.

In regard to the productivity issue, American Standard said the settlement provides that, "in general, incentive employees will have to meet or exceed output standards before prior earnings are guaranteed; however, they will now have the opportunity to increase their earnings significantly depending on their output."

The union said that it had agreed to installation of the computer system after the company promised not to use it for pinpointing high incentive earnings or for any time study purposes.

The 3-year accord also limited workers at the Westinghouse Air Brake Co. plant in Wilmerding to two job transfers a year. Previously, they could bid on jobs at will, which disrupted production, according to management officials. American Standard agreed to conduct programs to train senior employees for job openings at its WABCO and the Union Switch and Signal plants.

The settlement, which covered 3,800 workers at the two plants, provided for a total of 85 cents an hour in specified wage increases; for retention of the provision for automatic cost-of-living pay adjustments, subject to a limit of \$2.32 an hour over the 3-year term; for establishment of a dental care plan; and for improvements in pensions and other benefits.

Airline strike ends

A 3½-week strike against Northwest Airlines ended when 3,600 mechanics, baggage handlers, food-service workers, and security personnel ratified a 38-month contract. The agreement, negotiated by the International Association of Machinists, called for wage increases of 9 percent retroactive to November 1, 1981, 9 percent on January 1, 1983, and 5.5 percent on January 1, 1984.

The parties compromised on the productivity concession Northwest had sought. In exchange for greater flexibility in job assignments, the company dropped its

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

demand for an increase in the number of part-time employees. The union said it viewed the changes in work rules as a lesser danger to job security than an increase in the number of part-time employees.

Other provisions included increased shift differentials and pay premiums for employees holding Federal aircraft repair and maintenance licenses, and a new combined regular medical and major medical lifetime coverage of \$1 million, instead of the previous total of \$500,000.

Paper mill institutes 'gainsharing' plan

More than 2,000 employees of Crown Zellerbach pulp and paper mills in Camas and Port Townsend, Wash., were covered by a new "gainsharing" plan developed under provisions of a 5-year labor contract negotiated in mid-1981. Crown Zellerbach said that the plan will pay the workers extra money for productivity improvements achieved by "working smarter, not harder."

The employees, who are represented by the Association of Western Pulp and Paper Workers union, received an initial payment of \$500 because they accepted the plan before the June 1 deadline. In the future, the size of the annual lump-sum payments will be based on the hours worked and the cost savings resulting from a productivity formula. The formula will include such factors as the output of paper machines, reduction of waste, and reduction of purchased energy. Regardless of the results, the workers will receive at least 10 cents for each hour worked during the 12-month period.

Early negotiations possible in steel industry

The way was cleared for a possible early settlement in the steel industry when presidents of Steelworkers' local unions voted 263 to 79 to begin "discussions [with the major producers] for the purpose of exploring possible solutions" to economic conditions and resulting layoffs plaguing the industry.

Union president Lloyd McBride said that he was not "ruling in or ruling out anything" regarding possible wage-and-benefit concessions or new contract talks. The union's current 3-year agreements with the eight Coordinating Committee Steel Companies are scheduled to expire in August 1983.

In a related development, U.S. Steel Corp. reduced salaries of its 20,000 management level employees by at least 5 percent, effective July 1. In addition, the company froze the cost-of-living allowances of 7,000 nonmanagement employees; previously, the company had granted quarterly pay adjustments to these employees similar to those resulting from the provision in the Steelworkers' contract.

The company also said that some benefits would be

reduced for all of the white-collar workers. The changes included elimination of the fifth week of paid vacation for long-service employees, two paid holidays a year, and a dental care plan, as well as modifications of other health benefits. Earlier in the year, other major steel companies had imposed similar changes for nonunion white-collar workers.

Wage-and-benefit concessions

The results of adverse economic conditions were not confined to the steel industry. Various companies moved to alleviate problems, either through bargaining with unions or by instituting wage-and-benefit reductions or deferrals for nonunion workers.

- In Billings, Mont., 350 employees of Pierce Packing Co. agreed to a 1-year wage reduction of \$1.90 an hour, with the lost money to be repaid over a 4-year period. The workers, who are represented by two locals of the United Food and Commercial Workers and a local of the Operating Engineers, also agreed to a 1-year moratorium on pay increases, including cost-of-living adjustments; to take three holidays without pay; and to changes in work rules intended to increase productivity. Similar changes were instituted for salaried employees, who are not union-represented. The company said the changes were needed to counter a slowdown in its sales of pork products.
- In the nonferrous mining industry, Hecla Mining Co. of Wallace, Idaho, announced a pay reduction ranging from 5 percent for employees earning less than \$17,000 a year to 15 percent for top management. The reduction was 10 percent (\$2,080 a year) for miners earning the starting rate of \$10 an hour. Among the workers affected were 100 gold miners and 30 lead and silver miners. The cut did not apply to 250 lead and silver miners represented by the United Steel Workers. It also did not apply to 220 nonunion lead, zinc, and silver miners whose pay had already been cut 10 percent. Hecla President William A. Griffith said the pay cuts were required because of severe declines in mineral prices.
- Barber-Greene Co. cut salaries by 3 to 9 percent for its 900 office and management employees in the United States and Canada. The company said that salaries will be frozen at the reduced level "for the indefinite future" and that some of its white-collar workers would be laid off over the next 2 months. The company, which had already cut its hourly work force by 30 percent within the last year, said the white-collar actions were necessitated by slumping demand for its road construction, mining, and industrial machinery.
- The Hesston Co., a Kansas manufacturer of farm and oil field equipment, froze the pay of 200 clerical workers and cut the pay of 350 other white-collar

workers by 5 percent. Hesston said the moves were needed "to reduce costs that cannot be recovered in today's economic conditions." The changes did not affect 950 employees represented by an independent union.

- In Columbus, Ind., Cummins Engine Co. cut the pay of all its salaried employees in the United States by 6 percent and said it was considering further measures to reduce costs. This was in addition to a cut 3 months earlier for officers of the company. The company said that it was discussing wage concessions with an independent union representing office workers in the Columbus area, but was not discussing cuts with the Diesel Workers Union, another independent union, because "we've already had lots of layoffs among the production workers it represents."
- In the rubber industry, B.F. Goodrich Co. announced that it was cutting the pay of 10,000 higher-salaried employees and freezing the pay of several thousand others. John D. Ong, chairman and chief executive officer of the company, said "the actions are precautionary in nature and represent our commitment to managing our way through this difficult period." The cut, limited to employees earning at least \$20,000 a year, was 15 percent for members of Goodrich's management committee, 10 percent for other executives, and 5 percent for other employees. The company also said that it would not grant pay increases to salaried workers and was eliminating a week of paid vacation for those eligible for 3 weeks in 1983.
- Exxon Corp. announced that it planned to reduce expenses 15 percent and that 60 percent of this would be achieved through personnel cutbacks. The oil company said that the staff reduction would be achieved through voluntary retirements.
- In Grand Haven, Mich., employees of the Bastian Blessing Co. agreed to a \$1-an-hour reduction in future wage-and-benefit improvements that had been scheduled under a 3-year contract negotiated in February. Under the concession plan, average pay will go from \$9.30 an hour to \$9.32 by the end of 1983, and to \$10.12 by the end of the 3-year contract term. The 300 employees represented by Sheet Metal Workers Local 430 accepted the agreement after being told that the cost reduction was necessary to assure purchase of the plant by local investors, including some officials of the plant, which makes restaurant equipment. The purchase negotiations were being conducted with the plant's parent firm, Bastian Industries, Inc. The Grand Haven plant had been experiencing financial problems and layoffs because of the loss of a major account. The purchase group assured the employees that completion of the sale would result in recall of the workers.
- The Aluminum Company of America froze the salaries of its top 1,800 managers and cut in half the rate at which 9,500 other salaried employees accrue points toward salary increases based on the cost-of-living, performance, and other factors. Company spokesman Robert Larson described the move as "a short-term tactic to conserve cash and a long-term strategy to bring all our salaries into a more competitive relationship with other manufacturing companies."
- The Kirsch Co., a maker of home furnishings hardware, and Local 797 of the Automobile Workers revised their existing contract to provide for a wage freeze extending to June 1985. The accord, which was ratified by a 410 to 41 margin, also called for reductions in some benefits. Despite these cost-saving changes, the Sturges, Mich., firm gave no assurance that more layoffs or a plant closing could be averted. Kirsch already had 300 production workers on layoff.
- In Lockport, N.Y., 430 employees of Guterl Special Steel Corp. agreed to a package of wage-and-benefit reductions expected to save the company \$1.5 million. Workers will return to "normal" wage-and-benefit levels in October 1983, a week before the expiration of Guterl's current contract with Local 2857 of the United Steelworkers. In exchange for the aid, the company agreed to return to employees the dollar value of the concessions, plus 7 percent interest, beginning October 1, 1984, if financial conditions permit. Guterl president Douglas K. Pinner said the union aid was necessitated by "a severely depressed economy, coupled with unconscionable levels of imports approaching 50 percent in some steel products."
- In the construction industry, 200 plumbers in Connecticut agreed to work on housebuilding projects at 65 percent of their usual pay rate. The agreement between the Naugatuck Valley Mechanical Contractors Association and Local 22 of the Plumbers and Pipefitters specified that the special rate would apply to work on single family homes, garden apartments, and condominiums. The rate also applies to small warehouses and commercial facilities.
- Caterpillar Tractor Co. froze the salaries of its management and weekly salaried employees, and suspended their quarterly cost-of-living increases, merit raises, and payments in lieu of unused vacation time. The move affected 13,800 management employees and 9,600 others, such as secretaries and technicians. The heavy equipment manufacturer also was offering cash retirement inducements to management employees at least 58 years old.
- Massey Ferguson announced that it was deferring payment of part of the salaries of its 3,000 North American white-collar employees until October. The deferred amount, expected to total \$6 million,

amounted to 25 percent of pay for senior employees and 20 percent for others. The Canadian company indicated that 2,000 of the affected workers are located in the United States, primarily in the Des Moines, Iowa, and Detroit, Mich., areas. Earlier in 1982, Massey-Ferguson's production workers in the United States agreed to wage concessions totaling \$10 million over a 30-month period. These workers are represented by the United Automobile Workers.

- Clark Equipment Co. announced plans to cut 700 employees from its white-collar staff of 5,200 by November 1. Some of the reduction would be accomplished by offering special retirement incentives to employees who are age 55 with at least 10 years of service. About 500 employees were eligible for the program. The construction equipment maker also disclosed that it was undertaking a study to determine if some of its 11 North American plants should be closed.

Supreme Court rules on subcontracting clauses

In the area of collective bargaining, the Supreme Court ruled that a construction union can negotiate provisions requiring contractors to do business only with subcontractors that recognize the union. The case resulted from 1959 amendments to a Federal law that prohibited such subcontracting clauses in all industries except construction. Despite this language, doubts about the exemption had continued because, in 1975, the court had taken a narrow interpretation of the exemption.

In the recent unanimous ruling, written by Justice Thurgood Marshall, the court said that construction unions can seek subcontracting clauses in the normal course of collective bargaining.

In its arguments in the case, which involved labor disputes in Southern California and in Oregon, the industry representatives involved contended that such clauses should apply only when needed on specific projects to preclude union and nonunion workers from working side by side.

Court bans 'nonunion' contributors to campaigns

A union can prohibit outsiders from contributing to union leadership campaigns, according to the Supreme Court. The case resulted from the 1977 race for leadership of the Steelworkers union between Lloyd McBride, who was endorsed by most of the incumbent officers

and won the contest, and Edward Sadlowski, who drew substantial financial contributions from "outsiders." Later, in 1979, the union's convention adopted a rule prohibiting outside contributions.

Sadlowski then challenged the rule in court, contending that it violated provisions of the Labor-Management Reporting and Disclosure Act guaranteeing free speech to union members.

Writing for the majority, Justice Thurgood Marshall said that the act's free speech guarantee was not as broad as the guarantee of the First Amendment to the Constitution and that the union need only show—as it had—that its rule was "rationally related" to its desire to reduce outside interference.

Justice Byron R. White, writing for the minority, said that the outsider rule was unreasonable because Congress was concerned about corrupt and entrenched union leadership when it passed the 1959 law. Continuing, he said that restrictions such as the outsiders rule "are a far cry from the free and open elections that Congress anticipated and are wholly inconsistent with the way elections have been run in this country."

3M Company settles sex discrimination suits

Ending years of litigation, Minnesota Mining & Manufacturing (3M) Co. settled several sex bias suits by agreeing to pay \$2.3 million to 2,350 women. The Equal Employment Opportunity Commission said that the suits had charged the company with discrimination in job assignments, wages, promotions, transfers, and other employment policies.

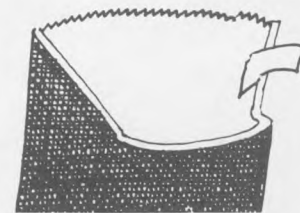
Under the settlement, the company agreed to give 1,350 female employees about \$1.5 million in back pay, plus interest. The company also agreed to help the women attain higher-paying jobs by offering them job counseling, posting job vacancies, and paying for job-related courses.

Locals of the Oil, Chemical and Atomic Workers and the Grain Millers unions, which were codefendants in the suits, will set up committees to handle discrimination issues at the five plants.

The settlement also required 3M to pay \$525,000 plus interest to some 1,000 women it had forced to take maternity leave 4 months before they were scheduled to give birth. This policy was essentially ended in 1973.

3M said that it settled because the suits were consuming a great deal of management time, and that now it could concentrate on its affirmative action programs for hiring, training, and promoting women.

Book Reviews



Portrait of a leader

George Meany and His Times: A Biography. By Archie Robinson. New York, Simon and Schuster, 1981. 445 pp. \$18.75. Single copy, \$12.50 postpaid, AFL-CIO Books, P.O. Box 37473, Washington 20013.

George Meany, scowling through the thick smoke of a cigar, uttering defiant and sometimes ungrammatical challenges to leaders of government and industry, probably would have been a casting director's ideal "labor boss."

But the George Meany of this book, passionately devoted to democratic institutions, arch foe of communism and corruption, champion of civil rights and social justice, is difficult to fit into the "labor boss" stereotype.

George Meany not only authorized this biography, he collaborated actively in its preparation during 4 years of weekly taped interviews with the author. Not surprisingly, then, the book is less a searching evaluation than the recollections of a celebrated leader at the end of his career.

Archie Robinson got to know George Meany during 37 years as a labor reporter for the *Detroit News* and *U.S. News & World Report*. Because he relies heavily on speeches and taped recollections, his admiring portrait accurately reflects Meany's direct—and often blunt—manner. But the virtue of telling Meany's story in Meany's own words is offset at times by Robinson's practice of reporting events by stringing together Meany quotations, with minimal or self-conscious, "as he recalled for this book," transitions. This tends to limit the reader to Meany's view of events, where the inclusion of other views might have provided fuller understanding.

An example of this limitation is the account of Meany's frustration with the World War II stabilization program which led to an attack on the Bureau of Labor Statistics. Robinson quotes at length from Meany's statements accusing BLS of not doing an adequate job of measuring the cost of living, charging that BLS "has laid aside its function as an impartial research agency interested only in securing and presenting the facts and has identified itself with the objectives of a specific political

administration," and denouncing Acting Commissioner Ford Hinrichs as "a bureaucratic monkey on a stick who moves up and down in conformity with the dictates of the administrative wage policy." Robinson's readers don't learn that other participants in that dispute, including some of Meany's trade union colleagues, found his attacks on BLS unwarranted.

Robinson traces Meany's rise from a high school dropout who failed in his first attempt to pass the journeyman plumber examination, to popular business agent for his Bronx union local, chief lobbyist and president of the New York State Federation of Labor, secretary-treasurer of the American Federation of Labor, and finally, AFL-CIO president. The book is at its best when it describes Meany's relationship with eight presidents of the United States and with Walter Reuther. (After one of Reuther's attacks on Meany as "a complacent custodian of the status quo," Meany joked to reporters that "I'm now signing my letters 'sincerely and complacently yours'.")

Robinson describes some events not often remembered, including the fact that, while still in New York, Meany led a successful strike against the New Deal relief agencies that wanted to pay less than prevailing rates on Works Progress Administration construction projects.

The book also documents Meany opinions that will surprise some readers:

On the split in the labor movement in the 1930's: "There was no good trade union reason for the split . . . (Franklin D. Roosevelt) was going to seek more active political support (in the 1936 election) and he didn't figure he would get it through the AFL Executive Council, which was fairly conservative. . . . The industrial union idea was a bugaboo designed to cover up the political motives of the sponsors of the CIO."

On forming a labor party: "When you set up a labor party—I don't care where it is—and you tie yourself to a labor party, you are saying, in effect, we not only want better conditions for the people we represent, we not only want to raise the standard of life, we want to run the country. (Samuel) Gompers took the position that it was not our job to run the country. . . . The Gompers' philosophy was not to be nonpolitical, it was

to be nonpartisan. The Gompers' philosophy basically was that labor should not tie itself to a political party in any way at all. That is still our policy"

On lobbying: "You never beg and you never threaten. And always keep in the back of your mind that the other guy may be right."

On being an economist: "I look back when I was a high school dropout. I think now that if I had gone on, I might have wound up being an economist. And to me, that's kind of a sad profession. Although it is the one profession in which you can gain great eminence without ever being right."

In pursuing plumbing and union leadership careers instead of economics, George Meany was often right and gained great eminence as well. This book tells that story and tells it well.

—HENRY LOWENSTERN
Editor-in-Chief
Monthly Labor Review

Excluding unions

Preventive Labor Relations. By John G. Kilgour. New York, AMACOM, A division of American Management Associations, 1981. 338 pp. \$24.95.

In recent years, a steady flow of books and articles have been published to assist employers in preventing unions from invading their businesses and activities. These publications, together with a series of seminars and intensified activity by consultants advising employers on how to avoid unions, have contributed to a climate of tension and distrust in labor-management relations. There is little doubt that some of these antiunion efforts have caused great concern in the organized labor movement.

This book may irritate some labor union members and officers merely because it discusses ways of preventing labor unions from organizing the unorganized. It is not, however, a vitriolic attack on labor unions. It begins with the assumption that the vast majority of nonunionized employers would prefer to remain free of unions. It then proceeds to cover a number of areas in which employers can take action to keep unions out. Throughout the book, however, the author stresses the need to adhere to the rules of collective bargaining and personnel administration.

Basically, "preventive labor relations" encourages early attention to organizing efforts, establishing effective communication links to detect early organizing moves, and establishing a basis for meeting and conferring with employees on a regular basis. Employers are cautioned not to overpublicize their efforts because employees

could become more aware of union activities than would otherwise be the case.

Particular suggestions are made with respect to plant location (where unions have traditionally experienced difficulties in organizing workers); a mix of workers to include groups generally opposed to unions; and establishment of larger work units which the author believes will help oppose organizing efforts because, he says, unions are less successful in organizing larger units. This last point conflicts with recent releases by the National Labor Relations Board indicating that unions have been most successful in organizing larger units. The author may be thinking of larger bargaining units with a diverse work force consisting of a sizable number of workers from groups not thought to be susceptible to union organizing drives.

The author considers effective screening and hiring of workers to be one of the most essential aspects of preventive labor relations. He cautions, however, that care must be taken to avoid the legal pitfalls of such selective personnel practices. It would seem to this reviewer that the official use of such practices can be construed as a violation of existing law, especially since the book suggests that certain "protected" groups are more prone to join unions than are members of other groups. Among the groups mentioned by the author as being less likely to join unions are retired military personnel, older people, part-time and temporary workers, and certain ethnic-racial groups who believe that unions have not acted in their best interests. One must question this kind of selection policy and practice on another basis. Will the organization get the best possible work force? The point made by the author is that a carefully selected mix of workers can help keep unions out.

Kilgour emphasizes two important points. For example, he says the best way to keep unions out is to practice fair and effective personnel administration. This means not only the personnel office but each manager, who, in effect, is a personnel manager. If workers believe that the organization's personnel policies and practices are superior to what can be expected in a unionized environment, there will be little or no incentive to join a union.

If, however, union organization drives get started, it is easier to defeat them if the organization has advance warning. Open door policies practiced by managers, exit interviews, attitude surveys, detection of increased absenteeism or turnover, and so forth, can help serve as an early warning system. Again, it is important, says the author, not to show too much activity or concern because this might precipitate unions to take action earlier than planned, or, it can help to stir up employees to seek outside assistance.

If organizing drives do get started, employers are cautioned to operate within the rules. This is not to

suggest a "cave-in," but the author says that employers should manage to get this viewpoint across, and to do all that is legally possible to keep the union organizing effort from succeeding. This involves getting information to employees, timing events to conform to the organization's needs, and striving to gain the best strategic advantage possible.

Finally, the author suggests that if a certification election results in a union victory, management must be tough, effective negotiators. Thereafter, they should administer the contract fairly and consistently and continue to manage effectively. The fight is not necessarily over. Changes can and do occur.

This book can be helpful to employers in planning strategy to prevent unions from organizing workers. It has a sensible tone and approach, with proper caution. It can also be helpful to union organizers in planning their strategy. On balance, this book would be useful to both management and labor.

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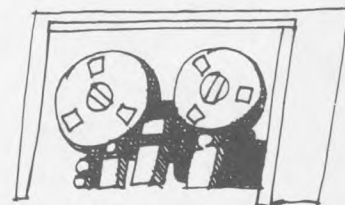
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NOTES ON CURRENT LABOR STATISTICS

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

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

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

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

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

Annual revision of the seasonally adjusted payroll data shown in tables 11, 14, and 16 were made in August 1981 using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 30 and 31 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are

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

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

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

Symbols

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

Schedule of release dates for major BLS statistical series

Series	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	August 6	July	September 3	August	1-11
Producer Price Index	August 13	July	September 10	August	23-27
Employment Cost Index	August 19	2nd quarter	.....	.....	32-34
Consumer Price Index	August 24	July	September 23	August	19-22
Real Earnings	August 24	July	September 23	August	12-17
Productivity and costs:					
Nonfinancial corporations	August 26	2nd quarter	.....	.....	28-31

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

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

Definitions

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

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

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

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

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

Notes on the data

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

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

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

[Numbers in thousands]

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

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

[Numbers in thousands]

Employment status	Annual average		1981							1982					
	1980	1981	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
TOTAL															
Total noninstitutional population ¹	169,848	172,272	172,172	172,385	172,559	172,758	172,966	173,155	173,330	173,495	173,657	173,843	174,020	174,201	174,364
Total labor force	109,042	110,812	110,565	110,827	110,978	110,659	111,170	111,430	111,348	111,038	111,333	111,521	111,824	112,841	112,364
Civilian noninstitutional population ¹	167,745	170,130	170,042	170,246	170,399	170,593	170,809	170,996	171,166	171,335	171,489	171,667	171,844	172,026	172,190
Civilian labor force	106,940	108,670	108,434	108,688	108,818	108,494	109,012	109,272	109,184	108,879	109,165	109,346	109,648	110,666	110,191
Employed	99,303	100,397	100,430	100,864	100,840	100,258	100,343	100,172	99,613	99,581	99,590	99,492	99,340	100,117	99,764
Agriculture	3,364	3,368	3,348	3,342	3,404	3,358	3,378	3,372	3,209	3,411	3,373	3,349	3,309	3,488	3,357
Nonagricultural industries	95,938	97,030	97,082	97,522	97,436	96,900	96,965	96,800	96,404	96,170	96,217	96,144	96,032	96,629	96,406
Unemployed	7,637	8,273	8,004	7,824	7,978	8,236	8,669	9,100	9,571	9,298	9,575	9,854	10,307	10,549	10,427
Unemployment rate	7.1	7.6	7.4	7.2	7.3	7.6	8.0	8.3	8.8	8.5	8.8	9.0	9.4	9.5	9.5
Not in labor force	60,806	61,460	61,608	61,558	61,581	62,099	61,797	61,724	61,982	62,456	62,324	62,321	62,197	61,360	61,999
Men, 20 years and over															
Civilian noninstitutional population ¹	71,138	72,419	72,359	72,472	72,559	72,670	72,795	72,921	73,020	73,120	73,209	73,287	73,392	73,499	73,585
Civilian labor force	56,455	57,197	57,094	57,172	57,250	57,262	57,355	57,459	57,665	57,368	57,448	57,554	57,730	58,164	58,016
Employed	53,101	53,582	53,597	53,874	53,791	53,693	53,504	53,354	53,122	53,047	53,097	53,006	52,988	53,260	52,985
Agriculture	2,396	2,384	2,379	2,383	2,422	2,383	2,413	2,382	2,311	2,390	2,386	2,377	2,382	2,464	2,424
Nonagricultural industries	50,706	51,199	51,218	51,491	51,369	51,310	51,091	50,972	50,811	50,657	50,711	50,629	50,606	50,796	50,561
Unemployed	3,353	3,615	3,497	3,298	3,459	3,569	3,851	4,105	4,543	4,322	4,351	4,548	4,742	4,904	5,031
Unemployment rate	5.9	6.3	6.1	5.8	6.0	6.2	6.7	7.1	7.9	7.5	7.6	7.9	8.2	8.4	8.7
Not in labor force	14,683	15,222	15,265	15,300	15,309	15,408	15,440	15,462	15,355	15,752	15,761	15,733	15,662	15,335	15,569
Women, 20 years and over															
Civilian noninstitutional population ¹	80,065	81,497	81,434	81,561	81,671	81,792	81,920	82,038	82,151	82,260	82,367	82,478	82,591	82,707	82,811
Civilian labor force	41,106	42,485	42,581	42,682	42,666	42,344	42,831	42,987	42,888	42,868	43,031	43,243	43,301	43,683	43,904
Employed	38,492	39,590	39,757	39,810	39,841	39,426	39,814	39,878	39,713	39,764	39,744	39,807	39,715	40,075	40,350
Agriculture	584	604	585	590	609	608	596	635	572	649	628	636	601	634	581
Nonagricultural industries	37,907	38,986	39,172	39,220	39,232	38,818	39,218	39,243	39,141	39,115	39,116	39,172	39,114	39,441	39,769
Unemployed	2,615	2,895	2,824	2,872	2,825	2,918	3,017	3,109	3,175	3,104	3,286	3,435	3,586	3,608	3,554
Unemployment rate	6.4	6.8	6.6	6.7	6.6	6.9	7.0	7.2	7.4	7.2	7.6	7.9	8.3	8.3	8.1
Not in labor force	38,959	39,012	38,853	38,879	39,005	39,448	39,089	39,051	39,263	39,392	39,336	39,235	39,290	39,024	38,907
Both sexes, 16 to 19 years															
Civilian noninstitutional population ¹	16,543	16,214	16,249	16,213	16,169	16,131	16,093	16,037	15,995	15,955	15,913	15,902	15,861	15,820	15,794
Civilian labor force	9,378	8,988	8,759	8,834	8,902	8,888	8,826	8,826	8,631	8,643	8,686	8,549	8,616	8,819	8,271
Employed	7,710	7,225	7,076	7,180	7,208	7,139	7,025	6,940	6,778	6,771	6,748	6,679	6,637	6,782	6,429
Agriculture	385	380	384	369	373	367	369	355	326	373	359	336	326	390	353
Nonagricultural industries	7,325	6,845	6,692	6,811	6,835	6,772	6,656	6,585	6,452	6,398	6,389	6,343	6,311	6,392	6,076
Unemployed	1,669	1,763	1,683	1,654	1,694	1,749	1,801	1,886	1,853	1,872	1,938	1,870	1,979	2,037	1,842
Unemployment rate	17.8	19.6	19.2	18.7	19.0	19.7	20.4	21.4	21.5	21.7	22.3	21.9	23.0	23.1	22.3
Not in labor force	7,165	7,226	7,490	7,379	7,267	7,243	7,267	7,211	7,364	7,312	7,227	7,353	7,245	7,001	7,523
White															
Civilian noninstitutional population ¹	146,122	147,908	147,804	147,976	148,144	148,370	148,562	148,631	148,755	148,842	148,855	149,132	149,249	149,250	149,429
Civilian labor force	93,600	95,052	94,887	95,126	95,163	94,884	95,365	95,535	95,329	95,120	95,333	95,508	96,015	96,641	96,223
Employed	87,715	88,709	88,799	89,170	89,221	88,628	88,734	88,498	88,010	87,955	87,990	87,956	87,988	88,450	88,173
Unemployed	5,884	6,343	6,088	5,956	5,942	6,256	6,631	7,037	7,319	7,165	7,344	7,552	8,026	8,191	8,050
Unemployment rate	6.3	6.7	6.4	6.3	6.2	6.6	7.0	7.4	7.7	7.5	7.7	7.9	8.4	8.5	8.4
Not in labor force	52,522	52,856	52,917	52,850	52,981	53,486	53,197	53,096	53,426	53,722	53,522	53,624	53,234	52,609	53,206
Black															
Civilian noninstitutional population ¹	17,824	18,219	18,206	18,239	18,266	18,297	18,333	18,362	18,392	18,423	18,450	18,480	18,511	18,542	18,570
Civilian labor force	10,865	11,086	11,033	10,971	11,069	11,134	11,188	11,207	11,226	11,188	11,205	11,217	11,170	11,335	11,253
Employed	9,313	9,355	9,310	9,338	9,267	9,319	9,313	9,321	9,279	9,314	9,265	9,197	9,111	9,216	9,174
Unemployed	1,553	1,731	1,723	1,633	1,802	1,815	1,875	1,886	1,947	1,874	1,939	2,020	2,058	2,120	2,079
Unemployment rate	14.3	15.6	15.6	14.9	16.3	16.3	16.8	16.8	17.3	16.8	17.3	18.0	18.4	18.7	18.5
Not in labor force	6,959	7,133	7,173	7,268	7,197	7,163	7,145	7,155	7,166	7,235	7,245	7,263	7,341	7,207	7,317

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

3. Selected employment indicators, seasonally adjusted

[Numbers in thousands]

Selected categories	Annual average		1981							1982					
	1980	1981	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC															
Total employed, 16 years and over	99,303	100,397	100,430	100,864	100,840	100,258	100,343	100,172	99,613	99,581	99,590	99,492	99,340	100,117	99,764
Men	57,186	57,397	57,279	57,640	57,551	57,471	57,266	57,051	56,725	56,629	56,658	56,472	56,401	56,820	56,223
Women	42,117	43,000	43,151	43,224	43,289	42,787	43,077	43,121	42,888	42,962	42,932	43,020	42,940	43,297	43,541
Married men, spouse present	39,004	38,882	38,930	38,961	38,961	38,855	38,746	38,553	38,342	38,234	38,255	38,181	38,142	38,312	38,354
Married women, spouse present	23,532	23,915	24,106	24,159	24,043	23,626	23,874	23,820	23,691	23,744	23,727	23,900	23,831	24,213	24,401
OCCUPATION															
White-collar workers	51,882	52,949	52,957	52,907	53,141	52,908	53,199	53,086	53,084	52,836	52,841	52,763	53,177	53,705	53,586
Professional and technical	15,968	16,420	16,410	16,364	16,621	16,598	16,681	16,657	16,774	16,803	16,612	16,659	16,844	16,818	17,053
Managers and administrators, except farm	11,138	11,540	11,411	11,578	11,460	11,533	11,616	11,461	11,424	11,091	11,253	11,311	11,501	11,541	11,504
Salesworkers	6,303	6,425	6,513	6,373	6,490	6,441	6,400	6,418	6,450	6,520	6,544	6,637	6,603	6,587	6,547
Clerical workers	18,473	18,564	18,623	18,592	18,570	18,336	18,502	18,550	18,436	18,423	18,432	18,155	18,229	18,759	18,482
Blue-collar workers	31,452	31,261	31,538	31,580	31,611	31,266	30,953	30,683	30,344	30,203	30,309	30,416	29,924	29,926	29,716
Craft and kindred workers	12,787	12,662	12,749	12,787	12,724	12,514	12,446	12,411	12,446	12,370	12,454	12,511	12,492	12,316	12,207
Operatives, except transport	10,565	10,540	10,703	10,719	10,658	10,524	10,410	10,220	10,169	9,966	9,955	9,860	9,688	9,585	9,655
Transport equipment operatives	3,531	3,476	3,493	3,526	3,530	3,506	3,580	3,438	3,368	3,415	3,503	3,397	3,400	3,419	3,414
Nonfarm laborers	4,567	4,583	4,593	4,548	4,699	4,722	4,517	4,614	4,361	4,451	4,397	4,648	4,343	4,607	4,441
Service workers	13,228	13,438	13,214	13,526	13,282	13,391	13,525	13,670	13,639	13,709	13,612	13,526	13,555	13,738	13,791
Farmworkers	2,741	2,749	2,710	2,727	2,753	2,743	2,770	2,802	2,660	2,817	2,787	2,710	2,623	2,731	2,660
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,425	1,464	1,437	1,495	1,501	1,461	1,502	1,436	1,352	1,377	1,426	1,416	1,423	1,541	1,431
Self-employed workers	1,642	1,638	1,664	1,593	1,638	1,643	1,631	1,641	1,602	1,674	1,596	1,644	1,664	1,698	1,676
Unpaid family workers	297	266	263	244	256	256	261	321	228	380	359	277	270	236	251
Nonagricultural industries:															
Wage and salary workers	88,525	89,543	89,508	89,971	89,995	89,376	89,460	89,238	88,991	88,759	88,586	88,526	88,322	89,051	88,606
Government	15,912	15,689	15,707	15,637	15,526	15,475	15,491	15,397	15,585	15,578	15,527	15,492	15,453	15,422	15,635
Private industries	72,612	73,853	73,801	74,334	74,469	73,901	73,969	73,841	73,406	73,181	73,059	73,034	72,869	73,629	72,970
Private households	1,192	1,208	1,177	1,216	1,259	1,102	1,162	1,204	1,291	1,248	1,161	1,225	1,192	1,202	1,201
Other industries	71,420	72,645	72,624	73,118	73,210	72,799	72,807	72,637	72,115	71,932	71,898	71,809	71,677	72,427	71,770
Self-employed workers	7,000	7,097	7,128	7,071	7,103	7,217	7,152	7,141	7,057	6,971	7,055	7,126	7,264	7,269	7,319
Unpaid family workers	413	390	376	389	387	399	451	425	410	410	408	434	413	382	397
PERSONS AT WORK¹															
Nonagricultural industries															
Full-time schedules	73,590	74,339	74,693	75,620	74,467	73,794	73,886	73,915	73,360	72,803	73,028	72,649	72,335	73,036	72,662
Part time for economic reasons	4,064	4,499	4,033	4,374	4,350	4,656	5,009	5,026	5,288	5,071	5,563	5,717	5,834	5,763	5,444
Usually work full time	1,714	1,738	1,465	1,680	1,729	1,759	2,006	1,945	2,121	1,783	2,193	2,237	2,223	2,211	2,064
Usually work part time	2,350	2,761	2,568	2,694	2,621	2,897	3,003	3,081	3,167	3,287	3,370	3,480	3,611	3,552	3,380
Part time for noneconomic reasons	12,555	12,539	12,774	12,538	12,752	12,428	12,489	12,382	12,274	12,251	12,300	12,183	12,427	12,483	12,914

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

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1981							1982					
	1980	1981	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC															
Total, 16 years and over	7.1	7.6	7.4	7.2	7.3	7.6	8.0	8.3	8.8	8.5	8.8	9.0	9.4	9.5	9.5
Men, 20 years and over	5.9	6.3	6.1	5.8	6.0	6.2	6.7	7.1	7.9	7.5	7.6	7.9	8.2	8.4	8.7
Women, 20 years and over	6.4	6.8	6.6	6.7	6.6	6.9	7.0	7.2	7.4	7.2	7.6	7.9	8.3	8.3	8.1
Both sexes, 16 to 19 years	17.8	19.6	19.2	18.7	19.0	19.7	20.4	21.4	21.5	21.7	22.3	21.9	23.0	23.1	22.3
White, total	6.3	6.7	6.4	6.3	6.2	6.6	7.0	7.4	7.7	7.5	7.7	7.9	8.4	8.5	8.4
Men, 20 years and over	5.3	5.6	5.3	5.0	5.2	5.5	5.9	6.4	6.9	6.6	6.7	7.0	7.3	7.5	7.7
Women, 20 years and over	5.6	5.9	5.7	5.8	5.5	5.9	6.1	6.3	6.4	6.3	6.6	6.9	7.2	7.3	7.1
Both sexes, 16 to 19 years	15.5	17.3	16.8	16.4	16.1	17.2	17.7	19.0	19.0	19.6	20.0	19.0	20.8	20.3	19.4
Black, total	14.3	15.6	15.6	14.9	16.3	16.3	16.8	16.8	17.3	16.8	17.3	18.0	18.4	18.7	18.5
Men, 20 years and over	12.4	13.5	13.7	12.7	13.6	14.5	14.7	15.5	16.5	16.3	16.0	16.0	16.9	17.0	17.1
Women, 20 years and over	11.9	13.4	13.3	13.1	13.8	14.0	13.9	13.6	14.1	13.3	14.5	15.4	15.6	15.3	15.0
Both sexes, 16 to 19 years	38.5	41.4	40.9	40.0	49.0	40.8	45.6	44.1	42.2	41.2	42.3	46.0	48.1	49.8	52.6
Married men, spouse present	4.2	4.3	4.2	3.9	4.0	4.4	4.8	5.2	5.7	5.3	5.3	5.5	6.0	6.1	6.5
Married women, spouse present	5.8	6.0	5.7	5.7	5.5	6.0	6.1	6.5	6.6	6.2	7.0	7.1	7.8	7.4	7.0
Women who maintain families	9.2	10.4	10.7	11.2	10.1	10.7	10.6	10.8	10.5	10.4	10.2	10.6	11.5	11.8	12.4
Full-time workers	6.9	7.3	7.1	6.8	6.9	7.3	7.7	8.1	8.7	8.4	8.5	8.9	9.2	9.2	9.4
Part-time workers	8.8	9.4	9.2	9.3	9.6	9.6	9.5	10.2	9.2	9.6	10.8	10.0	10.9	10.5	9.8
Unemployed 15 weeks and over	1.7	2.1	2.2	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.5	2.7	2.7	3.0	3.3
Labor force time lost ¹	7.9	8.5	7.9	7.9	7.9	8.5	9.1	9.5	10.1	10.0	9.8	10.4	10.4	11.1	10.2
OCCUPATION															
White-collar workers	3.7	4.0	3.9	4.0	3.9	4.1	4.1	4.2	4.5	4.2	4.6	4.8	4.9	4.8	5.0
Professional and technical	2.5	2.8	2.8	2.8	2.5	2.8	2.6	2.7	3.4	2.9	3.1	3.2	3.2	3.3	3.3
Managers and administrators, except farm	2.4	2.7	2.7	2.6	2.7	2.7	2.8	3.0	3.1	2.7	3.1	3.0	3.3	3.5	3.8
Salesworkers	4.4	4.6	4.3	4.9	4.7	5.0	4.9	5.0	4.9	4.5	4.8	5.8	5.6	5.2	5.8
Clerical workers	5.3	5.7	5.4	5.7	5.7	5.8	6.0	6.0	6.2	6.3	6.7	6.9	7.2	6.8	6.9
Blue-collar workers	10.0	10.3	9.8	9.5	9.5	10.2	10.9	11.8	12.7	12.5	12.5	12.9	13.7	13.5	13.9
Craft and kindred workers	6.6	7.5	7.1	6.9	7.0	7.7	8.3	8.5	9.3	9.0	8.4	9.1	9.6	9.4	10.3
Operatives, except transport	12.2	12.2	11.1	11.1	11.1	11.6	12.8	14.1	15.5	15.4	15.4	15.9	16.9	16.5	16.7
Transport equipment operatives	8.8	8.7	8.1	7.3	8.0	8.7	8.0	10.4	10.5	10.2	10.3	10.4	10.7	11.8	13.0
Nonfarm laborers	14.6	14.7	14.7	14.4	13.2	14.6	15.6	16.0	16.9	16.9	17.9	17.9	19.2	18.3	17.9
Service workers	7.9	8.9	8.9	8.0	8.9	9.0	9.3	9.7	9.6	9.2	9.8	10.2	11.1	11.3	9.9
Farmworkers	4.6	5.3	6.2	4.8	5.4	4.0	6.2	6.2	6.4	6.9	4.9	5.4	5.8	8.3	7.2
INDUSTRY															
Nonagricultural private wage and salary workers ²	7.4	7.7	7.4	7.2	7.3	7.7	8.1	8.4	9.1	8.8	9.0	9.5	9.9	9.9	10.0
Construction	14.1	15.6	16.1	15.2	16.2	16.3	17.6	17.8	18.1	18.7	18.1	17.9	19.4	18.8	19.2
Manufacturing	8.5	8.3	7.4	7.3	7.0	7.9	8.6	9.4	11.0	10.4	10.6	10.8	11.3	11.6	12.3
Durable goods	8.9	8.2	7.1	7.1	6.5	7.7	8.6	9.5	11.8	11.0	11.3	10.8	11.9	12.2	13.2
Non-durable goods	7.9	8.4	7.9	7.6	7.9	8.3	8.6	9.3	9.6	9.5	9.5	10.8	10.5	10.7	11.0
Transportation and public utilities	4.9	5.2	4.9	4.1	4.8	4.2	4.8	5.5	6.0	6.4	5.9	5.6	7.0	6.5	6.9
Wholesale and retail trade	7.4	8.1	7.7	7.9	7.9	8.5	8.4	8.6	8.9	8.7	9.0	10.3	10.1	10.6	9.7
Finance and service industries	5.3	5.9	5.8	5.7	5.7	6.0	6.2	6.1	6.4	5.9	6.5	6.9	7.0	6.9	6.8
Government workers	4.1	4.7	4.6	4.6	4.5	4.7	4.7	5.2	5.0	4.8	5.2	4.9	5.3	5.0	4.6
Agricultural wage and salary workers	11.0	12.1	13.3	10.7	12.0	11.0	13.4	14.1	14.8	16.2	12.8	14.0	14.6	18.2	16.3

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.

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

Sex and age	Annual average		1981							1982					
	1980	1981	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Total, 16 years and over	7.1	7.6	7.4	7.2	7.3	7.6	8.0	8.3	8.8	8.5	8.8	9.0	9.4	9.5	9.5
16 to 19 years	17.8	19.6	19.2	18.7	19.0	19.7	20.4	21.4	21.5	21.7	22.3	21.9	23.0	23.1	22.3
16 to 17 years	20.0	21.4	22.6	19.8	20.8	21.4	21.5	22.6	21.9	21.9	22.7	22.7	24.6	25.3	23.7
18 to 19 years	16.2	18.4	17.5	17.8	17.6	18.5	20.0	20.5	21.2	21.3	22.0	21.3	21.9	21.3	21.9
20 to 24 years	11.5	12.3	12.1	11.5	12.1	12.3	12.7	13.0	13.5	13.5	14.1	14.2	14.7	14.3	14.4
25 years and over	5.1	5.4	5.3	5.2	5.4	5.7	6.0	6.5	6.5	6.3	6.4	6.8	7.0	7.1	7.4
25 to 54 years	5.5	5.8	5.6	5.5	5.5	5.8	6.2	6.5	6.9	6.7	6.8	7.3	7.4	7.7	7.7
55 years and over	3.3	3.6	3.5	3.5	3.5	3.8	3.8	3.8	4.1	4.2	4.3	4.6	5.0	4.8	5.4
Men, 16 years and over	6.9	7.4	7.2	6.7	7.1	7.3	7.7	8.3	9.0	8.6	8.7	9.0	9.4	9.6	9.7
16 to 19 years	18.3	20.1	20.0	18.8	19.8	19.9	20.1	21.8	22.3	22.1	22.5	23.5	24.4	24.0	24.2
16 to 17 years	20.4	22.0	24.0	19.9	21.5	21.5	21.1	22.7	22.6	23.0	23.0	24.3	24.7	26.3	25.8
18 to 19 years	16.7	18.8	18.2	17.9	18.3	18.7	19.3	21.0	22.2	21.4	22.1	22.9	24.3	21.9	24.0
20 to 24 years	12.5	13.2	12.9	11.6	12.9	13.1	13.8	14.4	14.8	14.9	15.4	15.7	16.0	15.5	15.8
25 years and over	4.8	5.1	5.0	4.7	4.9	5.0	5.5	5.8	6.5	6.3	6.3	6.6	6.9	6.9	7.5
25 to 54 years	5.1	5.5	5.2	5.0	5.2	5.5	5.9	6.3	6.9	6.7	6.7	7.1	7.2	7.5	8.0
55 years and over	3.3	3.5	3.4	3.4	3.4	3.5	3.7	3.7	4.4	4.3	4.2	4.8	5.1	4.7	5.0
Women, 16 years and over	7.4	7.9	7.7	7.8	7.7	8.0	8.2	8.4	8.5	8.4	8.9	9.0	9.4	9.5	9.1
16 to 19 years	17.2	19.0	18.4	18.6	18.2	19.5	20.7	20.9	20.5	21.2	22.1	20.1	21.3	22.1	20.2
16 to 17 years	19.6	20.7	21.1	19.7	20.0	21.2	21.9	22.5	21.1	20.6	22.5	20.8	24.5	24.1	21.4
18 to 19 years	15.6	17.9	16.8	17.7	16.9	18.3	20.6	19.9	20.0	21.1	21.9	19.6	19.4	20.6	19.7
20 to 24 years	10.4	11.2	11.2	11.3	11.1	11.4	11.5	11.3	12.0	11.9	12.7	12.6	13.3	12.9	12.9
25 years and over	5.5	5.9	5.7	5.8	5.6	6.0	6.1	6.4	6.4	6.3	6.5	7.0	7.2	7.4	7.2
25 to 54 years	6.0	6.3	6.1	6.1	6.0	6.3	6.5	6.8	6.9	6.7	7.0	7.6	7.7	8.0	7.4
55 years and over	3.2	3.8	3.5	3.7	3.7	4.3	4.0	3.8	3.7	4.1	4.3	4.3	4.8	5.0	6.0

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

[Numbers in thousands]

Reason for unemployment	1981							1982					
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
NUMBER OF UNEMPLOYED													
Lost last job	4,173	3,867	4,106	4,426	4,573	4,905	5,343	5,205	5,153	5,622	5,906	5,901	6,302
On layoff	1,302	1,225	1,276	1,452	1,631	1,826	2,042	1,860	1,740	1,828	1,946	1,969	2,071
Other job losers	2,871	2,642	2,830	2,974	2,942	3,079	3,301	3,345	3,413	3,794	3,959	3,932	4,231
Left last job	896	926	879	921	976	916	923	835	964	885	937	874	813
Reentered labor force	2,039	2,078	2,034	2,058	2,178	2,339	2,244	2,079	2,277	2,249	2,365	2,438	2,372
Seeking first job	973	940	971	977	1,002	996	1,021	1,055	1,100	1,044	1,081	1,154	1,088
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	51.6	49.5	51.4	52.8	52.4	53.6	56.1	56.7	54.3	57.4	57.4	56.9	59.6
On layoff	16.1	15.7	16.0	17.3	18.7	19.9	21.4	20.3	18.3	18.7	18.9	19.0	19.6
Other job losers	35.5	33.8	35.4	35.5	33.7	33.6	34.6	36.5	35.9	38.7	38.5	37.9	40.0
Job leavers	11.1	11.9	11.0	11.0	11.2	10.0	9.7	9.1	10.2	9.0	9.1	8.4	7.7
Reentrants	25.2	26.6	25.5	24.6	25.0	25.5	23.5	22.7	24.0	22.9	23.0	23.5	22.4
New entrants	12.0	12.0	12.2	11.7	11.5	10.9	10.7	11.5	11.6	10.7	10.5	11.1	10.3
PERCENT OF CIVILIAN LABOR FORCE													
Job losers	3.8	3.6	3.8	4.1	4.2	4.5	4.9	4.8	4.7	5.1	5.4	5.3	5.7
Job leavers	.8	.9	.8	.8	.9	.8	.8	.8	.9	.8	.9	.8	.7
Reentrants	1.9	1.9	1.9	1.9	2.0	2.1	2.1	1.9	2.1	2.1	2.2	2.2	2.2
New entrants	.9	.9	.9	.9	.9	.9	.9	1.0	1.0	1.0	1.0	1.0	1.0

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1981							1982					
	1980	1981	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Less than 5 weeks	3,295	3,449	3,303	3,323	3,326	3,529	3,707	3,852	4,037	3,852	3,789	3,825	3,958	3,874	3,543
5 to 14 weeks	2,470	2,539	2,423	2,312	2,469	2,585	2,686	2,882	3,016	3,068	3,052	3,078	3,304	3,320	3,458
15 weeks and over	1,871	2,285	2,363	2,170	2,217	2,248	2,292	2,364	2,372	2,399	2,724	2,954	3,015	3,286	3,673
15 to 26 weeks	1,052	1,122	1,227	1,096	1,078	1,146	1,166	1,229	1,189	1,210	1,445	1,605	1,508	1,634	1,826
27 weeks and over	820	1,162	1,136	1,074	1,139	1,102	1,126	1,135	1,183	1,190	1,278	1,349	1,507	1,652	1,847
Average (mean) duration, in weeks	11.9	13.7	14.3	14.1	14.3	13.7	13.6	13.1	12.8	13.5	14.1	13.9	14.2	14.6	16.5

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 177,000 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.

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 12-17 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities; in wholesale and retail trade; in finance, insurance, and real estate; and in services industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special

payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). 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.

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.

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 May 1982 data, published in the July 1982 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 February 1982 and seasonally adjusted data from January 1974 through February 1982) and in *Employment and Earnings, United States, 1909-78*, BLS Bulletin 1312-11 (for prior periods).

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).

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

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1960 ¹	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,471	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	86,697	851	4,229	20,505	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	89,823	958	4,463	21,040	5,136	20,192	5,204	14,989	4,975	17,112	15,947	2,773	13,147
1980	90,406	1,027	4,346	20,285	5,146	20,310	5,275	15,035	5,160	17,890	16,241	2,866	13,375
1981	91,105	1,132	4,176	20,173	5,157	20,551	5,359	15,192	5,301	18,592	16,024	2,772	13,253

¹Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	May 1981	Apr. 1982	May 1982 ^P	State	May 1981	Apr. 1982	May 1982 ^P
Alabama	1,347.8	1,338.2	1,337.1	Montana	284.6	288.1	288.0
Alaska	176.7	180.9	186.2	Nebraska	630.8	610.7	616.4
Arizona	1,044.8	1,049.4	1,039.4	Nevada	413.2	413.2	415.6
Arkansas	750.0	726.6	728.3	New Hampshire	392.9	388.9	393.1
California	10,046.1	10,020.2	10,026.9	New Jersey	3,085.3	3,051.5	3,067.4
Colorado	1,265.5	1,287.0	1,285.2	New Mexico	478.5	474.8	475.8
Connecticut	1,450.3	1,417.7	1,425.2	New York	7,302.0	7,248.0	7,305.2
Delaware	260.0	256.1	258.3	North Carolina	2,397.7	2,352.9	2,348.7
District of Columbia	610.2	602.1	601.4	North Dakota	249.5	247.4	252.9
Florida	3,725.2	3,815.2	3,789.1	Ohio	4,356.7	4,216.6	4,248.4
Georgia	2,192.4	2,165.9	2,164.8	Oklahoma	1,192.0	1,218.5	1,224.5
Hawaii	406.7	403.3	402.7	Oregon	1,028.5	971.6	975.1
Idaho	327.8	315.7	317.1	Pennsylvania	4,754.5	4,585.2	4,598.8
Illinois	4,748.9	4,621.3	4,648.3	Rhode Island	403.1	387.2	391.0
Indiana	2,136.0	2,032.0	2,046.1	South Carolina	1,207.7	1,189.9	1,182.1
Iowa	1,104.4	1,057.6	1,063.1	South Dakota	239.5	231.7	235.7
Kansas	958.0	939.6	939.5	Tennessee	1,760.0	1,720.8	(¹)
Kentucky	1,201.4	1,166.9	1,171.6	Texas	6,112.9	6,297.0	6,291.0
Louisiana	1,626.8	1,629.2	1,622.1	Utah	552.1	560.7	560.8
Maine	417.7	403.0	409.6	Vermont	201.2	197.0	200.2
Maryland	1,725.5	1,683.0	1,689.3	Virginia	2,154.3	2,157.1	2,163.6
Massachusetts	2,683.5	2,625.1	2,641.3	Washington	1,617.6	1,556.5	1,565.1
Michigan	3,419.7	3,206.2	3,250.2	West Virginia	585.6	606.2	609.1
Minnesota	1,777.8	1,720.8	1,741.3	Wisconsin	1,923.7	1,857.3	1,874.0
Mississippi	828.1	808.6	805.0	Wyoming	215.4	213.3	218.1
Missouri	1,991.1	1,958.7	1,971.0	Virgin Islands	37.8	35.9	(¹)

¹ Not available.

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10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1981							1982					
	1980	1981	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
TOTAL	90,406	91,105	92,056	91,107	91,087	91,620	91,884	91,765	91,437	89,269	89,413	89,679	89,984	90,440	90,741
MINING	1,027	1,132	1,159	1,184	1,200	1,201	1,196	1,203	1,200	1,183	1,180	1,178	1,171	1,155	1,151
CONSTRUCTION	4,346	4,176	4,350	4,415	4,431	4,366	4,340	4,221	4,009	3,576	3,559	3,631	3,796	4,002	4,102
MANUFACTURING	20,285	20,173	20,445	20,246	20,370	20,499	20,271	20,025	19,705	19,353	19,299	19,207	19,073	19,043	19,074
Production workers	14,214	14,021	14,267	14,043	14,153	14,304	14,079	13,834	13,515	13,200	13,168	13,093	12,971	12,964	13,016
Durable goods	12,187	12,117	12,317	12,179	12,164	12,272	12,144	11,979	11,762	11,557	11,503	11,454	11,356	11,318	11,320
Production workers	8,442	8,301	8,486	8,330	8,302	8,423	8,297	8,135	7,922	7,739	7,705	7,664	7,572	7,554	7,572
Lumber and wood products	690.5	668.7	699.4	696.9	691.2	680.9	654.5	629.1	606.4	587.1	592.9	592.0	603.0	616.5	635.6
Furniture and fixtures	465.8	467.3	470.9	462.3	470.6	474.9	473.9	467.4	461.9	454.2	450.8	446.3	443.8	439.6	441.9
Stone, clay, and glass products	662.1	638.2	658.2	654.2	656.3	652.0	639.8	628.5	606.9	576.0	571.5	574.2	580.1	588.3	593.7
Primary metal industries	1,142.2	1,121.1	1,148.1	1,128.4	1,132.6	1,131.7	1,102.2	1,081.0	1,051.5	1,034.9	1,018.4	1,004.4	977.3	949.2	943.8
Fabricated metal products	1,613.1	1,592.4	1,616.6	1,593.6	1,599.9	1,615.8	1,591.8	1,570.4	1,539.3	1,508.7	1,500.3	1,491.3	1,476.4	1,465.8	1,467.6
Machinery, except electrical	2,494.0	2,507.0	2,524.9	2,512.2	2,507.1	2,536.2	2,525.1	2,510.0	2,494.7	2,464.8	2,458.5	2,428.8	2,396.4	2,373.3	2,346.0
Electric and electronic equipment	2,090.6	2,092.2	2,109.5	2,096.0	2,102.5	2,120.0	2,113.3	2,086.8	2,061.4	2,056.6	2,045.2	2,034.2	2,027.9	2,024.4	2,034.6
Transportation equipment	1,899.7	1,892.6	1,942.6	1,897.0	1,850.8	1,904.5	1,888.9	1,857.0	1,806.3	1,766.0	1,758.5	1,776.2	1,749.9	1,761.2	1,752.5
Instruments and related products	711.3	726.8	732.3	731.2	735.8	732.6	729.6	727.6	726.5	719.0	715.3	713.8	711.1	711.7	714.6
Miscellaneous manufacturing	418.0	410.7	414.9	407.5	417.0	423.8	425.0	421.5	406.8	389.8	391.3	392.3	390.0	388.0	389.5
Nondurable goods	8,098	8,056	8,128	8,067	8,206	8,227	8,127	8,046	7,943	7,796	7,796	7,753	7,717	7,725	7,754.4
Production workers	5,772	5,721	5,781	5,713	5,851	5,881	5,782	5,699	5,593	5,461	5,463	5,429	5,399	5,410	5,444
Food and kindred products	1,708.0	1,674.3	1,663.9	1,703.0	1,759.6	1,763.2	1,719.4	1,680.8	1,649.1	1,605.0	1,604.7	1,597.9	1,578.5	1,599.3	1,624.4
Tobacco manufactures	68.9	69.8	65.5	65.3	73.8	75.7	75.0	73.1	71.7	70.5	67.5	64.2	62.0	61.1	62.4
Textile mill products	847.7	822.5	834.1	819.6	829.7	831.9	816.4	809.1	798.2	777.6	776.6	760.0	770.5	757.7	739.5
Apparel and other textile products	1,263.5	1,244.0	1,271.8	1,218.2	1,260.3	1,270.5	1,257.9	1,243.5	1,210.5	1,175.8	1,194.4	1,184.5	1,167.5	1,170.9	1,178.9
Paper and allied products	692.8	687.8	696.5	691.8	695.5	697.1	686.4	681.1	676.0	669.3	665.8	665.1	662.2	659.9	664.5
Printing and publishing	1,252.1	1,265.8	1,264.0	1,264.0	1,265.9	1,270.0	1,274.5	1,279.4	1,286.3	1,273.8	1,276.9	1,279.1	1,273.8	1,271.2	1,267.9
Chemicals and allied products	1,107.4	1,107.3	1,121.6	1,116.7	1,112.0	1,110.1	1,104.4	1,100.1	1,096.9	1,089.0	1,087.5	1,087.1	1,080.9	1,079.4	1,084.6
Petroleum and coal products	197.9	215.6	220.0	221.1	220.7	218.0	216.8	215.9	212.5	204.7	203.2	203.7	203.8	206.4	208.8
Rubber and miscellaneous plastics products	726.8	736.1	750.9	738.8	749.2	752.9	740.0	730.5	718.3	710.8	706.5	699.8	704.2	704.6	707.6
Leather and leather products	232.9	233.0	240.1	228.4	239.1	237.4	235.8	232.4	223.5	219.0	212.5	211.6	213.4	214.4	215.6
TRANSPORTATION AND PUBLIC UTILITIES	5,146	5,157	5,199	5,181	5,180	5,227	5,208	5,188	5,157	5,065	5,051	5,049	5,058	5,096	5,112
WHOLESALE AND RETAIL TRADE	20,310	20,551	20,671	20,600	20,664	20,731	20,731	20,883	21,170	20,417	20,258	20,306	20,446	20,632	20,721
WHOLESALE TRADE	5,275	5,359	5,397	5,391	5,402	5,388	5,400	5,398	5,372	5,314	5,303	5,309	5,307	5,315	5,334
RETAIL TRADE	15,035	15,192	15,274	15,209	15,262	15,343	15,331	15,485	15,798	15,103	14,955	14,997	15,139	15,317	15,387
FINANCE, INSURANCE, AND REAL ESTATE	5,160	5,301	5,353	5,376	5,374	5,327	5,314	5,308	5,313	5,290	5,285	5,304	5,319	5,340	5,402
SERVICES	17,890	18,592	18,711	18,771	18,771	18,740	18,824	18,800	18,775	18,523	18,696	18,828	18,967	19,024	19,124
GOVERNMENT	16,241	16,024	16,168	15,334	15,097	15,529	16,000	16,137	16,108	15,862	16,085	16,176	16,154	16,148	16,055
Federal	2,866	2,772	2,825	2,833	2,803	2,735	2,737	2,729	2,729	2,717	2,723	2,725	2,730	2,739	2,770
State and local	13,375	13,253	13,343	12,501	12,294	12,794	13,263	13,408	13,379	13,145	13,362	13,451	13,424	13,409	13,285

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

[Nonagricultural payroll data, in thousands]

Industry division and group	1981							1982					
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May P	June P
TOTAL	91,286	91,396	91,322	91,363	91,224	90,996	90,642	90,460	90,459	90,304	90,083	90,151	90,010
MINING	1,137	1,164	1,180	1,192	1,195	1,202	1,206	1,201	1,203	1,197	1,182	1,154	1,130
CONSTRUCTION	4,185	4,175	4,146	4,124	4,101	4,071	4,026	3,966	3,974	3,934	3,938	3,994	3,952
MANUFACTURING	20,334	20,379	20,311	20,267	20,097	19,903	19,676	19,517	19,454	19,319	19,169	19,114	18,971
Production workers	14,177	14,212	14,136	14,087	13,915	13,717	13,488	13,341	13,290	13,179	13,042	13,014	12,934
Durable goods	12,246	12,266	12,228	12,184	12,059	11,901	11,724	11,622	11,575	11,490	11,375	11,337	11,254
Production workers	8,427	8,439	8,389	8,345	8,218	8,061	7,885	7,793	7,759	7,685	7,576	7,557	7,518
Lumber and wood products	685	683	671	661	643	628	615	607	611	607	615	618	623
Furniture and fixtures	474	476	475	473	469	462	457	452	449	446	443	443	445
Stone, clay, and glass products	644	644	643	638	629	620	610	596	596	590	584	587	581
Primary metal industries	1,137	1,132	1,134	1,125	1,104	1,082	1,053	1,038	1,024	1,007	976	946	934
Fabricated metal products	1,611	1,617	1,610	1,604	1,577	1,553	1,529	1,515	1,505	1,496	1,481	1,473	1,462
Machinery, except electrical	2,516	2,527	2,532	2,539	2,532	2,511	2,486	2,459	2,446	2,419	2,389	2,378	2,339
Electric and electronic equipment	2,104	2,112	2,116	2,113	2,101	2,077	2,049	2,055	2,048	2,038	2,034	2,033	2,029
Transportation equipment	1,938	1,925	1,901	1,884	1,861	1,830	1,791	1,777	1,778	1,774	1,748	1,756	1,747
Instruments and related products	726	731	734	734	731	727	725	720	718	716	713	714	708
Miscellaneous manufacturing	411	419	412	413	412	411	409	403	400	397	392	389	386
Nondurable goods	8,088	8,113	8,083	8,083	8,038	8,002	7,952	7,895	7,879	7,829	7,794	7,777	7,717
Production workers	5,750	5,773	5,747	5,742	5,697	5,656	5,603	5,548	5,531	5,494	5,466	5,457	5,416
Food and kindred products	1,673	1,678	1,659	1,658	1,662	1,664	1,661	1,657	1,663	1,658	1,643	1,649	1,634
Tobacco manufactures	71	70	70	69	69	69	68	69	68	68	67	67	67
Textile mill products	830	835	829	827	814	804	794	780	777	760	773	758	736
Apparel and other textile products	1,251	1,255	1,253	1,253	1,243	1,235	1,222	1,201	1,201	1,186	1,165	1,164	1,159
Paper and allied products	690	691	691	695	685	681	677	674	670	668	664	661	659
Printing and publishing	1,263	1,268	1,271	1,274	1,276	1,276	1,276	1,275	1,276	1,278	1,274	1,274	1,267
Chemicals and allied products	1,111	1,110	1,107	1,110	1,107	1,103	1,100	1,095	1,093	1,088	1,082	1,078	1,074
Petroleum and coal products	217	217	216	216	215	215	214	210	208	207	206	206	206
Rubber and miscellaneous plastics products	747	750	752	746	734	725	716	712	708	703	706	708	704
Leather and leather products	235	239	235	235	233	230	224	222	215	213	214	212	211
TRANSPORTATION AND PUBLIC UTILITIES	5,162	5,168	5,168	5,181	5,162	5,150	5,128	5,125	5,115	5,100	5,094	5,101	5,076
WHOLESALE AND RETAIL TRADE	20,590	20,620	20,650	20,660	20,654	20,623	20,524	20,630	20,670	20,655	20,584	20,658	20,643
WHOLESALE TRADE	5,366	5,375	5,387	5,383	5,380	5,375	5,357	5,346	5,343	5,336	5,323	5,326	5,302
RETAIL TRADE	15,224	15,245	15,263	15,277	15,274	15,248	15,167	15,284	15,327	15,319	15,261	15,332	15,341
FINANCE, INSURANCE, AND REAL ESTATE	5,302	5,311	5,319	5,328	5,325	5,324	5,331	5,326	5,326	5,336	5,335	5,340	5,349
SERVICES	18,556	18,615	18,654	18,707	18,773	18,815	18,834	18,831	18,867	18,904	18,929	18,948	18,972
GOVERNMENT	16,020	15,964	15,894	15,904	15,917	15,908	15,917	15,864	15,850	15,859	15,852	15,842	15,917
Federal	2,777	2,775	2,769	2,764	2,757	2,749	2,756	2,741	2,737	2,736	2,730	2,734	2,724
State and local	13,243	13,189	13,125	13,140	13,160	13,159	13,161	13,123	13,113	13,123	13,122	13,108	13,193

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

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

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1950	\$53.13	39.8	\$1.335	\$67.16	37.9	\$1.772	\$69.68	37.4	\$1.863	\$58.32	40.5	\$1.440
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1960 ¹	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.88	43.4	7.67	318.69	36.8	8.66	249.27	40.4	6.17
1979	219.91	35.7	6.16	365.07	43.0	8.49	342.99	37.0	9.27	269.34	40.2	6.70
1980	235.10	35.3	6.66	397.06	43.3	9.17	367.78	37.0	9.94	288.62	39.7	7.27
1981	255.20	35.2	7.25	439.19	43.7	10.05	398.52	36.9	10.80	318.00	39.8	7.99
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1950				\$44.55	40.5	\$1.100	\$50.52	37.7	\$1.340			
1955				55.16	39.4	1.40	63.92	37.6	1.70			
1960 ¹				66.01	38.6	1.71	75.14	37.2	2.02			
1964	\$118.78	41.1	\$2.89	74.66	37.9	1.97	85.79	37.3	2.30	\$70.03	36.1	\$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.00	36.4	4.89	163.67	32.8	4.99
1979	325.58	39.9	8.16	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36
1980	351.25	39.6	8.87	176.46	32.2	5.48	209.60	36.2	5.79	190.71	32.6	5.85
1981	382.18	39.4	9.70	190.95	32.2	5.93	229.05	36.3	6.31	208.97	32.6	6.41

¹ Data include Alaska and Hawaii beginning in 1959.

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

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

Industry division and group	Annual average		1981							1982					
	1980	1981	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
TOTAL PRIVATE	35.3	35.2	35.4	35.6	35.6	35.1	35.2	35.1	35.2	33.9	34.8	34.7	34.6	34.8	35.0
MINING	43.3	43.7	42.3	43.6	44.2	43.9	44.5	44.4	44.8	42.9	43.6	43.8	42.7	42.5	42.0
CONSTRUCTION	37.0	36.9	37.2	37.8	37.4	35.8	37.6	37.1	37.1	33.3	35.9	37.0	36.7	37.5	37.4
MANUFACTURING	39.7	39.8	40.2	39.6	39.9	39.5	39.7	39.7	39.9	37.1	39.2	39.1	38.7	39.0	39.2
Overtime hours	2.8	2.8	3.0	2.8	3.0	2.9	2.8	2.6	2.6	2.2	2.3	2.3	2.1	2.2	2.3
Durable goods	40.1	40.2	40.6	40.0	40.2	39.8	40.1	40.1	40.4	37.7	39.7	39.6	39.2	39.4	39.6
Overtime hours	2.8	2.8	3.0	2.8	2.9	2.8	2.7	2.5	2.6	2.1	2.2	2.2	2.0	2.1	2.3
Lumber and wood products	38.5	38.7	39.5	38.7	39.0	37.9	38.2	37.7	38.1	33.7	37.5	37.6	37.3	38.4	38.2
Furniture and fixtures	38.1	38.4	38.9	37.8	38.6	37.7	38.6	38.1	38.9	32.5	37.4	37.6	37.1	37.2	37.6
Stone, clay, and glass products	40.8	40.6	41.2	40.8	41.0	40.6	40.5	40.5	40.1	37.4	39.2	39.8	39.9	40.4	40.7
Primary metal industries	40.1	40.5	40.9	40.3	40.3	40.8	39.7	39.7	39.6	38.4	39.6	39.0	38.7	38.3	39.1
Fabricated metal products	40.4	40.3	40.8	39.9	40.3	39.7	40.2	40.1	40.5	37.8	39.4	39.6	39.0	39.4	39.6
Machinery except electrical	41.0	40.9	41.1	40.5	40.7	40.4	40.7	41.0	41.6	39.2	40.7	40.4	39.8	39.6	39.6
Electric and electronic equipment	39.8	39.9	40.2	39.7	40.0	39.7	39.9	39.8	40.4	38.1	39.8	39.5	39.0	39.2	39.4
Transportation equipment	40.6	40.9	41.4	40.8	40.6	39.9	41.0	40.8	41.4	38.4	40.4	40.4	40.5	41.0	41.5
Instruments and related products	40.5	40.4	40.4	39.9	40.4	40.4	40.4	40.8	40.7	38.6	40.0	40.1	39.5	40.0	39.8
Miscellaneous manufacturing	38.7	38.8	39.0	38.5	38.9	38.7	39.3	39.5	39.1	36.6	38.4	38.7	38.2	38.5	38.6
Nondurable goods	39.0	39.1	39.5	39.1	39.4	39.1	39.1	39.1	39.2	36.2	38.6	38.3	38.1	38.4	38.6
Overtime hours	2.8	2.8	2.9	2.8	3.0	3.1	2.9	2.8	2.7	2.4	2.5	2.4	2.3	2.4	2.4
Food and kindred products	39.7	39.7	39.7	39.6	39.9	39.8	39.5	39.8	40.4	38.7	39.7	39.0	38.8	39.3	39.6
Tobacco manufactures	38.1	38.8	38.5	38.6	40.7	40.2	39.4	38.8	38.1	36.1	38.3	37.3	36.6	36.9	37.6
Textile mill products	40.1	39.6	40.4	39.6	39.9	38.9	39.4	39.2	38.6	31.2	38.1	37.7	37.2	37.9	38.1
Apparel and other textile products	35.4	35.7	36.3	36.0	36.3	35.2	35.8	35.8	35.5	30.0	35.2	35.1	34.4	34.9	35.2
Paper and allied products	42.2	42.5	42.7	42.4	42.4	43.2	42.4	42.3	42.7	41.3	42.0	41.7	41.8	41.5	41.7
Printing and publishing	37.1	37.3	37.2	37.2	37.5	37.4	37.2	37.3	37.9	36.4	37.1	37.1	36.8	36.8	36.9
Chemicals and allied products	41.5	41.6	41.6	41.5	41.4	42.2	41.5	41.6	41.8	40.8	41.1	40.7	40.7	40.8	40.8
Petroleum and coal products	41.8	43.2	43.5	43.7	43.0	44.4	43.1	43.1	42.6	43.2	42.2	42.4	44.0	43.8	44.6
Rubber and miscellaneous plastics products	40.0	40.3	40.9	39.9	40.4	39.7	40.2	39.9	40.1	37.8	39.9	39.7	39.5	39.7	40.0
Leather and leather products	36.7	36.8	38.1	36.5	36.9	36.0	36.7	36.6	36.4	33.3	35.3	35.6	35.2	36.3	36.7
TRANSPORTATION AND PUBLIC UTILITIES	39.6	39.4	39.7	39.7	39.5	39.2	39.1	39.2	39.3	38.5	39.2	39.0	38.8	38.9	39.0
WHOLESALE AND RETAIL TRADE	32.2	32.2	32.4	32.8	32.8	32.2	32.0	31.9	32.3	31.1	31.6	31.6	31.7	31.9	32.2
WHOLESALE TRADE	38.5	38.6	38.6	38.8	38.7	38.5	38.6	38.6	38.7	37.8	38.2	38.3	38.2	38.4	38.7
RETAIL TRADE	30.2	30.1	30.3	30.9	30.9	30.2	29.8	29.8	30.3	29.0	29.4	29.4	29.6	29.8	30.1
FINANCE, INSURANCE, AND REAL ESTATE	36.2	36.3	36.1	36.3	36.4	36.0	36.2	36.2	36.2	36.2	36.2	36.3	36.2	36.3	36.1
SERVICES	32.6	32.6	32.7	33.1	32.9	32.4	32.5	32.5	32.6	32.3	32.5	32.5	32.5	32.4	32.7

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

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

Industry division and group	1981							1982					
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
TOTAL PRIVATE	35.2	35.3	35.2	35.0	35.1	35.1	35.0	34.4	35.0	34.9	34.9	34.9	34.8
MANUFACTURING	40.1	40.0	39.9	39.4	39.5	39.3	39.1	37.6	39.4	39.0	39.0	39.1	39.1
Overtime hours	3.0	3.0	3.0	2.7	2.7	2.5	2.4	2.3	2.4	2.3	2.4	2.3	2.4
Durable goods	40.5	40.5	40.4	39.7	40.0	39.7	39.5	38.2	39.8	39.5	39.5	39.5	39.6
Overtime hours	3.0	3.0	3.0	2.7	2.6	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.3
Lumber and wood products	38.9	38.7	38.4	37.6	37.8	37.7	37.7	35.0	37.9	37.6	37.6	38.4	37.7
Furniture and fixtures	38.8	38.6	38.4	37.4	38.0	37.6	37.9	33.6	37.7	37.3	37.4	37.5	37.5
Stone, clay, and glass products	40.7	40.8	40.7	40.3	40.1	40.1	39.7	38.6	40.1	40.0	40.0	40.2	40.3
Primary metal industries	40.9	40.7	40.8	40.6	40.0	39.6	39.2	38.3	39.4	38.8	38.5	38.5	39.1
Fabricated metal products	40.6	40.5	40.4	39.6	40.0	39.7	39.5	38.1	39.7	39.5	39.4	39.5	39.4
Machinery, except electrical	41.1	41.2	41.1	40.3	40.8	40.7	40.4	39.3	40.7	40.2	40.1	39.7	39.6
Electric and electronic equipment	40.2	40.4	40.3	39.7	39.8	39.4	39.5	38.3	39.8	39.4	39.3	39.4	39.4
Transportation equipment	41.4	41.2	41.2	40.1	40.6	40.4	39.7	39.0	40.5	40.4	41.1	41.0	41.5
Instruments and related products	40.4	40.5	40.6	40.4	40.3	40.2	39.9	39.0	39.9	39.9	39.9	40.1	39.8
Miscellaneous manufacturing	39.0	39.0	38.9	38.4	38.9	39.0	38.5	37.3	38.6	38.6	38.5	38.7	38.6
Nondurable goods	39.4	39.2	39.2	38.9	38.9	38.7	38.6	36.8	38.9	38.5	38.4	38.5	38.5
Overtime hours	2.9	2.9	2.9	2.8	2.8	2.7	2.6	2.5	2.6	2.5	2.6	2.5	2.4
Food and kindred products	39.7	39.5	39.4	39.3	39.5	39.5	39.8	39.1	40.2	39.5	39.4	39.3	39.6
Textile mill products	40.1	40.1	39.8	38.8	39.0	38.7	37.8	32.3	38.3	37.6	37.7	37.9	37.8
Apparel and other textile products	35.9	35.8	35.9	35.2	35.5	35.5	35.1	31.4	35.5	35.0	34.7	34.8	34.8
Paper and allied products	42.7	42.7	42.5	43.0	42.4	42.0	41.8	41.3	42.3	41.8	42.1	41.8	41.7
Printing and publishing	37.4	37.3	37.3	37.1	37.1	37.1	37.1	36.9	37.4	37.1	37.1	36.9	37.1
Chemicals and allied products	41.7	41.7	41.7	42.2	41.5	41.2	41.3	41.0	41.2	40.7	40.7	41.0	40.9
Petroleum and coal products	43.4	43.1	42.9	43.1	42.2	42.5	42.7	44.3	43.5	43.5	44.0	44.0	44.5
Rubber and miscellaneous plastics products	40.9	40.5	40.5	39.7	39.9	39.6	39.4	37.9	40.0	39.6	39.8	39.9	40.0
Leather and leather products	37.1	36.4	36.7	36.2	36.7	36.5	36.1	34.1	35.6	35.8	35.6	35.9	35.7
WHOLESALE AND RETAIL TRADE	32.1	35.2	32.2	32.1	32.0	32.1	32.0	31.7	32.0	31.9	31.8	32.0	31.9
WHOLESALE TRADE	38.5	38.6	38.6	38.5	38.4	38.5	38.4	38.1	38.5	38.4	38.3	38.5	38.7
RETAIL TRADE	30.0	30.1	30.1	30.1	29.9	30.0	29.9	29.7	29.9	29.8	29.8	30.0	29.8
SERVICES	32.5	32.6	32.5	32.5	32.6	32.6	32.6	32.5	32.6	32.6	32.7	32.6	32.6

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

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

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

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

Industry division and group	Annual average		1981							1982					
	1980	1981	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
TOTAL PRIVATE	\$6.66	\$7.25	\$7.20	\$7.24	\$7.30	\$7.40	\$7.42	\$7.47	\$7.45	\$7.55	\$7.54	\$7.55	\$7.58	\$7.63	\$7.62
MINING	9.17	10.05	9.93	10.09	10.12	10.27	10.25	10.39	10.41	10.65	10.62	10.62	10.65	10.68	10.74
CONSTRUCTION	9.94	10.80	10.64	10.79	10.92	11.07	11.65	11.18	11.26	11.59	11.32	11.33	11.32	11.44	11.42
MANUFACTURING	7.27	7.99	7.97	8.02	8.03	8.16	8.16	8.20	8.27	8.42	8.34	8.37	8.42	8.45	8.51
Durable goods	7.75	8.53	8.54	8.57	8.59	8.70	8.73	8.77	8.83	8.92	8.89	8.91	8.94	9.02	9.07
Lumber and wood products	6.55	7.00	7.09	7.15	7.13	7.16	7.10	7.16	7.16	7.38	7.27	7.28	7.24	7.40	7.50
Furniture and fixtures	5.49	5.91	5.90	5.92	5.99	6.01	6.06	6.05	6.12	6.28	6.19	6.21	6.21	6.26	6.30
Stone, clay, and glass products	7.50	8.27	8.31	8.40	8.41	8.53	8.50	8.54	8.56	8.70	8.62	8.65	8.72	8.80	8.88
Primary metal industries	9.77	10.81	10.75	10.78	10.99	11.22	10.97	11.10	11.08	11.23	11.20	11.15	11.24	11.23	11.34
Fabricated metal products	7.45	8.20	8.23	8.21	8.26	8.33	8.39	8.42	8.53	8.55	8.57	8.64	8.69	8.79	8.82
Nondurable goods	6.55	7.18	7.13	7.22	7.23	7.36	7.33	7.38	7.44	7.67	7.54	7.57	7.65	7.64	7.70
Food and kindred products	6.85	7.43	7.41	7.45	7.48	7.56	7.51	7.61	7.67	7.82	7.74	7.79	7.90	7.90	7.89
Tobacco manufactures	7.74	8.88	9.35	9.46	8.70	8.76	8.67	9.04	8.96	9.21	9.56	9.72	10.05	9.90	10.47
Textile mill products	5.07	5.52	5.41	5.50	5.65	5.69	5.72	5.73	5.72	5.76	5.76	5.76	5.79	5.79	5.79
Apparel and other textile products	4.56	4.96	4.97	4.92	4.96	5.04	5.05	5.04	5.04	5.18	5.13	5.15	5.18	5.15	5.16
Paper and allied products	7.84	8.60	8.54	8.73	8.67	8.95	8.82	8.89	8.96	9.06	8.99	9.03	9.11	9.14	9.23
Printing and publishing	7.53	8.18	8.11	8.20	8.25	8.37	8.40	8.42	8.48	8.58	8.56	8.59	8.59	8.60	8.67
Chemicals and allied products	8.30	9.12	9.07	9.16	9.19	9.38	9.37	9.42	9.53	9.68	9.68	9.71	9.81	9.82	9.95
Petroleum and coal products	10.10	11.38	11.31	11.43	11.32	11.55	11.47	11.58	11.59	11.91	12.29	12.32	12.50	12.44	12.49
Rubber and miscellaneous plastics products	6.52	7.16	7.14	7.18	7.23	7.29	7.30	7.31	7.38	7.51	7.49	7.45	7.52	7.53	7.63
Leather and leather products	4.58	4.99	4.98	4.97	4.97	5.09	5.09	5.11	5.15	5.19	5.22	5.24	5.32	5.28	5.31
TRANSPORTATION AND PUBLIC UTILITIES	8.87	9.70	9.61	9.67	9.87	9.95	9.94	10.05	10.06	10.10	10.13	10.07	10.14	10.18	10.21
WHOLESALE AND RETAIL TRADE	5.48	5.93	5.88	5.91	5.94	6.04	6.01	6.04	6.02	6.17	6.16	6.16	6.18	6.20	6.19
WHOLESALE TRADE	6.96	7.57	7.49	7.58	7.65	7.70	7.73	7.79	7.81	7.94	7.94	7.93	7.97	8.03	7.99
RETAIL TRADE	4.88	5.25	5.22	5.24	5.25	5.37	5.29	5.32	5.31	5.43	5.42	5.43	5.44	5.47	5.47
FINANCE, INSURANCE, AND REAL ESTATE	5.79	6.31	6.25	6.28	6.38	6.39	6.43	6.52	6.47	6.56	6.62	6.59	6.64	6.76	6.68
SERVICES	5.85	6.41	6.33	6.34	6.41	6.52	6.58	6.67	6.66	6.79	6.79	6.77	6.81	6.84	6.80

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

[Seasonally adjusted data: 1977=100]

Industry	1981							1982						May 1982 to June 1982	June 1981 to June 1982 ¹
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P		
TOTAL PRIVATE (in current dollars)	138.4	139.1	140.5	141.4	142.0	143.0	143.5	144.9	145.0	145.4	146.3	147.6	147.9	.2	6.9
Mining ²	147.4	149.0	149.5	151.7	151.4	153.4	153.4	156.2	156.0	156.0	156.5	157.0	158.2	.8	7.3
Construction	130.9	132.2	132.8	133.5	134.7	135.7	136.6	139.9	137.9	138.1	138.7	139.7	139.9	.1	6.9
Manufacturing	141.5	142.4	143.5	144.7	145.4	146.4	146.9	148.9	149.1	149.9	150.8	151.8	152.5	.4	7.8
Transportation and public utilities	139.6	139.0	141.6	141.5	142.3	143.5	144.3	145.5	146.0	146.3	146.9	148.1	149.1	.7	6.8
Wholesale and retail trade	137.6	138.4	139.7	141.0	140.5	141.3	141.7	142.1	142.5	142.8	143.7	145.2	145.2	(³)	5.5
Finance, insurance, and real estate	137.1	137.8	140.1	140.4	141.4	142.6	142.0	143.1	143.3	143.8	144.9	147.9	146.6	-.9	6.9
Services	136.7	137.4	139.2	139.7	140.9	142.2	142.6	143.4	143.7	143.9	145.1	146.4	146.5	.1	7.2
TOTAL PRIVATE (in constant dollars)	92.9	92.2	92.5	92.1	92.1	92.3	92.3	92.9	92.8	93.3	93.7	93.7	(⁴)	(⁴)	(⁴)

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

³ Less than 0.05 percent.

² This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

⁴ Not available.

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

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

Industry division and group	Annual average		1981							1982					
	1980	1981	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
TOTAL PRIVATE:															
Current dollars	\$235.10	\$255.20	\$254.88	\$257.74	\$259.88	\$259.74	\$261.18	\$262.20	\$262.24	\$255.95	\$262.39	\$261.99	\$262.27	\$265.52	\$266.70
Constant (1977) dollars	172.74	170.13	170.49	170.35	170.64	168.88	169.49	169.71	169.30	164.70	168.31	168.37	167.80	168.16	(¹)
MINING	397.06	439.19	420.04	439.92	447.30	450.85	456.13	461.32	466.37	456.89	463.03	465.16	454.76	453.90	\$451.08
CONSTRUCTION	367.78	398.52	395.81	407.86	408.41	396.31	419.62	414.78	417.75	385.95	406.39	419.21	415.44	429.00	427.11
MANUFACTURING															
Current dollars	288.62	318.00	320.39	317.59	320.40	322.32	323.95	325.54	329.97	312.38	326.93	327.27	325.85	329.55	333.59
Constant (1977) dollars	212.06	212.00	214.31	209.91	210.37	209.57	210.22	210.71	213.02	201.02	209.70	210.33	208.48	208.71	(¹)
Durable goods	310.78	342.91	346.72	342.80	345.32	346.26	350.07	351.68	356.73	336.28	352.93	352.84	350.45	355.39	\$359.17
Lumber and wood products	252.18	270.90	280.06	276.71	278.07	271.36	271.22	269.93	272.80	248.71	272.63	273.73	270.05	284.16	286.50
Furniture and fixtures	209.17	226.94	229.51	223.78	231.21	226.58	233.92	230.51	238.07	204.10	231.51	233.50	230.39	232.87	236.88
Stone, clay, and glass products	306.00	335.76	342.37	342.72	344.81	346.32	344.25	345.87	343.26	325.38	337.90	344.27	347.93	355.52	361.42
Primary metal industries	391.78	437.81	439.68	434.43	442.90	457.78	435.51	440.67	438.77	431.23	443.52	434.85	434.99	430.11	443.39
Fabricated metal products	300.98	330.46	335.78	327.58	332.88	330.70	337.28	337.64	345.47	323.19	337.66	342.14	338.91	346.33	349.27
Machinery except electrical	328.00	360.33	361.27	357.62	359.79	361.98	367.93	372.28	381.89	360.25	374.44	370.87	367.75	367.49	369.86
Electric and electronic equipment	276.21	304.04	303.91	303.71	309.20	307.68	311.22	311.63	319.16	304.04	316.81	316.40	313.17	315.95	318.75
Transportation equipment	379.61	424.95	432.63	425.95	421.02	418.55	440.34	438.19	445.46	414.34	437.13	439.96	441.05	454.69	464.39
Instruments and related products	275.40	300.17	296.13	296.46	305.02	306.64	307.04	313.34	317.87	306.10	317.60	320.80	318.77	327.60	325.56
Miscellaneous manufacturing	211.30	231.25	230.88	229.85	231.84	234.14	237.77	241.35	242.03	229.48	241.54	244.58	242.57	245.63	247.81
Nondurable goods	255.45	280.74	281.64	282.30	284.86	287.78	286.60	288.56	291.65	277.65	291.04	289.93	291.47	293.38	297.22
Food and kindred products	271.95	294.97	294.18	295.02	298.45	300.89	296.65	302.88	309.87	302.63	307.28	303.81	306.52	310.47	312.44
Tobacco manufactures	294.89	344.54	359.98	365.16	354.09	352.15	341.60	350.75	341.38	332.48	366.15	362.56	367.83	365.31	393.67
Textile mill products	203.31	218.59	218.56	217.80	225.44	221.34	225.37	224.62	220.79	179.71	219.46	217.15	215.39	219.44	220.60
Apparel and other textile products	161.42	177.07	180.41	177.12	180.05	177.41	180.79	180.43	178.92	155.40	180.58	180.77	178.19	179.74	181.63
Paper and allied products	330.85	365.50	364.66	370.15	367.61	386.64	373.97	376.05	382.59	374.18	377.58	376.55	380.80	379.31	384.89
Printing and publishing	279.36	305.11	301.69	305.04	309.38	313.04	312.48	314.07	321.39	312.31	317.58	318.69	316.11	316.48	319.92
Chemicals and allied products	344.45	379.39	377.31	380.14	380.47	395.84	388.86	391.87	398.35	394.94	397.85	395.20	399.27	400.66	405.96
Petroleum and coal products	422.18	491.62	491.99	499.49	486.76	512.82	494.36	499.10	493.73	514.51	518.64	522.37	550.00	544.87	557.05
Rubber and miscellaneous plastics products	260.80	288.55	292.03	286.48	292.09	289.41	293.46	291.67	295.94	283.88	298.85	295.77	297.04	298.94	305.20
Leather and leather products	168.09	183.63	189.74	181.41	183.39	183.24	186.80	187.03	187.46	172.83	184.27	186.54	187.26	191.66	194.88
TRANSPORTATION AND PUBLIC UTILITIES	351.25	382.18	381.52	383.90	389.87	390.04	388.65	393.96	395.36	388.85	397.10	392.73	393.43	396.00	398.19
WHOLESALE AND RETAIL TRADE	176.46	190.95	190.51	193.85	194.83	194.49	192.32	192.68	194.45	191.89	194.66	194.66	195.91	197.78	199.32
WHOLESALE TRADE	267.96	292.20	289.11	294.10	296.06	296.45	298.38	300.69	302.25	300.13	303.31	303.72	304.45	308.35	309.21
RETAIL TRADE	147.38	158.03	158.17	161.92	162.23	162.17	157.64	158.54	160.89	157.47	159.35	159.64	161.02	163.01	164.65
FINANCE, INSURANCE, AND REAL ESTATE	209.60	229.05	225.63	227.96	232.23	230.04	232.77	236.02	234.21	237.47	239.64	239.22	240.37	245.39	241.15
SERVICES	190.71	208.97	206.99	209.85	210.89	211.25	213.85	216.78	217.12	219.32	220.68	220.03	221.33	221.62	222.36

¹ Not available.

UNEMPLOYMENT INSURANCE DATA

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

Definitions

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

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

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

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

18. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1981								1982				
	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P
All programs:													
Insured unemployment	3,111	2,949	3,012	2,874	2,680	2,753	3,228	3,935	4,681	4,723	4,892	4,760	4,388
State unemployment insurance program: ¹													
Initial claims ²	1,417	1,741	2,114	1,610	1,681	1,996	2,286	3,272	3,328	2,272	2,418	2,347	1,995
Insured unemployment (average weekly volume)	2,691	2,596	2,743	2,656	2,488	2,592	3,061	3,778	4,470	4,376	4,282	4,067	3,729
Rate of insured unemployment	3.1	3.0	3.1	3.0	2.9	3.0	3.5	4.3	5.1	5.0	4.9	4.6	4.3
Weeks of unemployment compensated	9,790	9,928	10,486	9,594	9,565	9,424	10,052	14,592	15,962	15,631	18,144	16,156	13,680
Average weekly benefit amount for total unemployment	\$105.49	\$99.02	\$103.47	\$105.94	\$107.39	\$108.92	\$110.52	\$112.83	\$114.83	\$116.95	\$117.10	\$117.51	\$118.09
Total benefits paid	\$1,006,341	\$1,012,764	\$1,061,899	\$1,004,864	\$1,001,020	\$997,757	\$1,080,810	\$1,592,546	\$1,764,206	\$1,781,830	\$2,072,642	\$1,848,253	\$1,573,771
Unemployment compensation for ex-servicemen: ³													
Initial claims ¹	15	19	22	19	15	11	9	11	8	8	10	9	8
Insured unemployment (average weekly volume)	43	42	44	44	34	26	22	19	16	13	11	10	9
Weeks of unemployment compensated	183	192	203	190	153	116	91	93	65	49	48	37	31
Total benefits paid	\$19,965	\$21,145	\$22,785	\$21,425	\$17,144	\$12,952	\$10,043	\$10,155	\$7,098	\$5,304	\$5,141	\$4,029	\$3,431
Unemployment compensation for Federal civilian employees: ⁴													
Initial claims	11	13	15	17	18	20	16	17	17	12	13	13	11
Insured unemployment (average weekly volume)	27	25	25	25	29	32	36	39	40	40	38	33	29
Weeks of unemployment compensated	107	105	105	102	100	112	127	174	162	154	172	147	121
Total benefits paid	\$11,023	\$10,705	\$10,805	\$9,543	\$10,495	\$11,719	\$13,491	\$18,891	\$18,040	\$17,517	\$19,677	\$16,820	\$13,748
Railroad unemployment insurance:													
Applications	6	26	41	13	15	21	13	19	22	11	9	5	5
Insured unemployment (average weekly volume)	35	30	28	29	34	40	44	54	75	67	65	57	44
Number of payments	79	86	32	63	74	86	83	117	153	140	154	130	95
Average amount of benefit payment	\$199.43	\$201.06	\$199.63	\$202.53	\$207.98	\$197.26	\$207.08	\$212.33	\$213.39	\$214.07	\$215.71	\$209.48	\$200.75
Total benefits paid	\$15,428	\$16,206	\$11,541	\$7,071	15,046	15,994	\$16,377	\$25,292	\$30,544	\$28,011	\$33,853	\$26,262	\$19,110
Employment service: ⁵													
New applications and renewals .....	.....	12,868	.....	.....	16,502	.....	.....	4,081	.....	.....	7,439	.....	.....
Nonfarm placements .....	.....	2,446	.....	.....	3,509	.....	.....	731	.....	.....	1,232	.....	.....

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

² Excludes transition claims under State programs.

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

⁴ Excludes data on claims and payments made jointly with State programs.

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

NOTE: Data for Puerto Rico and the Virgin Islands included. Dashes indicate data not available. r = revised.

PRICE DATA

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

Definitions

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

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

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

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

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

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

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

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

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

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 21.)

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.

19. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967-81

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2
1980	247.0	13.5	248.7	8.7	263.2	15.7	177.4	6.6	250.5	17.7	267.2	11.3	203.7	8.5	213.6	8.8
1981	272.3	10.2	267.8	7.7	293.2	11.4	186.6	5.2	281.3	12.3	295.1	10.4	219.0	7.5	233.3	9.2

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1981		1982					1981		1982				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
All items	269.0	281.5	282.5	283.4	283.1	284.3	287.1	269.1	281.1	282.1	282.9	282.5	283.7	286.5
Food and beverages	265.4	270.5	273.6	275.8	275.6	276.5	278.1	265.9	270.8	273.9	276.0	275.9	276.8	278.4
Housing	288.5	305.2	306.1	307.3	306.7	309.4	313.8	288.1	304.7	305.6	306.7	306.2	309.2	313.7
Apparel and upkeep	186.4	190.5	187.3	188.0	191.1	191.9	191.5	186.2	189.4	186.5	187.3	190.5	191.2	190.6
Transportation	277.8	289.8	289.9	288.0	285.1	282.9	285.6	278.9	291.5	291.6	289.6	286.6	284.3	287.1
Medical care	289.0	310.2	313.4	316.2	318.8	321.7	323.8	290.8	309.1	312.0	314.9	317.4	320.2	322.3
Entertainment	220.3	227.3	229.2	231.2	232.8	233.9	234.4	217.7	224.4	226.1	228.1	229.5	230.5	231.1
Other goods and services	232.2	246.7	248.4	250.3	252.2	253.8	255.0	230.4	243.5	245.0	247.1	249.3	250.9	252.4
Commodities	251.9	258.4	258.8	259.5	258.8	258.9	261.5	252.4	258.8	259.3	259.9	259.1	259.2	261.7
Commodities less food and beverages	241.7	248.7	248.0	248.1	247.1	247.0	249.8	242.3	249.3	248.7	248.6	247.5	247.2	250.1
Nondurables less food and beverages	263.8	266.7	265.6	265.3	263.4	259.7	261.0	266.6	268.9	267.8	267.5	265.3	261.3	262.6
Durables	223.9	233.7	233.4	233.7	233.5	235.8	239.8	222.4	232.7	232.4	235.2	232.4	234.8	238.9
Services	299.6	321.8	323.9	325.3	325.5	328.4	331.8	300.0	322.4	324.3	325.5	325.8	329.1	332.4
Rent, residential	205.9	216.5	217.8	218.6	219.6	220.1	221.8	205.5	216.0	217.4	218.1	219.1	219.6	221.3
Household services less rent	360.4	390.4	392.4	393.7	392.5	397.3	403.0	363.5	394.8	396.5	397.7	396.6	402.3	408.2
Transportation services	266.6	284.2	286.6	287.6	288.8	290.3	291.3	265.5	283.6	285.9	286.7	287.9	289.2	290.0
Medical care services	311.7	335.7	339.4	342.4	345.1	348.0	350.2	313.6	334.0	337.5	340.6	343.0	345.8	348.0
Other services	235.3	249.5	251.7	253.0	254.0	255.3	255.9	234.5	248.0	250.0	251.3	252.4	253.8	254.4
Special indexes:														
All items less food	267.0	280.8	281.4	282.1	281.7	282.9	286.0	267.2	280.7	281.3	281.7	281.3	282.5	285.6
All items less mortgage interest costs	255.2	264.9	266.1	267.1	267.2	267.9	270.3	255.8	265.2	266.4	267.2	267.3	267.9	270.3
Commodities less food	239.6	246.5	245.9	246.0	245.2	245.0	247.8	240.3	247.2	246.6	246.6	245.6	245.3	248.1
Nondurables less food	258.2	261.1	260.2	260.1	258.4	255.0	256.2	260.9	263.3	262.4	262.2	260.2	256.6	257.8
Nondurables less food and apparel	298.0	300.7	301.0	300.5	296.6	291.4	293.4	300.1	302.5	302.6	302.0	297.8	292.3	294.4
Nondurables	265.8	269.8	270.8	271.7	270.7	269.3	270.7	267.2	270.9	271.9	272.8	271.6	270.1	271.5
Services less rent	317.4	342.0	344.2	345.7	345.7	349.1	352.8	318.2	342.9	345.0	346.3	346.4	350.2	353.8
Services less medical care	296.2	318.1	320.0	321.1	321.1	324.0	327.5	296.4	318.7	320.5	321.6	321.6	324.9	328.3
Domestically produced farm foods	254.7	259.1	262.4	265.1	263.8	264.5	267.1	254.2	258.2	261.4	264.0	262.7	263.5	266.0
Selected beef cuts	270.9	270.7	269.6	271.7	272.0	275.1	281.6	273.8	271.9	271.1	273.1	273.3	276.4	283.1
Energy	411.3	414.6	416.4	413.0	406.1	395.7	402.1	414.9	417.6	419.0	415.4	407.9	396.9	401.1
All items less energy	257.9	271.1	272.1	273.4	273.6	275.7	278.3	257.0	269.9	270.9	272.1	272.3	274.5	277.0
All items less food and energy	253.0	267.9	268.5	269.5	269.8	272.2	274.9	251.9	266.6	267.1	268.0	268.3	270.9	273.6
Commodities less food and energy	215.7	224.2	223.7	224.5	225.3	227.2	229.9	214.6	223.3	222.8	223.6	224.5	226.4	229.1
Energy commodities	455.4	448.0	446.4	440.1	424.5	406.6	410.2	456.0	448.7	447.0	440.7	425.0	406.9	410.5
Services less energy	296.5	318.9	320.5	321.9	321.5	324.5	327.2	297.0	319.5	321.0	322.2	321.8	325.2	327.9
Purchasing power of the consumer dollar, 1967 = \$1	\$0.372	\$0.355	\$0.354	\$0.353	\$0.353	\$0.352	\$0.348	\$0.372	\$0.356	\$0.354	\$0.353	\$0.354	\$0.352	\$0.349

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1981		1982					1981		1982				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
FOOD AND BEVERAGES	265.4	270.5	273.6	275.8	275.6	276.5	278.1	265.9	270.8	273.9	276.0	275.9	276.8	278.4
Food	272.5	277.8	281.0	283.3	283.0	283.9	285.5	272.9	277.9	281.1	283.4	283.1	284.1	285.7
Food at home	267.7	271.7	275.3	278.0	277.1	277.9	279.8	267.2	270.8	274.4	277.0	276.2	277.0	278.8
Cereals and bakery products	270.0	277.7	279.8	280.9	281.3	281.7	283.3	269.4	276.6	278.6	279.8	280.0	280.4	282.0
Cereals and cereal products (12/77 = 100)	146.8	151.5	153.0	154.0	153.9	153.6	154.5	148.4	152.5	153.9	155.0	154.8	154.6	155.4
Flour and prepared flour mixes (12/77 = 100)	138.8	137.8	139.1	139.1	139.2	139.7	141.8	140.3	138.4	139.6	139.6	139.6	140.1	142.1
Cereal (12/77 = 100)	149.8	160.2	163.1	164.8	165.2	165.4	165.7	151.3	162.1	165.1	166.8	167.2	167.4	167.8
Rice, pasta, and cornmeal (12/77 = 100)	149.8	151.7	151.1	152.4	151.2	149.6	150.2	152.0	152.9	152.4	153.6	152.4	150.8	151.5
Bakery products (12/77 = 100)	141.5	145.4	146.4	146.8	147.1	147.5	148.3	140.6	144.3	145.3	145.7	146.0	146.3	147.2
White bread	235.1	241.5	243.3	243.8	242.3	242.8	243.8	233.2	237.4	239.4	240.0	238.3	238.8	240.0
Other breads (12/77 = 100)	139.3	143.4	143.9	143.7	145.1	145.2	146.3	141.7	145.3	145.7	145.5	147.0	147.1	148.2
Fresh biscuits, rolls, and muffins (12/77 = 100)	141.5	145.9	146.5	146.4	148.4	147.6	149.7	139.6	141.9	142.5	142.8	144.6	143.8	146.0
Fresh cakes and cupcakes (12/77 = 100)	142.3	144.9	147.2	147.0	148.0	148.4	149.0	141.2	143.7	145.8	145.8	146.4	146.8	147.4
Cookies (12/77 = 100)	141.8	147.6	148.1	149.2	149.4	150.2	150.5	142.1	148.4	148.9	150.1	150.2	151.2	151.4
Crackers, bread, and cracker products (12/77 = 100)	128.2	134.2	133.4	135.4	135.3	137.3	139.6	128.9	135.6	134.7	136.8	136.5	138.7	141.0
Fresh sweetrolls, coffee cake, and donuts (12/77 = 100)	142.8	145.4	146.2	147.0	146.3	146.8	147.3	142.5	147.8	148.9	149.3	148.7	149.3	149.9
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	147.0	149.3	151.2	151.5	153.5	153.4	153.6	140.1	143.0	144.7	144.8	146.8	146.5	146.7
Meats, poultry, fish, and eggs	247.0	253.7	253.7	256.8	256.9	258.3	261.0	246.3	253.1	253.3	256.4	256.4	257.8	260.7
Meats, poultry, and fish	253.2	258.4	259.1	261.2	262.1	264.2	268.2	252.4	257.7	258.6	260.7	261.5	263.6	267.7
Meats	252.3	258.7	257.8	260.2	261.2	263.6	269.7	251.7	257.9	257.3	259.7	260.6	262.8	269.0
Beef and veal	270.3	270.5	269.4	271.5	271.7	274.8	281.1	272.5	270.9	270.1	272.2	272.3	275.3	281.9
Ground beef other than canned	264.1	264.5	262.2	265.0	265.8	266.9	269.4	267.8	265.8	263.7	266.3	266.9	269.7	270.7
Chuck roast	280.3	282.2	279.6	285.8	284.3	285.4	287.2	290.9	291.5	288.5	290.1	294.1	296.2	297.2
Round roast	246.8	242.6	241.6	245.3	243.0	244.9	252.4	249.4	245.9	244.7	248.9	245.9	247.9	255.9
Round steak	256.0	254.6	257.5	256.1	258.8	262.8	269.2	253.7	252.2	256.1	254.4	256.4	260.8	267.8
Sirloin steak	271.4	260.1	258.2	257.1	260.6	271.1	282.3	275.3	260.7	258.9	257.8	262.2	272.4	283.8
Other beef and veal (12/77 = 100)	159.2	161.0	160.9	161.4	161.5	163.7	169.0	158.5	159.1	159.3	159.7	159.8	162.1	167.5
Pork	217.3	234.3	234.7	238.9	239.5	241.6	249.9	216.3	233.8	234.4	238.5	238.9	241.0	249.2
Bacon	212.7	237.2	235.5	245.6	249.6	255.9	267.7	215.2	240.5	239.3	249.3	253.3	259.7	271.9
Chops	203.7	212.4	219.2	222.1	216.3	223.4	230.0	201.5	211.0	217.6	220.2	214.7	221.7	228.2
Ham other than canned (12/77 = 100)	97.2	109.1	107.3	107.0	109.2	105.4	111.1	93.8	106.3	104.8	104.7	106.5	102.8	108.3
Sausage	277.7	299.1	297.6	300.0	305.8	305.7	313.3	278.5	300.0	298.8	301.0	306.6	306.3	314.2
Canned ham	230.5	244.3	245.4	246.1	247.6	245.6	249.9	231.4	247.7	249.0	249.9	251.2	249.9	253.2
Other pork (12/77 = 100)	122.7	130.0	129.5	133.8	132.6	135.2	138.9	122.4	129.2	128.8	133.1	131.7	134.5	138.2
Other meats	253.9	260.6	258.1	258.1	262.4	262.8	264.0	250.6	259.7	257.3	257.4	261.7	261.8	263.2
Frankfurters	247.6	261.0	256.7	258.0	260.5	259.5	262.7	247.0	260.0	256.1	257.1	260.0	258.4	261.8
Bologna, liverwurst, and salami (12/77 = 100)	143.0	146.4	145.4	146.1	149.2	150.2	150.7	140.6	146.3	145.4	146.2	149.4	150.3	150.7
Other lunchmeats (12/77 = 100)	126.9	132.6	132.2	131.7	133.7	133.2	134.3	124.8	130.6	130.2	129.7	131.7	131.2	132.3
Lamb and organ meats (12/77 = 100)	145.3	140.7	138.6	137.7	141.0	142.6	141.2	145.9	143.9	141.4	141.0	144.2	145.6	144.4
Poultry	194.7	191.7	194.2	195.7	194.7	193.3	196.0	192.5	189.5	192.4	193.8	192.8	191.5	194.1
Fresh whole chicken	190.3	190.1	193.1	196.3	195.1	194.1	196.8	187.0	187.8	190.9	194.4	192.8	192.0	194.7
Fresh and frozen chicken parts (12/77 = 100)	127.5	128.1	128.5	128.9	127.5	127.6	128.3	126.6	126.3	126.9	127.1	125.9	125.9	126.5
Other poultry (12/77 = 100)	128.3	120.7	123.2	123.2	123.9	121.3	124.3	127.5	119.8	123.0	122.6	123.3	120.8	123.9
Fish and seafood	353.2	359.6	373.3	373.8	376.3	382.0	366.3	349.9	358.6	372.4	373.2	375.5	381.4	365.0
Canned fish and seafood (12/77 = 100)	139.2	140.7	140.6	140.9	141.0	141.5	139.8	137.8	140.2	140.0	140.4	140.5	140.8	139.2
Fresh and frozen fish and seafood (12/77 = 100)	131.8	134.7	143.2	143.2	144.7	147.9	139.4	130.5	134.4	143.0	143.2	144.6	148.0	138.9
Eggs	170.5	198.0	189.4	205.1	195.2	186.9	172.3	171.5	198.8	190.6	206.1	196.3	187.9	173.4
Dairy products	243.8	245.5	245.8	246.5	246.5	247.5	247.0	243.9	244.9	245.2	245.8	245.9	246.8	246.3
Fresh milk and cream (12/77 = 100)	134.9	135.2	135.1	135.5	135.3	135.9	135.7	134.7	134.6	134.6	134.9	134.8	135.3	135.1
Fresh whole milk	220.8	221.2	221.2	221.5	221.7	222.2	222.0	220.4	220.2	220.2	220.5	220.8	221.3	221.1
Other fresh milk and cream (12/77 = 100)	134.7	135.3	135.1	135.8	135.1	136.2	135.7	134.8	134.9	134.7	135.5	134.6	135.7	135.2
Processed dairy products (12/77 = 100)	141.9	143.9	144.4	144.8	144.9	145.6	145.2	142.6	144.2	144.7	145.1	145.3	145.9	145.5
Butter	245.2	248.7	249.3	248.9	250.1	250.1	251.1	247.6	251.3	252.0	251.4	252.7	252.7	253.7
Cheese (12/77 = 100)	140.5	141.0	142.0	142.8	143.3	143.7	144.0	140.6	141.3	142.3	143.1	143.6	144.0	144.3
Ice cream and related products (12/77 = 100)	146.2	150.3	150.8	150.0	149.5	150.9	148.7	147.8	149.4	149.9	149.1	148.9	150.2	147.9
Other dairy products (12/77 = 100)	136.1	139.7	138.4	140.0	139.5	139.9	139.7	136.4	140.5	139.1	140.8	140.3	140.8	140.4
Fruits and vegetables	276.8	276.4	294.7	301.5	293.1	294.0	297.9	274.3	272.6	291.3	297.4	289.1	290.3	293.6
Fresh fruits and vegetables	284.4	274.9	308.0	319.6	302.1	304.1	311.7	281.8	269.4	303.1	313.4	296.1	298.9	305.1
Fresh fruits	276.6	269.6	276.7	291.2	297.8	306.7	318.8	271.5	260.5	267.0	280.1	287.3	295.5	306.9
Apples	235.4	261.2	273.0	279.5	288.7	287.5	299.8	232.7	261.2	272.6	279.9	288.5	287.8	300.1
Bananas	266.3	254.9	253.5	251.0	263.0	268.5	261.6	264.2	252.8	251.1	247.9	261.1	266.1	259.3
Oranges	274.1	280.6	283.1	313.1	316.3	330.8	362.1	261.1	252.8	255.1	281.1	285.9	300.2	328.3
Other fresh fruits (12/77 = 100)	154.9	141.0	145.9	154.5	157.2	163.4	168.2	153.3	136.7	141.0	149.0	151.8	157.6	162.4
Fresh vegetables	291.7	279.8	337.3	346.2	306.1	301.8	305.1	291.1	277.6	335.8	343.5	304.2	302.0	303.7
Potatoes	384.4	286.8	288.8	297.4	301.0	306.1	320.3	378.1	280.0	282.7	291.5	294.8	300.8	313.6
Lettuce	252.5	343.1	514.4	408.9	270.9	355.2	291.6	255.6	342.7	515.8	408.0	271.3	358.6	293.5
Tomatoes	200.2	204.6	245.6	288.5	258.1	220.5	226.5	193.8	207.8	248.8	293.2	261.8	224.9	230.6
Other fresh vegetables (12/77 = 100)	1													

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

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1981		1982					1981		1982				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
FOOD AND BEVERAGES — Continued														
Food — Continued														
Food at home — Continued														
Fruits and vegetables — Continued														
Cut corn and canned beans except lima (12/77=100)	131.5	138.9	139.9	140.7	141.2	140.5	140.7	130.1	136.5	137.5	138.3	138.8	137.9	138.5
Other canned and dried vegetables (12/77=100)	129.8	134.8	135.0	134.1	134.8	135.0	134.6	128.0	133.2	133.5	132.6	133.3	133.5	133.2
Other foods at home	323.7	325.6	328.7	330.7	331.7	331.6	332.6	324.8	326.4	329.6	331.5	332.6	332.6	333.5
Sugar and sweets	367.1	359.3	361.6	364.2	365.5	365.3	365.7	368.1	359.3	361.6	364.1	365.4	365.2	365.6
Candy and chewing gum (12/77=100)	145.1	149.9	150.1	150.0	150.3	150.9	150.0	145.8	149.9	150.0	149.8	150.1	150.8	149.9
Sugar and artificial sweeteners (12/77=100)	178.4	153.4	155.6	160.0	161.0	159.9	160.5	179.2	154.6	157.0	161.3	162.4	161.1	161.8
Other sweets (12/77=100)	141.4	146.1	147.1	146.9	147.4	147.2	148.9	139.7	144.2	145.2	145.1	145.5	145.3	147.0
Fats and oils (12/77=100)	270.7	261.1	261.6	260.5	259.6	260.4	260.6	270.9	261.0	261.5	260.6	259.7	260.4	260.6
Margarine	256.1	255.7	257.8	256.7	256.7	259.6	259.7	256.7	254.9	257.2	256.1	256.1	259.1	259.3
Nondairy substitutes and peanut butter (12/77=100)	182.7	160.1	157.7	157.8	156.1	157.3	156.0	181.6	158.5	156.0	156.3	154.4	155.6	154.2
Other fats, oils, and salad dressings (12/77=100)	130.4	129.7	130.5	129.8	129.5	129.0	129.6	130.4	130.1	131.0	130.2	130.0	129.5	130.2
Nonalcoholic beverages	412.3	412.5	418.7	423.4	424.8	424.1	425.6	414.6	414.2	420.5	425.0	426.6	426.0	427.3
Cola drinks, excluding diet cola	295.7	298.1	302.4	304.6	306.6	304.9	306.1	293.7	295.7	300.0	302.0	303.8	302.4	303.6
Carbonated drinks, including diet cola (12/77=100)	140.6	139.3	141.9	143.8	143.4	143.4	144.3	139.4	137.2	139.7	141.7	141.4	141.5	142.3
Roasted coffee	354.4	344.4	353.3	364.4	366.6	369.6	369.3	350.5	340.1	348.8	359.9	362.2	365.0	364.3
Freeze dried and instant coffee	339.1	332.0	336.9	342.8	343.6	343.4	344.3	340.2	331.6	336.5	342.5	343.4	343.0	343.9
Other noncarbonated drinks (12/77=100)	134.0	137.0	138.0	138.4	138.9	138.7	138.9	133.9	137.1	138.2	138.6	139.1	138.9	139.1
Other prepared foods	252.9	262.8	264.6	265.3	266.5	266.6	267.5	254.7	264.4	266.3	266.9	268.1	268.3	269.3
Canned and packaged soup (12/77=100)	131.5	133.7	134.3	135.9	136.6	135.7	135.7	132.1	135.7	136.4	137.9	137.8	137.8	137.7
Frozen prepared foods (12/77=100)	141.6	145.9	147.8	146.2	147.0	147.2	147.8	139.6	145.3	147.4	145.6	146.5	146.7	147.3
Snacks (12/77=100)	145.9	152.2	152.6	153.4	153.4	152.9	153.5	149.1	154.2	154.6	155.2	155.4	155.0	155.6
Seasonings, olives, pickles, and relish (12/77=100)	140.0	148.8	149.7	151.3	153.2	153.6	152.8	139.3	147.7	148.6	150.3	152.2	152.7	151.9
Other condiments (12/77=100)	141.1	144.6	146.4	146.9	148.2	148.7	150.2	143.6	146.2	148.0	148.4	149.9	150.4	151.9
Miscellaneous prepared foods (12/77=100)	138.6	145.8	146.9	147.0	147.7	147.6	148.5	139.6	145.8	147.0	147.1	147.9	147.7	148.7
Other canned and packaged prepared foods (12/77=100)	136.6	142.5	145.4	143.0	143.2	143.3	143.5	137.2	143.9	143.9	144.5	144.5	144.6	144.9
Food away from home	289.3	297.7	298.8	301.2	302.4	303.6	304.8	291.9	300.7	302.8	304.2	305.4	306.7	307.8
Lunch (12/77=100)	141.0	144.6	146.1	146.6	147.0	147.5	148.2	141.8	146.3	147.7	148.2	148.6	149.1	149.8
Dinner (12/77=100)	139.9	144.0	144.8	145.2	145.7	146.3	147.1	141.7	145.6	146.4	146.8	147.3	147.9	148.8
Other meals and snacks (12/77=100)	139.9	144.7	145.4	146.9	147.9	148.6	148.5	141.1	145.4	146.2	147.6	148.7	149.3	149.2
Alcoholic beverages	199.1	202.7	204.0	205.6	206.6	207.4	208.0	201.2	204.9	206.0	207.6	208.8	209.5	210.1
Alcoholic beverages at home (12/77=100)	129.3	131.4	132.2	133.3	134.0	134.6	135.0	131.1	132.8	133.4	134.6	135.4	136.0	136.2
Beer and ale	201.4	204.1	205.0	207.4	209.2	210.5	210.3	201.8	203.5	204.3	206.5	208.3	209.6	209.4
Whiskey	142.5	145.0	145.9	146.8	147.0	147.2	148.2	143.2	145.9	146.8	147.7	147.8	148.0	149.0
Wine	223.9	230.0	232.2	234.2	235.3	236.4	236.9	234.3	238.0	239.8	241.6	243.3	244.4	244.9
Other alcoholic beverages (12/77=100)	115.5	117.3	117.5	117.8	118.1	118.2	119.0	114.6	117.4	117.5	117.8	118.0	118.0	118.9
Alcoholic beverages away from home (12/77=100)	132.6	135.8	137.0	137.6	138.2	138.4	139.1	132.0	137.3	138.6	139.1	139.7	139.9	140.6
HOUSING	288.5	305.2	306.1	307.3	306.7	309.4	313.8	288.1	304.7	305.6	306.7	306.2	309.2	313.7
Shelter	308.4	328.0	328.3	329.5	327.6	331.4	336.7	309.4	329.3	329.4	330.3	328.5	332.8	338.3
Rent, residential	205.9	216.5	217.8	218.6	219.6	220.1	221.8	205.5	216.0	217.4	218.1	219.1	219.6	221.3
Other rental costs	286.4	306.3	313.6	316.9	320.1	323.7	323.6	286.1	305.3	312.3	315.6	318.9	322.8	322.6
Lodging while out of town	307.2	319.9	331.1	335.9	340.9	346.6	346.6	305.5	318.0	328.4	333.0	337.9	343.9	344.0
Tenants' insurance (12/77=100)	131.9	140.7	141.8	143.5	144.1	144.9	144.4	132.3	140.6	142.0	143.6	144.3	144.7	143.8
Homeownership	345.0	367.8	367.5	368.7	365.7	370.6	377.4	347.1	370.4	369.9	370.8	367.9	373.6	380.5
Home purchase	263.0	270.5	269.3	270.4	269.2	272.3	279.3	262.2	268.7	267.4	268.3	267.1	270.5	278.1
Financing, taxes, and insurance	458.3	506.3	506.0	507.2	500.9	508.4	516.2	464.3	512.9	512.2	513.2	507.0	516.0	523.8
Property insurance	383.7	394.1	393.0	393.7	394.1	393.6	396.7	387.1	396.5	395.6	396.0	396.5	396.0	399.2
Property taxes	199.8	210.7	212.9	215.1	216.6	217.2	218.3	201.7	212.5	214.5	217.2	218.5	219.1	220.2
Contracted mortgage interest cost	596.9	666.6	665.2	666.1	655.5	667.1	678.5	598.6	668.1	666.3	666.6	656.4	670.2	681.4
Mortgage interest rates	224.0	243.9	244.4	243.9	240.7	242.1	240.2	224.9	245.3	245.7	245.4	242.3	244.4	242.1
Maintenance and repairs	312.9	324.1	326.7	328.2	327.2	331.6	334.5	307.3	321.0	323.3	324.6	323.7	328.3	330.9
Maintenance and repair services	341.2	355.4	358.2	359.4	357.8	363.6	367.0	337.6	356.5	359.2	360.1	358.6	365.0	368.0
Maintenance and repair commodities	246.3	250.3	252.5	254.6	255.0	256.2	257.8	241.1	244.9	246.4	248.2	248.6	249.7	251.3
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	143.9	147.3	149.4	150.9	151.8	153.1	154.2	137.7	140.5	142.3	143.7	144.7	145.8	147.0
Lumber, awnings, glass, and masonry (12/77=100)	125.1	124.3	124.6	124.6	123.9	124.5	124.5	123.7	121.6	121.9	121.7	121.2	121.9	121.9
Plumbing, electrical, heating, and cooling supplies (12/77=100)	130.7	131.5	131.9	133.8	133.4	133.4	135.1	128.1	131.6	131.8	133.4	133.1	133.1	134.9
Miscellaneous supplies and equipment (12/77=100)	127.6	132.5	133.6	134.8	135.1	135.6	136.3	130.8	134.7	135.7	136.9	137.1	137.4	138.2
Fuel and other utilities	314.9	331.8	336.2	337.1	339.3	339.2	345.4	315.7	332.7	337.0	337.9	340.2	340.3	346.5
Fuels	403.3	420.0	426.9	427.6	430.5	428.2	438.0	402.5	419.6	426.2	426.8	429.9	427.8	437.4
Fuel oil, coal, and bottled gas	685.8	682.5	686.0	683.1	684.0	641.3	644.6	688.6	685.5	688.9	686.0	669.7	644.0	647.7
Fuel oil	720.6	713.5	716.8	713.8	692.3	666.2	670.6	723.1	716.0	719.3	716.3	694.4	668.4	673.3
Other fuels (6/78=100)	163.6	169.4	170.9	170.0	168.0	166.4	165.7	164.7	170.8	172.1	171.4	169.5	167.9	167.1
Gas (piped) and electricity	339.6	359.9	367.4	368.7	375.9	377.8	388.6	338.1	358.8	366.0	367.3	374.8	376.8	387.4
Electricity	281.9	300.3	306.6	306.8	313.3	312.8	314.9	281.2	299.3	305.3	305.5	312.3	311.8	314.4
Utility (piped) gas	416.5	438.2	447.2	450.8	458.6	465.3	493.4	413.0	436.4	445.2	448.7	456.6	463.6	489.7

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1981		1982					1981		1982				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
HOUSING Continued														
Fuel and other utilities Continued														
Other utilities and public services	176.2	191.9	192.7	193.9	195.0	197.7	198.9	176.6	192.2	193.1	194.3	195.4	198.2	199.5
Telephone services	144.0	156.8	157.2	157.9	158.5	160.8	161.6	144.1	156.9	157.3	158.0	158.6	161.0	161.9
Local charges (12/77 = 100)	115.5	124.4	124.0	125.3	125.6	127.9	128.9	115.7	124.6	124.2	125.4	125.7	128.1	129.2
Interstate toll calls (12/77 = 100)	101.8	116.7	116.8	116.6	117.7	119.9	120.0	101.9	116.8	116.9	116.7	117.8	120.2	120.4
Intrastate toll calls (12/77 = 100)	101.7	107.1	109.2	109.1	109.0	108.9	109.3	101.5	106.9	109.0	108.8	108.7	108.7	109.0
Water and sewerage maintenance	282.3	307.4	309.8	313.3	316.9	320.9	323.5	284.7	309.4	312.2	315.7	319.7	323.6	326.7
Household furnishings and operations	220.1	227.7	228.4	230.2	231.6	232.6	233.4	216.8	224.2	224.9	226.7	228.0	229.1	230.0
Housefurnishings	184.2	189.2	189.8	191.4	192.7	193.8	194.7	182.1	187.1	187.7	189.3	190.4	191.7	192.5
Textile housefurnishings	198.3	211.2	210.1	216.0	217.7	218.7	220.9	202.3	213.9	212.5	218.5	219.9	221.4	223.9
Household linens (12/77 = 100)	122.3	128.8	127.3	131.0	134.7	135.8	135.4	124.7	129.9	128.6	132.1	136.6	137.0	136.8
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	125.0	134.7	134.8	138.5	136.7	136.9	140.1	127.7	137.0	137.0	141.0	138.7	139.1	142.8
Furniture and bedding	204.2	209.7	209.5	209.4	212.1	214.7	215.1	200.6	206.0	205.9	205.5	208.2	211.0	211.3
Bedroom furniture (12/77 = 100)	133.4	138.6	139.7	140.5	140.8	142.3	144.5	129.2	135.2	136.5	137.1	137.2	138.9	140.7
Sofas (12/77 = 100)	117.0	119.4	117.3	116.4	118.0	119.3	119.1	115.8	119.5	117.6	116.5	118.2	119.6	119.4
Living room chairs and tables (12/77 = 100)	117.5	119.0	118.9	118.6	121.6	123.2	122.8	119.1	119.1	119.0	118.8	121.8	123.3	122.9
Other furniture (12/77 = 100)	134.7	138.4	138.5	138.1	140.5	142.3	141.6	131.2	134.0	133.9	133.4	136.8	137.9	137.0
Appliances including TV and sound equipment	145.5	147.9	148.8	149.9	150.1	150.6	151.4	144.4	147.5	148.5	149.6	149.7	150.3	151.1
Television and sound equipment (12/77 = 100)	108.3	108.9	108.8	109.2	109.1	108.7	108.8	106.9	108.0	107.9	108.4	108.2	107.7	107.9
Television	105.4	104.7	104.4	104.5	104.7	104.2	104.3	104.4	103.3	103.1	103.3	103.5	103.0	103.0
Sound equipment (12/77 = 100)	112.1	113.7	113.8	114.5	114.0	113.7	113.9	110.1	112.9	113.0	113.8	113.2	112.8	113.0
Household appliances	171.3	175.9	178.0	179.7	180.3	182.1	183.6	170.6	178.1	179.9	180.4	182.3	183.8	183.8
Refrigerators and home freezers	170.9	179.9	180.8	182.6	183.7	184.8	186.2	175.8	185.3	186.1	187.9	189.3	190.6	191.8
Laundry equipment (12/77 = 100)	126.2	130.5	132.2	133.5	133.3	136.4	136.6	125.3	130.3	132.4	133.8	133.5	136.6	136.8
Other household appliances (12/77 = 100)	117.6	118.7	120.6	121.6	122.2	122.9	124.3	115.2	116.8	118.5	119.7	120.0	120.7	122.3
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	117.2	117.9	119.4	121.0	121.9	122.3	123.7	115.1	116.2	117.4	118.9	119.3	119.7	121.4
Office machines, small electric appliances, and air conditioners (12/77 = 100)	118.0	119.6	121.9	122.4	122.5	123.5	124.9	115.3	117.3	119.7	120.5	120.7	121.8	123.3
Other household equipment (12/77 = 100)	130.7	134.0	134.9	136.7	137.3	137.8	138.3	129.0	131.9	132.9	134.7	135.3	135.6	136.0
Floor and window coverings, infants', laundry, cleaning, and outdoor equipment (12/77 = 100)	132.2	135.9	136.3	139.1	140.9	140.3	141.4	125.1	128.3	128.6	131.0	133.3	132.9	133.9
Clocks, lamps, and decor items (12/77 = 100)	124.4	128.4	128.6	129.8	129.0	130.2	131.4	120.9	124.7	124.8	126.0	125.4	126.5	127.4
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	138.8	141.0	142.3	143.3	143.1	145.0	144.4	136.0	137.1	138.2	139.5	139.0	140.6	139.8
Lawn equipment, power tools, and other hardware (12/77 = 100)	122.5	126.3	127.8	130.3	132.1	130.8	132.1	127.0	131.5	133.2	135.5	137.3	136.0	137.4
Housekeeping supplies	269.0	277.4	279.1	282.4	284.2	284.9	285.5	265.5	274.1	275.7	278.8	280.4	281.2	281.8
Soaps and detergents	262.6	271.6	275.5	278.0	279.5	280.0	278.8	260.2	268.0	272.0	274.4	275.7	276.3	275.2
Other laundry and cleaning products (12/77 = 100)	132.8	138.8	139.6	141.0	142.1	142.7	143.3	131.5	137.5	138.4	139.8	140.9	141.6	142.3
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	137.8	144.5	145.1	145.7	145.7	146.4	146.0	137.9	144.4	145.1	145.6	145.4	146.2	145.6
Stationery, stationery supplies, and gift wrap (12/77 = 100)	125.1	128.8	128.8	130.4	130.7	131.4	132.0	126.8	131.6	131.7	133.4	133.8	134.6	135.3
Miscellaneous household products (12/77 = 100)	138.4	145.4	146.2	146.9	147.5	147.5	149.3	135.0	140.4	141.2	141.8	142.4	142.4	144.1
Lawn and garden supplies (12/77 = 100)	140.6	136.7	137.1	141.8	144.7	144.7	144.8	132.4	129.4	129.2	134.1	136.7	136.8	136.6
Housekeeping services	291.6	306.9	307.4	308.1	309.9	310.4	311.3	289.9	305.4	305.9	306.8	308.2	309.2	310.2
Postage	308.0	337.5	337.5	337.5	337.5	337.5	337.5	308.1	337.5	337.5	337.5	337.5	337.5	337.5
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	141.6	147.8	148.4	149.4	150.8	152.1	153.1	140.7	147.6	148.0	149.1	150.6	152.2	153.3
Appliance and furniture repair (12/77 = 100)	125.9	133.0	133.6	134.2	135.0	135.6	136.6	124.6	131.6	132.2	132.8	133.5	134.1	135.1
APPAREL AND UPKEEP	186.4	190.5	187.3	188.0	191.1	191.9	191.5	186.2	189.4	186.5	187.3	190.5	191.2	190.6
Apparel commodities	177.2	180.7	177.0	177.6	180.8	181.4	180.9	177.6	180.1	176.7	177.4	180.8	181.3	180.5
Apparel commodities less footwear	173.3	176.6	172.8	173.4	176.8	177.4	176.7	173.8	175.6	172.2	173.0	176.6	177.1	176.0
Men's and boys'	176.8	181.6	178.7	179.3	181.7	183.1	183.8	177.3	181.7	178.6	179.4	181.6	182.9	183.7
Men's (12/77 = 100)	111.2	114.5	112.9	113.0	114.5	115.5	115.9	111.8	115.0	113.3	113.5	114.7	115.7	116.2
Suits, sport coats, and jackets (12/77 = 100)	104.7	106.4	104.3	104.8	107.2	107.6	108.1	99.3	99.5	97.8	98.2	100.4	101.1	101.4
Coats and jackets (12/77 = 100)	97.9	101.4	96.4	95.8	98.1	99.1	99.9	100.5	104.1	97.6	97.2	99.7	100.7	101.5
Furnishings and special clothing (12/77 = 100)	129.2	134.2	133.6	134.7	136.8	138.2	138.7	123.9	130.6	129.8	131.1	133.1	134.5	135.3
Shirts (12/77 = 100)	118.3	122.7	120.7	119.3	119.9	121.3	121.2	120.3	125.3	121.8	122.3	123.4	123.1	123.1
Dungarees, jeans, and trousers (12/77 = 100)	105.5	108.5	108.2	108.6	108.6	109.7	110.3	112.2	114.1	113.6	114.1	114.2	115.1	115.6
Boys' (12/77 = 100)	115.1	117.2	114.6	116.0	117.8	118.3	118.8	114.2	115.4	112.9	114.3	116.1	116.5	117.1
Coats, jackets, sweaters, and shirts (12/77 = 100)	108.8	109.9	104.7	105.9	109.4	111.2	111.5	111.8	110.9	105.3	106.3	109.7	111.5	112.0
Furnishings (12/77 = 100)	121.4	127.5	127.3	128.2	128.7	130.3	131.2	117.4	123.5	123.3	124.2	124.7	126.0	127.2
Suits, trousers, sport coats, and jackets (12/77 = 100)	117.5	118.8	117.2	119.1	120.1	119.0	119.6	114.8	115.9	114.7	116.7	117.8	116.8	117.3
Women's and girls'	157.2	159.6	154.3	154.7	160.3	160.9	159.1	160.0	160.7	156.4	157.1	163.0	163.4	160.8
Women's (12/77 = 100)	103.9	105.8	102.3	102.9	106.8	107.1	105.7	106.2	107.1	103.9	104.8	109.0	109.1	107.1
Coats and jackets	152.8	161.8	158.4	156.4	162.0	163.4	158.3	155.8	167.3	161.6	163.1	173.1	172.9	165.7
Dresses	164.8	164.0	153.1	152.8	163.1	166.6	162.0	159.7	149.5	140.7	140.9	148.1	151.1	147.1
Separates and sportswear (12/77 = 100)	99.0	100.7	96.7	96.3	100.3	100.1	101.2	101.5	101.3	97.3	96.8	101.2	101.0	101.9
Underwear, nightwear, and hosiery (12/77 = 100)	119.7	124.8	124.0	126.2	127.1	127.4	128.1	119.5	124.5	123.7	126.0	126.9	127.3	127.9
Suits (12/77 = 100)	90.7	87.7	84.2	87.0	92.7	89.4	83.4	106.9	106.0	104.0	105.6	114.1	111.0	100.6
Girls' (12/77 = 100)	107.9	107.7	104.7	102.7	105.6	106.7	106.3	107.1	106.0	104.2	103.1	106.0	106.9	106.2
Coats, jackets, dresses, and suits (12/77 = 100)	104.1	98.4	93.4	92.6	98.2	98.8	96.9	98.8	96.1	91.2	91.5	97.2	97.6	95.0
Separates and sportswear (12/77 = 100)	106.9	108.9	106.3	103.4	104.6	105.4	105.9	109.6	107.5	108.2	106.0	106.9	107.6	108.0
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	116.1	120.7	119.2	118.0	119.6	122.0	122.4	115.9	119.5	118.2	117.0	118.7	121.0	121.5

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981		1982				1981		1982					
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	256.9	259.4	259.6	262.2	264.7	267.0	269.0	269.9	270.6	270.1	271.4	275.4	278.2	279.3
Other apparel commodities	212.1	214.5	212.9	214.3	212.7	210.8	209.7	204.1	203.2	201.4	202.8	201.6	199.5	198.8
Sewing materials and notions (12/77 = 100)	114.3	118.3	116.2	117.6	118.1	118.5	119.3	113.4	116.2	114.3	115.9	116.5	116.9	117.7
Jewelry and luggage (12/77 = 100)	146.8	147.4	146.7	147.4	145.7	143.8	142.5	140.5	138.4	137.5	138.1	136.7	134.5	133.5
Footwear	201.0	205.7	202.8	202.8	204.9	205.6	206.5	200.0	205.9	203.1	203.3	205.2	206.1	206.9
Men's (12/77 = 100)	127.8	130.7	130.3	130.7	132.5	132.3	132.4	128.7	132.5	132.2	132.6	134.5	134.4	134.5
Boys' and girls' (12/77 = 100)	129.3	132.1	130.1	129.5	129.2	130.4	131.5	127.7	134.8	132.5	132.3	132.1	133.6	134.6
Women's (12/77 = 100)	122.4	125.4	122.6	122.7	124.7	125.1	125.8	120.5	121.6	118.9	119.0	120.8	121.1	121.6
Apparel services	256.4	266.4	267.6	269.4	271.3	273.4	274.7	254.2	264.4	265.5	267.2	269.0	271.0	272.3
Laundry and drycleaning other than coin operated (12/77 = 100)	152.2	159.2	160.0	161.4	162.4	163.5	164.4	151.5	157.8	158.5	159.9	160.9	162.0	162.8
Other apparel services (12/77 = 100)	135.6	139.1	139.4	139.8	141.1	142.5	142.9	134.5	139.6	139.9	140.3	141.5	142.7	143.1
TRANSPORTATION	277.8	289.8	289.9	288.0	285.1	282.9	285.6	278.9	291.5	291.6	289.6	286.6	284.3	287.1
Private	276.0	286.5	286.6	284.5	281.3	278.8	281.5	277.7	289.0	289.0	286.9	283.7	281.2	284.0
New cars	190.9	197.0	197.4	195.5	194.4	196.0	197.5	191.2	196.9	197.3	195.3	194.2	195.9	197.3
Used cars	245.2	281.9	280.5	279.7	280.9	285.1	291.4	245.2	281.9	280.5	279.7	280.9	285.2	291.4
Gasoline	416.5	408.4	406.0	399.1	383.9	366.7	370.4	417.7	409.8	407.5	400.6	385.4	367.9	371.7
Automobile maintenance and repair	290.8	304.1	305.5	307.7	310.2	311.9	313.6	291.3	304.8	306.2	308.4	311.1	312.8	314.4
Body work (12/77 = 100)	141.5	150.6	151.5	153.7	154.5	155.0	155.7	141.3	148.9	148.8	152.1	152.7	153.3	154.0
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	138.7	144.7	145.7	146.5	148.7	149.5	150.8	141.2	148.5	149.5	150.2	152.8	153.7	154.9
Maintenance and servicing (12/77 = 100)	136.5	141.5	142.0	142.7	143.9	144.5	145.0	136.4	141.0	141.5	142.3	143.4	144.0	144.4
Power plant repair (12/77 = 100)	138.6	145.6	146.2	147.3	148.0	149.1	150.1	137.7	145.1	145.7	146.8	147.5	148.6	149.6
Other private transportation	238.9	250.6	253.3	253.4	254.5	255.1	255.7	241.9	254.2	256.9	256.8	257.8	258.2	258.8
Other private transportation commodities	208.6	214.5	215.5	214.8	215.6	214.9	216.9	211.7	216.9	218.0	217.3	218.2	217.3	219.4
Motor oil, coolant, and other products (12/77 = 100)	143.1	148.7	148.2	149.3	150.2	150.7	149.9	141.4	147.2	146.9	147.8	148.7	149.2	148.4
Automobile parts and equipment (12/77 = 100)	133.6	137.2	138.1	137.4	137.9	137.2	138.8	136.1	139.2	140.0	139.4	139.9	139.2	140.9
Tires	186.4	191.5	192.8	191.3	191.7	190.1	192.3	191.1	195.2	196.5	195.1	195.5	193.7	196.0
Other parts and equipment (12/77 = 100)	130.4	133.9	134.3	134.6	135.7	136.2	138.0	130.7	133.9	134.5	134.9	135.9	136.6	138.4
Other private transportation services	249.2	262.6	265.8	266.1	267.2	268.2	268.4	252.4	266.6	269.7	269.8	270.8	271.6	271.8
Automobile insurance	256.8	266.0	266.8	268.1	269.8	270.4	271.6	256.3	265.6	266.6	268.0	269.6	270.2	271.3
Automobile finance charges (12/77 = 100)	172.9	190.5	190.9	188.9	188.9	187.2	186.3	172.5	189.9	190.3	188.3	188.2	186.7	185.9
Automobile rental, registration, and other fees (12/77 = 100)	117.7	120.8	127.6	128.9	129.7	133.3	133.3	118.1	121.4	128.4	129.5	130.1	133.7	133.7
State registration	147.5	149.0	166.9	167.1	168.5	174.2	174.2	147.7	149.0	166.2	166.5	167.8	173.8	173.8
Drivers' licenses (12/77 = 100)	105.5	111.9	117.3	121.7	122.9	123.0	127.7	105.2	111.9	117.1	121.3	123.0	123.0	127.9
Vehicle inspection (12/77 = 100)	125.8	128.3	129.2	129.3	129.3	129.0	126.7	126.5	129.0	130.5	130.6	130.4	130.4	128.3
Other vehicle-related fees (12/77 = 100)	136.3	141.6	142.5	144.8	145.3	149.5	149.2	142.8	149.2	150.4	152.4	152.5	156.4	156.2
Public	297.7	333.8	334.9	336.8	336.7	339.3	342.1	288.2	328.6	329.4	331.0	331.0	333.3	335.1
Airline fare	348.8	374.7	375.5	379.3	379.0	382.7	388.9	346.7	372.8	372.7	376.3	376.3	379.8	385.2
Intercity bus fare	333.4	365.2	367.3	365.7	365.6	367.0	366.0	333.0	366.1	368.9	367.4	367.0	368.7	367.5
Intracity mass transit	251.9	304.6	305.9	306.7	306.6	308.1	308.3	249.9	303.9	305.1	305.8	305.7	307.2	307.1
Taxi fare	280.4	294.7	296.3	296.7	297.2	297.6	297.6	287.9	304.1	305.6	306.1	306.6	307.3	307.2
Intercity train fare	296.7	319.2	318.1	314.0	314.1	332.1	337.9	298.5	318.9	317.9	314.5	314.5	332.1	337.9
MEDICAL CARE	289.0	310.2	313.4	316.2	318.8	321.7	323.8	290.8	309.1	312.0	314.9	317.4	320.2	322.3
Medical care commodities	184.7	194.9	195.9	197.7	200.0	202.4	204.1	185.9	195.4	196.4	198.3	200.6	203.0	204.8
Prescription drugs	170.4	181.0	181.9	183.7	186.1	188.8	190.4	171.6	181.9	182.8	184.7	187.0	189.7	191.4
Anti-infective drugs (12/77 = 100)	130.3	137.8	138.2	138.4	139.3	140.9	142.5	132.7	139.7	140.1	140.4	141.1	142.5	144.1
Tranquilizers and sedatives (12/77 = 100)	136.0	144.8	145.4	146.8	148.6	152.0	153.8	135.2	144.4	144.9	146.5	148.3	151.8	153.8
Circulatories and diuretics (12/77 = 100)	124.9	131.9	132.2	134.0	135.7	136.7	137.0	126.1	131.8	132.1	134.0	135.6	136.6	136.8
Hormones, diabetic drugs, biologicals, and prescription medical supplies (12/77 = 100)	154.6	164.6	165.6	168.4	170.8	173.3	175.4	154.5	165.9	166.9	169.7	172.0	174.6	176.9
Pain and symptom control drugs (12/77 = 100)	136.5	145.9	147.3	148.8	150.8	153.1	153.7	138.2	147.3	148.7	150.3	152.3	154.6	155.2
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	130.2	138.1	138.8	139.9	142.7	144.7	145.9	131.2	138.0	138.8	139.9	142.7	144.8	146.0
Nonprescription drugs and medical supplies (12/77 = 100)	132.6	139.2	139.9	141.1	142.5	143.9	145.1	133.6	139.7	140.4	141.6	143.2	144.6	145.9
Eyeglasses (12/77 = 100)	125.3	128.4	128.3	128.9	129.5	130.1	130.9	124.1	127.1	127.1	127.6	128.1	128.7	129.7
Internal and respiratory over-the-counter drugs	209.1	221.6	222.8	225.1	228.1	231.1	233.4	211.0	222.8	223.9	226.4	229.6	232.5	235.0
Nonprescription medical equipment and supplies (12/77 = 100)	128.6	134.6	135.9	137.1	138.1	138.9	139.5	130.5	135.2	136.6	137.7	138.8	139.7	140.4
Medical care services	311.7	335.7	339.4	342.4	345.1	348.0	350.2	313.6	334.0	337.5	340.6	343.0	345.8	348.0
Professional services	273.8	290.0	292.0	294.2	295.8	297.8	299.2	278.0	290.3	292.2	294.3	295.9	297.9	299.3
Physicians' services	295.5	313.0	315.5	318.8	320.3	322.2	324.0	300.3	318.6	321.7	323.2	325.2	327.0	327.0
Dental services	257.7	273.9	275.8	276.8	278.6	281.1	282.1	263.3	272.3	274.1	274.9	276.6	279.2	280.3
Other professional services (12/77 = 100)	133.7	140.3	140.3	141.5	142.4	142.5	143.4	132.1	137.2	137.2	138.5	139.4	139.4	140.2
Other medical care services	357.6	390.9	396.8	400.8	404.7	408.7	411.9	357.1	388.1	393.8	398.0	401.6	405.4	408.5
Hospital and other medical services (12/77 = 100)	148.3	162.7	165.6	167.1	168.5	169.8	170.6	147.3	161.1	164.0	165.7	166.9	168.3	169.1
Hospital room	465.1	519.3	529.4	533.8	538.5	542.2	543.8	461.3	512.6	522.0	527.0	531.0	535.2	536.7
Other hospital and medical care services (12/77 = 100)	147.6	159.6	162.2	163.8	165.2	166.4	167.6	146.8	158.4	161.2	163.0	164.2	165.5	166.6

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

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1981		1982					1981		1982				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May.	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
ENTERTAINMENT	220.3	227.3	229.2	231.2	232.8	233.9	234.4	217.7	224.4	226.1	228.1	229.5	230.5	231.1
Entertainment commodities	225.0	230.6	232.0	234.3	236.6	238.0	238.8	220.4	225.4	226.7	228.9	230.8	232.0	232.8
Reading materials (12/77 = 100)	135.6	139.6	142.9	144.1	146.1	146.8	148.5	135.6	139.1	142.1	143.3	145.3	146.1	147.7
Newspapers	264.1	267.7	270.5	273.1	276.4	280.1	281.6	264.0	267.6	270.1	272.8	276.0	279.7	281.2
Magazines, periodicals, and books (12/77 = 100)	137.1	143.5	149.0	149.9	152.4	151.6	154.4	137.3	143.4	148.8	149.7	152.2	151.4	154.2
Sporting goods and equipment (12/77 = 100)	127.2	130.0	129.5	131.5	132.3	132.9	132.8	120.8	122.4	122.4	123.9	124.3	124.7	124.9
Sport vehicles (12/77 = 100)	129.5	132.1	c ⁽¹⁾	133.9	135.4	136.1	135.4	119.3	120.2	(¹)	121.9	122.5	122.8	122.6
Indoor and warm weather sport equipment (12/77 = 100)	117.4	119.9	120.1	119.6	119.9	120.4	121.0	116.4	117.9	118.2	117.7	118.1	118.6	119.2
Bicycles	190.4	193.9	194.8	197.3	197.6	198.9	199.4	191.6	195.2	196.2	198.9	198.9	200.2	200.7
Other sporting goods and equipment (12/77 = 100)	122.4	126.2	125.3	127.0	125.6	126.3	127.6	121.5	126.3	125.2	127.4	126.0	126.5	127.9
Toys, hobbies, and other entertainment (12/77 = 100)	128.8	132.0	132.2	133.2	134.5	135.4	135.5	127.7	130.9	131.2	132.3	133.5	134.3	134.4
Toys, hobbies, and music equipment (12/77 = 100)	127.6	130.1	130.8	131.7	133.4	134.1	134.8	125.0	126.9	127.7	128.6	130.2	130.7	131.4
Photographic supplies and equipment (12/77 = 100)	125.8	125.2	125.2	126.9	128.3	129.8	130.0	126.1	126.3	126.3	127.9	129.5	131.0	131.2
Pet supplies and expenses (12/77 = 100)	133.3	140.2	139.7	140.6	140.8	141.9	141.0	133.6	140.9	140.5	141.6	141.7	142.7	141.8
Entertainment services	214.0	223.0	225.5	227.1	227.8	228.5	228.7	214.2	223.9	226.1	227.8	228.4	229.2	229.2
Fees for participant sports (12/77 = 100)	130.7	137.6	139.6	140.9	141.9	142.0	141.6	130.5	139.3	141.2	142.5	143.5	143.7	142.9
Admissions (12/77 = 100)	125.1	129.7	131.2	131.6	131.2	132.2	133.0	125.0	128.7	130.1	130.6	130.3	131.2	132.1
Other entertainment services (12/77 = 100)	121.7	123.7	124.2	125.0	125.1	125.2	125.7	122.5	124.3	124.7	125.9	125.9	125.9	126.4
OTHER GOODS AND SERVICES	232.2	246.7	248.4	250.3	252.2	253.8	255.0	230.4	243.5	245.0	247.1	249.3	250.9	252.4
Tobacco products	218.2	226.8	227.1	230.7	234.1	235.1	237.4	217.8	225.9	226.2	229.8	233.2	234.0	236.6
Cigarettes	220.8	229.7	230.0	233.6	237.3	238.0	240.4	220.3	228.7	229.1	232.7	236.3	236.9	239.6
Other tobacco products and smoking accessories (12/77 = 100)	130.4	134.4	134.7	136.8	138.1	139.9	141.0	131.3	134.7	135.0	136.9	138.2	140.1	141.1
Personal care	230.5	239.1	240.9	242.3	243.7	245.9	246.5	228.4	237.1	238.8	240.4	241.8	244.1	244.7
Toilet goods and personal care appliances	226.6	234.7	236.4	238.5	240.6	243.8	244.5	225.5	235.4	236.9	239.2	241.5	244.7	245.4
Products for the hair, hairpieces, and wigs (12/77 = 100)	132.4	136.5	137.2	138.4	140.8	142.9	142.1	130.1	135.8	136.4	137.8	140.0	142.3	141.7
Dental and shaving products (12/77 = 100)	138.6	141.2	144.0	145.6	148.0	149.0	150.1	136.1	139.8	142.6	144.2	146.6	147.6	148.6
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	127.8	133.2	134.1	135.0	135.1	136.5	137.6	126.2	133.7	134.5	135.8	136.1	137.5	138.5
Other toilet goods and small personal care appliances (12/77 = 100)	129.8	136.0	135.9	137.0	137.4	140.3	140.5	134.0	139.1	138.9	140.2	140.7	143.5	144.0
Personal care services	234.7	243.9	245.7	246.5	247.3	248.7	249.2	231.5	239.2	241.0	241.8	242.6	244.0	244.4
Beauty parlor services for women	236.4	245.2	246.9	247.7	248.9	250.7	251.3	232.0	238.8	240.5	241.3	242.5	244.3	245.0
Haircuts and other barber shop services for men (12/77 = 100)	131.1	136.8	138.0	138.4	138.4	138.8	138.9	130.5	135.7	136.8	137.2	137.2	137.6	137.7
Personal and educational expenses	256.8	285.1	288.1	289.2	290.4	291.9	292.8	257.7	285.9	288.9	290.2	291.7	293.5	294.6
Schoolbooks and supplies	230.8	254.5	260.7	262.9	263.3	263.8	264.2	234.7	258.5	264.8	267.1	267.5	268.0	268.4
Personal and educational services	263.0	292.3	294.8	295.8	297.1	298.7	299.8	263.6	292.8	295.2	296.3	298.0	300.0	301.4
Tuition and other school fees	132.8	149.1	150.5	150.6	151.1	151.4	151.4	133.0	149.4	150.7	150.9	151.7	152.0	152.0
College tuition (12/77 = 100)	132.3	148.3	149.9	150.1	150.7	151.0	151.0	132.3	148.1	149.6	149.8	150.9	151.3	151.3
Elementary and high school tuition (12/77 = 100)	134.4	152.0	152.1	152.2	152.2	152.2	152.2	134.4	152.7	152.8	152.9	152.9	152.9	152.9
Personal expenses (12/77 = 100)	143.6	153.4	154.3	156.1	157.4	160.9	163.6	142.8	152.7	153.7	155.3	156.7	160.5	163.6
Special indexes:														
Gasoline, motor oil, coolant, and other products	410.4	402.8	400.5	393.9	379.3	362.6	366.1	411.5	404.0	401.8	395.3	380.6	363.7	367.2
Insurance and finance	386.6	423.1	423.9	424.8	420.9	426.3	431.5	386.1	422.1	422.8	423.5	419.9	425.9	430.9
Utilities and public transportation	272.4	293.9	297.7	299.1	302.7	305.1	310.8	270.6	292.6	296.4	297.7	301.5	304.0	309.6
Housekeeping and home maintenance services	326.2	341.3	343.0	344.0	344.0	347.5	349.8	323.8	341.5	343.3	344.2	344.0	348.2	350.4

¹ Not available.

c=corrected.

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

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000-1.250 million)			Size class C (75,000-385,000)			Size class D (75,000 or less)		
	1981		1982	1981		1982	1981		1982	1981		1982
	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.
Northeast												
EXPENDITURE CATEGORY												
All items	144.2	144.2	143.6	152.9	150.7	150.0	159.2	158.1	158.6	150.7	151.4	151.9
Food and beverages	139.6	143.3	143.7	139.6	142.7	142.2	142.8	145.7	147.4	137.0	140.4	140.4
Housing	148.0	146.0	144.5	161.9	155.7	155.3	176.3	172.5	173.3	159.3	159.5	160.5
Apparel and upkeep	117.5	117.0	119.1	123.1	120.5	122.5	125.9	123.1	127.4	125.4	119.9	125.1
Transportation	157.9	156.5	153.7	165.4	164.2	160.0	162.7	161.6	158.6	161.8	161.7	158.1
Medical care	142.0	145.1	146.4	146.6	147.0	148.9	146.3	148.7	150.4	143.0	144.8	151.5
Entertainment	131.9	133.3	135.5	131.0	132.4	136.2	133.7	136.1	135.8	134.3	137.6	139.0
Other goods and services	135.4	136.9	139.0	138.7	140.6	141.1	142.0	142.9	145.3	138.5	140.6	142.9
COMMODITY AND SERVICE GROUP												
Commodities	141.8	142.1	140.8	149.6	147.9	146.6	151.1	150.1	149.6	147.2	147.6	146.5
Commodities less food and beverages	143.2	141.4	139.0	154.5	150.5	148.7	154.9	152.2	150.6	152.1	151.0	149.4
Services	147.3	146.9	147.4	158.0	155.1	155.4	172.5	171.0	173.4	156.1	157.3	160.4
North Central region												
EXPENDITURE CATEGORY												
All items	152.6	153.6	155.2	149.2	151.9	155.1	147.4	149.1	151.2	147.6	151.0	153.3
Food and beverages	139.8	141.6	141.9	139.3	140.8	141.7	140.7	143.1	143.1	143.4	144.7	146.2
Housing	163.3	164.9	168.8	153.8	159.9	167.2	150.0	152.7	157.2	149.1	155.5	160.7
Apparel and upkeep	113.7	112.7	114.8	128.0	121.1	122.7	122.4	121.8	125.8	123.6	119.5	123.5
Transportation	162.7	161.1	158.7	160.8	159.7	156.9	162.3	161.0	158.4	160.1	160.3	157.2
Medical care	144.6	148.4	150.9	146.8	150.8	152.8	147.7	150.3	153.8	151.2	154.5	157.0
Entertainment	134.1	137.1	137.0	124.4	126.4	130.3	132.6	136.1	138.1	129.2	132.5	130.9
Other goods and services	137.0	138.8	140.3	142.9	145.1	146.5	135.6	137.3	139.0	141.7	144.6	146.4
COMMODITY AND SERVICE GROUP												
Commodities	145.1	145.2	145.4	142.9	145.4	146.4	142.2	143.5	144.3	140.7	142.1	143.7
Commodities less food and beverages	147.6	146.9	147.0	144.4	147.3	148.3	142.8	143.6	144.8	139.5	141.0	142.6
Services	163.7	166.1	169.8	159.5	162.6	169.3	156.1	158.4	162.4	158.7	165.0	168.7
South												
EXPENDITURE CATEGORY												
All items	152.0	152.6	152.9	155.9	157.2	155.7	152.3	154.0	152.3	150.8	152.3	153.5
Food and beverages	141.4	144.2	145.0	141.3	144.8	144.9	141.9	144.1	144.0	143.4	146.1	145.9
Housing	160.3	160.2	161.1	166.7	168.3	165.2	159.7	162.7	159.1	156.2	158.8	161.5
Apparel and upkeep	123.5	122.6	125.6	123.7	121.1	124.3	118.2	117.0	120.2	110.4	105.7	111.1
Transportation	161.9	161.5	157.5	164.1	162.8	159.7	162.3	160.7	157.1	161.6	159.9	155.8
Medical care	143.2	145.9	149.5	147.6	150.5	152.3	153.0	155.4	160.1	160.1	162.5	165.1
Entertainment	127.4	129.3	130.1	137.1	140.0	141.2	136.4	140.4	141.1	138.4	140.4	145.7
Other goods and services	139.7	141.2	142.8	139.5	140.7	142.4	139.9	142.0	143.7	140.5	147.9	150.2
COMMODITY AND SERVICE GROUP												
Commodities	145.9	146.8	146.3	147.5	148.4	147.6	145.3	146.0	144.3	145.1	145.0	146.0
Commodities less food and beverages	147.9	148.0	146.9	150.1	149.9	148.8	146.7	146.8	144.5	145.8	144.6	146.0
Services	160.5	160.7	162.1	168.6	170.4	167.8	163.1	166.3	164.5	159.5	163.3	164.8
West												
EXPENDITURE CATEGORY												
All items	156.1	157.9	158.5	155.1	157.1	157.0	149.4	150.2	151.1	149.1	153.3	157.9
Food and beverages	140.8	143.9	144.5	145.4	147.9	147.6	140.1	143.4	143.5	145.8	148.1	148.5
Housing	165.5	167.2	168.1	161.6	164.9	164.8	153.8	154.4	156.3	146.1	153.9	163.5
Apparel and upkeep	121.9	121.7	120.6	127.1	126.4	126.6	117.1	118.8	119.7	135.6	131.9	140.4
Transportation	162.9	164.2	162.9	165.0	163.6	161.7	162.8	160.9	158.3	164.6	164.5	160.5
Medical care	155.7	157.8	160.7	151.3	153.7	156.0	151.1	154.8	157.3	152.8	157.9	162.4
Entertainment	133.6	135.1	137.7	133.9	135.5	136.8	129.4	130.4	133.9	145.6	147.8	148.9
Other goods and services	141.0	144.5	147.5	142.8	145.3	148.9	136.8	137.1	139.5	148.0	147.6	149.8
COMMODITY AND SERVICE GROUP												
Commodities	144.9	146.0	145.5	147.2	148.4	148.1	143.7	145.2	146.4	145.5	147.5	148.9
Commodities less food and beverages	146.6	146.9	145.9	148.0	148.6	148.3	145.1	145.9	147.5	145.4	147.3	149.1
Services	170.9	173.7	175.9	166.0	169.1	169.3	157.5	157.3	157.9	154.6	161.8	171.2

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

[1967=100 unless otherwise specified]

Area ¹	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1981		1982					1981		1982				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
U.S. city average ²	269.0	281.5	282.5	283.4	283.1	284.3	287.1	269.1	281.1	282.1	282.9	282.5	283.7	286.5
Anchorage, Alaska (10/67=100)	244.6	...	253.0	...	260.0	...	263.8	240.1	...	248.6	...	254.5	...	258.0
Atlanta, Ga.	...	282.2	...	279.8	...	280.2	...	...	284.1	...	282.7	...	282.9	...
Baltimore, Md.	269.3	...	282.1	...	281.9	...	283.6	268.6	...	282.3	...	282.2	...	283.7
Boston, Mass.	263.6	...	274.0	...	269.8	...	272.5	263.6	...	273.4	...	269.8	...	272.0
Buffalo, N.Y.	...	264.3	...	259.9	...	258.3	...	...	262.7	...	258.0	...	256.4	...
Chicago, Ill.-Northwestern Ind.	264.5	273.9	275.4	274.9	276.4	280.2	287.7	263.9	274.4	275.9	275.4	276.5	280.0	287.0
Cincinnati, Ohio-Ky.-Ind.	271.7	...	285.7	...	284.9	...	288.7	273.3	...	288.4	...	287.2	...	291.2
Cleveland, Ohio	...	281.6	...	285.9	...	286.5	...	...	281.2	...	285.0	...	285.7	...
Dallas-Ft. Worth, Tex.	...	295.1	...	293.6	...	297.2	...	...	291.0	...	289.8	...	292.7	...
Denver-Boulder, Colo.	288.2	...	305.4	...	309.2	...	313.4	293.4	...	310.5	...	315.0	...	319.5
Detroit, Mich.	275.2	278.3	280.8	277.8	278.2	283.7	285.9	271.3	275.1	277.8	274.8	275.1	280.3	282.7
Honolulu, Hawaii	...	258.3	...	262.2	...	263.8	...	...	259.3	...	263.2	...	264.7	...
Houston, Tex.	...	302.7	...	304.1	...	304.9	...	...	298.8	...	300.3	...	302.1	...
Kansas City, Mo.-Kansas	...	273.5	...	276.0	...	274.0	...	...	272.0	...	274.1	...	272.1	...
Los Angeles-Long Beach, Anaheim, Calif.	267.3	282.3	285.8	285.6	286.6	286.8	287.1	270.7	286.1	289.8	289.4	290.4	290.5	290.6
Miami, Fla. (11/77=100)	143.2	...	155.2	...	155.1	...	155.7	144.8	...	156.4	...	156.4	...	157.0
Milwaukee, Wis.	278.5	...	291.3	...	289.3	...	292.9	283.5	...	295.3	...	292.5	...	296.0
Minneapolis-St. Paul, Minn.-Wis.	...	298.7	...	306.0	...	301.7	...	...	298.3	...	305.3	...	301.2	...
New York, N.Y.-Northeastern N.J.	256.7	267.9	268.5	269.0	267.4	268.2	270.9	255.9	266.9	267.5	267.8	265.9	266.5	269.4
Northeast, Pa. (Scranton)	259.9	...	272.5	...	267.2	...	270.2	263.3	...	274.5	...	268.4	...	272.1
Philadelphia, Pa.-N.J.	261.9	274.9	275.7	275.5	274.7	275.1	275.1	262.9	274.1	275.1	275.1	274.3	274.5	274.7
Pittsburgh, Pa.	...	281.8	...	278.6	...	275.3	...	...	282.6	...	280.0	...	276.7	...
Portland, Oreg.-Wash.	278.5	...	288.4	...	286.7	...	282.1	276.1	...	285.5	...	283.9	...	279.7
St. Louis, Mo.-Ill.	268.0	...	278.4	...	280.7	...	285.7	268.4	...	277.1	...	279.3	...	284.5
San Diego, Calif.	297.5	...	323.1	...	319.0	...	329.2	292.5	...	317.4	...	313.9	...	323.3
San Francisco-Oakland, Calif.	...	294.0	...	295.8	...	298.8	...	...	292.7	...	294.9	...	297.8	...
Seattle-Everett, Wash.	274.7	...	295.9	...	293.4	...	301.2	271.5	...	291.9	...	289.6	...	297.1
Washington, D.C.-Md.-Va.	264.7	...	278.0	...	278.8	...	278.4	267.7	...	281.8	...	283.8	...	283.3

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.

23. Producer Price Indexes, by stage of processing

[1967=100]

Commodity grouping	Annual average 1981	1981							1982					
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ¹	Mar.	Apr.	May	June
FINISHED GOODS														
Finished goods	269.8	270.5	271.8	271.5	271.5	274.3	274.7	275.4	277.9	277.9	276.9	276.9	277.7	279.9
Finished consumer goods	271.2	272.3	273.5	273.0	273.1	275.1	275.2	275.8	278.3	278.6	277.2	276.9	277.6	280.0
Finished consumer foods	253.5	253.8	257.6	256.3	256.2	254.0	252.7	252.9	256.4	258.2	257.1	259.8	262.3	263.4
Crude	263.6	258.9	262.7	256.9	253.5	253.8	260.0	273.9	280.6	282.5	262.9	266.1	259.4	254.3
Processed	250.6	251.3	255.0	254.2	254.4	252.0	249.9	249.0	252.1	254.0	254.4	257.1	260.4	262.0
Nondurable goods less foods	319.4	322.0	322.5	322.1	324.2	324.3	325.4	326.3	329.3	330.3	328.0	324.9	324.1	328.1
Durable goods	218.5	218.2	218.1	218.3	215.8	224.5	224.7	225.4	226.2	224.0	223.5	223.8	224.7	226.2
Consumer nondurable goods less food and energy	208.6	208.4	209.5	210.4	211.8	212.6	213.6	213.9	217.4	219.6	219.6	221.4	222.9	222.9
Capital equipment	264.3	263.8	265.4	265.8	265.3	271.5	273.0	274.1	276.2	275.0	277.1	278.3	279.6	
Materials and components for manufacturing	286.2	285.8	287.9	289.8	290.2	289.5	289.3	290.4	290.9	290.8	290.9	291.5	290.0	
Materials for food manufacturing	260.9	262.4	260.5	261.0	254.6	250.9	246.8	245.6	250.7	252.8	252.0	254.3	260.0	260.9
Materials for nondurable manufacturing	285.9	287.7	289.2	291.0	291.2	290.9	289.4	288.8	289.0	289.3	289.5	288.1	288.1	285.8
Materials for durable manufacturing	312.2	310.7	314.4	316.0	317.1	316.7	314.9	314.0	313.6	313.1	311.2	311.2	310.6	307.3
Components for manufacturing	259.2	257.3	259.5	261.8	263.8	265.1	266.9	267.8	269.8	270.9	272.0	272.9	273.8	273.9
Materials and components for construction	287.5	289.6	290.4	290.7	290.0	290.1	290.2	291.1	292.0	293.0	293.3	293.8	293.4	294.2
Processed fuels and lubricants	595.0	605.7	602.0	607.8	601.4	596.9	595.1	598.1	604.4	596.8	593.5	579.8	569.9	581.2
Manufacturing industries	498.2	505.4	500.3	508.3	500.5	497.5	496.4	499.0	505.9	497.8	497.1	487.6	482.3	492.0
Nonmanufacturing industries	680.5	694.3	692.0	695.6	690.5	684.7	682.2	685.6	691.3	684.2	678.4	660.9	646.7	659.3
Containers	276.2	277.2	278.8	280.3	280.6	280.9	280.6	280.2	282.5	285.5	286.5	287.4	287.1	286.7
Supplies	263.9	264.6	266.0	266.1	266.1	266.6	267.2	268.3	269.8	270.4	270.9	272.3	273.6	273.6
Manufacturing industries	253.2	253.4	255.0	256.0	256.8	258.2	259.2	261.0	262.6	263.3	264.8	265.6	267.2	267.3
Nonmanufacturing industries	269.6	270.5	272.0	271.6	271.1	271.2	271.6	272.4	273.8	274.4	274.4	276.0	277.2	277.1
Feeds	230.4	235.4	232.8	229.1	221.3	215.9	212.0	214.6	214.8	212.0	208.8	212.9	214.2	213.1
Other supplies	276.4	276.3	278.7	279.3	280.7	282.3	283.7	284.1	285.7	287.3	288.1	289.1	290.2	290.4
CRUDE MATERIALS														
Crude materials for further processing	329.1	335.4	337.3	333.0	327.4	319.9	313.9	311.5	318.4	321.6	319.9	322.8	328.1	325.7
Foodstuffs and feedstuffs	257.4	264.3	267.2	261.8	253.4	245.7	238.3	233.7	242.6	248.3	247.9	254.3	262.3	259.8
Nonfood materials	481.6	487.4	487.2	485.3	486.0	479.2	476.3	478.6	481.5	479.3	475.0	470.4	470.4	467.9
Nonfood materials except fuel	413.9	418.1	413.1	413.9	410.2	404.1	397.8	396.2	399.5	394.8	387.4	379.0	376.6	370.0
Manufacturing industries	429.6	434.2	428.7	429.6	425.4	418.6	411.7	409.8	413.2	407.5	398.5	389.0	386.4	378.9
Construction	262.4	262.6	262.6	263.1	263.6	264.7	264.8	265.2	267.6	270.5	275.1	275.3	274.0	273.7
Crude fuel	676.5	759.2	781.2	766.7	788.7	779.0	792.5	813.0	812.9	824.5	837.7	853.7	866.1	885.2
Manufacturing industries	865.4	877.2	902.6	883.0	911.4	898.4	915.8	942.5	940.3	954.4	972.8	992.4	1,008.2	1,033.6
Nonmanufacturing industries	674.3	678.5	698.1	687.8	704.8	697.8	708.2	724.0	725.6	735.4	744.5	757.6	767.4	781.7
SPECIAL GROUPINGS														
Finished goods excluding foods	273.2	274.1	274.7	274.6	274.7	279.1	280.0	280.9	283.0	282.4	281.5	280.6	280.9	283.4
Finished consumer goods excluding foods	276.3	277.7	277.9	277.7	277.9	281.6	282.4	283.2	285.2	284.9	283.3	281.7	281.6	284.6
Finished consumer goods less energy	233.9	233.4	235.0	235.0	234.9	237.2	237.2	237.6	240.5	241.3	240.7	242.4	244.1	244.9
Intermediate materials less foods and feeds	310.1	311.2	312.7	314.5	314.6	314.6	314.5	314.9	316.4	316.4	316.3	315.3	314.6	314.8
Intermediate materials less energy	285.2	285.5	287.2	288.5	288.7	288.8	288.5	288.7	289.9	290.7	290.7	291.2	291.7	290.9
Intermediate foods and feeds	250.7	253.2	251.1	250.2	243.5	239.3	235.2	235.2	238.8	239.4	237.8	240.7	245.0	245.3
Crude materials less agricultural products	545.8	551.3	550.6	549.1	551.4	543.4	540.7	543.5	546.1	543.9	538.2	532.2	531.7	529.4
Crude materials less energy	254.0	259.7	261.8	258.0	250.4	243.2	235.8	231.6	239.1	243.4	242.8	247.3	252.5	248.6

¹ Data for February 1982 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r = revised.

24. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1981	1981						1982						
			June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ¹	Mar.	Apr.	May	June
	All commodities	293.4	294.8	296.2	296.4	295.7	296.1	295.5	295.8	298.3	298.6	297.9	297.9	298.6	299.4
	All commodities (1957-59 = 100)	311.3	312.8	314.3	314.5	313.7	314.2	313.5	313.8	316.5	316.8	316.1	316.1	316.8	317.7
	Farm products and processed foods and feeds	251.5	254.3	256.8	254.2	250.3	246.0	242.5	241.0	246.0	248.4	247.5	251.4	255.6	255.3
	Industrial commodities	304.1	305.1	306.2	307.2	307.4	309.0	309.3	310.0	311.8	311.6	311.0	309.9	309.5	310.7
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	254.9	260.7	263.3	257.9	251.1	243.1	237.4	234.6	242.2	247.1	244.6	250.6	256.1	252.7
01-1	Fresh and dried fruits and vegetables	267.0	263.3	265.6	258.1	252.8	248.8	254.0	280.5	289.2	290.1	256.4	266.7	270.7	263.8
01-2	Grains	248.4	257.1	257.4	242.7	227.0	227.6	226.5	213.6	225.2	223.2	220.9	226.0	228.2	225.7
01-3	Livestock	248.0	263.0	266.5	262.0	257.3	244.5	231.1	225.0	236.8	251.2	255.6	267.6	282.9	277.5
01-4	Live poultry	201.2	210.0	215.3	210.3	196.7	185.7	175.0	171.4	186.8	197.3	197.7	186.2	192.7	207.2
01-5	Plant and animal fibers	242.0	259.6	251.3	232.5	206.5	211.7	198.5	188.4	198.2	193.5	199.7	207.4	214.1	203.1
01-6	Fluid milk	287.4	285.0	284.3	285.0	287.3	294.3	288.2	286.7	287.6	285.8	282.5	280.3	278.8	278.9
01-7	Eggs	187.1	174.6	185.1	180.7	193.2	193.8	209.7	195.5	187.0	200.6	204.0	192.1	164.3	159.3
01-8	Hay, hayseeds, and oilseeds	274.1	285.3	290.0	284.3	267.2	230.4	221.1	218.8	218.4	217.6	213.7	222.8	224.3	219.3
01-9	Other farm products	274.3	242.7	250.2	263.9	268.9	263.3	273.1	280.2	280.1	273.7	273.0	274.2	273.9	271.8
02	Processed foods and feeds	248.7	249.9	252.2	251.2	248.9	246.6	244.3	243.6	247.1	248.1	248.1	250.8	254.4	255.8
02-1	Cereal and bakery products	255.5	256.4	258.3	257.7	258.5	256.9	256.5	255.1	256.6	253.3	254.2	253.8	253.9	253.3
02-2	Meats, poultry, and fish	246.2	248.6	257.1	254.4	253.3	246.6	240.0	236.1	243.7	247.9	249.7	257.1	267.1	271.1
02-3	Dairy products	245.7	245.2	245.1	245.3	245.5	246.8	246.9	247.2	247.7	248.0	248.0	248.4	248.5	248.7
02-4	Processed fruits and vegetables	261.1	262.5	265.9	267.3	270.0	271.7	270.5	271.8	273.2	276.3	275.7	274.5	273.4	275.4
02-5	Sugar and confectionery	276.8	274.8	266.0	267.3	246.8	246.7	244.1	247.6	256.8	257.2	255.0	256.4	265.8	269.5
02-6	Beverages and beverage materials	247.5	248.1	249.0	249.4	249.1	250.0	251.4	251.9	253.9	255.1	255.7	256.6	256.7	256.5
02-7	Fats and oils	227.5	227.3	234.8	229.5	224.3	223.4	221.5	219.1	216.6	216.8	214.1	218.6	222.2	222.0
02-8	Miscellaneous processed foods	250.1	251.5	252.2	252.1	253.0	249.9	250.1	250.1	251.0	250.9	249.6	249.5	248.0	248.6
02-9	Prepared animal feeds	230.3	234.3	232.2	228.9	222.9	218.1	214.7	217.2	217.4	214.9	212.0	216.1	217.4	216.4
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	199.6	200.1	201.3	202.4	202.9	204.0	203.6	203.4	205.0	205.6	205.0	204.7	205.1	204.5
03-1	Synthetic fibers (12/75 = 100)	156.7	157.9	159.7	161.2	161.0	162.7	161.6	161.5	162.9	163.2	163.8	162.1	164.3	163.8
03-2	Processed yarns and threads (12/75 = 100)	137.8	139.3	140.3	142.0	142.3	144.4	140.3	139.6	139.2	140.7	140.8	140.4	141.0	139.4
03-3	Gray fabrics (12/75 = 100)	146.7	147.4	148.2	149.0	149.1	148.0	147.4	147.2	148.2	147.3	147.1	145.8	145.5	145.8
03-4	Finished fabrics (12/75 = 100)	125.2	125.6	126.0	126.8	126.8	126.7	126.5	125.6	126.8	127.1	125.7	125.5	125.4	124.0
03-81	Apparel	185.5	186.2	187.2	187.8	188.0	189.9	190.8	191.0	192.7	193.2	191.7	192.2	192.7	193.0
03-82	Textile housefurnishings	228.2	223.9	227.1	228.8	232.2	233.0	233.6	233.6	237.6	240.8	246.2	246.5	246.4	244.4
04	Hides, skins, leather, and related products	261.5	261.6	261.1	261.3	261.7	260.0	259.8	260.7	261.8	261.6	262.7	264.4	263.4	262.7
04-2	Leather	319.5	321.0	319.0	313.7	313.2	313.7	311.3	312.3	319.0	317.7	315.5	313.2	309.5	306.7
04-3	Footwear	241.2	241.5	242.4	242.5	242.9	239.6	239.8	240.1	238.9	238.6	240.6	243.7	242.5	243.8
04-4	Other leather and related products	243.5	244.3	242.9	245.1	245.0	245.0	245.4	245.4	247.5	248.1	253.3	253.2	253.2	250.5
05	Fuels and related products and power	694.4	707.6	704.9	704.3	703.5	698.1	698.1	702.5	705.1	697.8	690.1	671.2	661.9	677.4
05-1	Coal	497.3	491.7	505.5	507.0	510.2	510.8	512.7	515.2	525.3	529.9	527.0	532.5	534.4	534.1
05-2	Coke	456.5	469.7	469.7	469.7	469.7	469.7	469.7	469.7	469.7	469.7	468.1	468.1	468.2	462.7
05-3	Gas fuels ²	939.8	954.6	969.4	949.3	976.6	965.6	983.0	1,003.7	987.9	987.6	993.8	996.6	1,003.4	1,029.7
05-4	Electric power	366.8	366.6	374.6	385.8	383.8	378.4	378.3	384.2	392.8	392.9	404.1	406.7	405.5	406.6
05-61	Crude petroleum ³	803.6	815.9	798.9	796.8	796.8	788.2	785.9	787.2	787.2	770.3	745.0	718.0	718.2	718.5
05-7	Petroleum products, refined ⁴	805.8	828.1	816.3	813.4	806.1	802.3	798.3	798.6	801.9	789.7	770.5	733.4	712.7	738.5
06	Chemicals and allied products	287.8	290.5	291.3	293.3	293.3	292.4	292.0	291.8	292.9	293.6	294.6	294.5	296.2	293.5
06-1	Industrial chemicals ⁵	363.8	369.7	370.4	371.5	371.8	367.9	363.7	362.8	362.9	362.2	362.6	359.6	358.1	352.9
06-21	Prepared paint	249.9	250.0	250.7	250.7	250.7	250.7	254.5	256.4	258.9	258.9	259.3	259.3	265.1	265.1
06-22	Paint materials	300.2	300.8	304.5	308.5	308.0	308.1	308.3	305.8	306.6	306.4	306.8	306.8	306.2	304.2
06-3	Drugs and pharmaceuticals	193.4	193.2	195.5	195.0	197.8	198.5	198.2	198.9	202.2	204.4	204.8	206.6	209.4	209.6
06-4	Fats and oils, inedible	295.6	303.1	290.9	305.6	285.6	277.7	282.5	280.4	272.8	274.2	290.1	282.6	288.4	287.5
06-5	Agricultural chemicals and chemical products	284.8	288.9	288.9	293.4	292.6	293.1	295.7	294.9	296.8	298.0	297.0	296.3	294.9	294.0
06-6	Plastic resins and materials	289.2	290.0	295.9	295.5	296.8	299.5	293.2	294.2	286.1	287.3	286.8	286.1	285.4	281.9
06-7	Other chemicals and allied products	254.4	256.3	254.8	257.3	257.4	256.9	259.9	260.0	263.8	264.9	267.7	269.0	275.9	273.0
07	Rubber and plastic products	232.8	233.4	232.1	234.1	235.7	237.3	238.0	238.3	237.3	239.3	241.8	241.9	242.9	243.3
07-1	Rubber and rubber products	256.7	256.8	254.7	256.9	260.3	262.9	264.4	264.6	262.5	266.0	269.3	268.7	271.2	271.5
07-11	Crude rubber	281.7	285.2	284.2	284.7	283.1	279.8	279.0	280.8	281.8	282.1	282.8	283.2	283.6	284.2
07-12	Tires and tubes	250.9	251.2	246.8	249.9	256.5	257.1	255.9	255.4	253.6	256.7	256.3	254.4	255.0	255.3
07-13	Miscellaneous rubber products	252.4	250.9	251.4	253.1	253.9	261.1	266.7	267.2	263.8	268.8	278.1	278.8	284.6	285.4
07-2	Plastic products (6/78 = 100)	128.4	129.1	128.7	129.8	129.9	130.3	130.3	130.6	130.5	131.0	132.0	132.4	132.3	132.6
08	Lumber and wood products	292.8	298.1	296.5	294.5	289.3	284.3	282.1	285.4	285.5	285.2	285.4	286.1	283.9	288.7
08-1	Lumber	325.2	335.8	332.4	329.9	320.2	311.7	306.6	309.9	310.0	308.1	308.1	311.5	309.2	315.2
08-2	Millwork	273.4	272.2	273.6	272.3	271.4	271.3	271.8	276.4	277.1	278.6	276.4	275.8	275.8	280.1
08-3	Plywood	245.7	251.5	247.8	245.6	240.8	234.3	233.5	239.7	237.4	235.1	237.1	234.1	230.6	238.9
08-4	Other wood products	239.2	239.8	240.7	239.8	240.5	239.9	239.3	239.4	238.2	238.7	239.6	237.7	237.3	237.1

See footnotes at end of table.

24. Continued — Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1980	1981								1982					
			June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ¹	Mar.	Apr.	May	June	
INDUSTRIAL COMMODITIES — Continued																
09	Pulp, paper, and allied products	273.7	272.9	274.9	275.9	277.8	279.2	280.4	281.0	285.5	'286.3	286.3	287.9	289.1	289.3	
09-1	Pulp, paper, and products, excluding building paper and board	271.0	271.2	272.3	273.7	274.8	275.7	275.8	275.6	276.1	'276.8	277.3	276.4	275.4	274.6	
09-11	Woodpulp	398.1	394.2	394.2	394.2	394.2	402.3	413.7	413.7	410.3	'410.3	414.1	392.3	398.2	390.3	
09-12	Wastepaper	175.7	182.9	182.1	182.1	178.5	165.1	144.5	143.4	135.2	128.8	129.2	128.1	121.5	115.2	
09-13	Paper	280.0	278.5	279.7	282.1	285.9	287.8	287.4	287.2	289.2	'289.8	289.5	291.7	288.8	288.2	
09-14	Paperboard	258.2	259.2	259.4	260.6	261.6	261.7	261.6	260.0	259.7	261.4	261.1	261.2	258.8	255.9	
09-15	Converted paper and paperboard products	259.0	259.9	261.2	262.4	262.8	263.2	263.1	263.2	263.9	'264.7	265.5	265.0	264.7	265.0	
09-2	Building paper and board	231.3	237.4	235.5	234.2	234.2	233.3	232.1	230.3	233.8	'231.4	237.5	235.5	239.5	239.4	
10	Metals and metal products	300.4	298.4	302.0	304.1	304.9	305.3	304.2	303.3	304.7	'304.2	303.6	303.8	303.4	300.1	
10-1	Iron and steel	333.8	330.1	338.8	339.9	339.8	341.3	340.0	339.9	343.1	'342.9	342.4	342.6	341.2	338.3	
10-13	Steel mill products	337.6	332.2	344.9	344.9	345.3	348.7	348.6	348.9	350.6	'350.3	350.5	352.2	352.1	349.9	
10-2	Nonferrous metals	286.0	284.5	282.8	287.3	289.4	285.4	281.1	277.1	274.4	'273.6	267.6	266.1	263.5	253.7	
10-3	Metal containers	315.9	314.1	315.2	318.7	318.8	318.2	318.1	316.8	324.3	'326.2	326.1	329.7	330.1	330.2	
10-4	Hardware	262.4	259.7	263.8	265.3	267.8	269.5	271.5	272.0	274.1	'274.8	275.7	276.2	276.7	277.9	
10-5	Plumbing fixtures and brass fittings	267.4	268.9	270.9	271.2	271.6	272.9	273.1	274.0	274.6	'276.4	278.9	280.3	281.0	282.5	
10-6	Heating equipment	223.9	223.5	226.4	227.9	228.5	229.0	228.8	229.9	233.4	'233.1	233.5	235.8	237.3	238.6	
10-7	Fabricated structural metal products	295.4	295.0	297.9	299.3	300.0	302.6	303.2	303.0	303.4	'304.0	304.5	305.0	304.8	305.2	
10-8	Miscellaneous metal products	270.8	269.4	272.0	272.9	273.7	276.1	278.0	278.3	281.2	'278.7	284.6	285.3	290.0	289.5	
11	Machinery and equipment	263.1	262.1	264.8	266.2	268.1	269.3	270.4	272.0	274.1	'275.4	275.7	277.3	278.1	278.4	
11-1	Agricultural machinery and equipment	287.7	286.8	288.1	290.3	292.8	295.5	300.8	302.8	303.1	'304.6	304.6	306.1	307.0	308.8	
11-2	Construction machinery and equipment	320.8	320.1	323.8	325.0	326.5	328.3	329.6	332.0	337.0	'337.9	337.4	341.4	343.4	343.7	
11-3	Metalworking machinery and equipment	301.2	301.3	302.9	303.5	306.3	306.6	307.9	312.9	315.9	'317.2	317.0	318.7	320.3	320.8	
11-4	General purpose machinery and equipment	288.5	287.0	290.6	292.3	293.9	295.1	296.2	297.9	300.0	'301.3	301.5	302.9	303.3	303.1	
11-6	Special industry machinery and equipment	308.0	308.8	311.0	310.3	312.8	314.6	315.0	316.4	320.4	'320.7	320.6	323.1	324.1	324.7	
11-7	Electrical machinery and equipment	220.1	219.2	221.1	222.8	224.2	225.3	226.0	227.0	228.7	'229.5	230.5	231.6	231.7	231.9	
11-9	Miscellaneous machinery	252.3	250.1	254.0	256.0	258.5	259.0	259.8	260.4	261.4	'264.0	264.1	265.4	267.2	268.0	
12	Furniture and household durables	198.4	197.3	199.5	199.6	201.0	201.3	202.1	202.9	203.5	'204.6	204.7	205.6	206.1	206.6	
12-1	Household furniture	219.4	218.6	220.0	220.7	222.2	222.8	225.1	226.6	227.5	'227.4	228.5	230.6	230.9	231.1	
12-2	Commercial furniture	257.6	257.9	258.7	259.1	261.6	262.1	263.3	263.9	266.7	'271.2	273.9	274.5	275.5	276.2	
12-3	Floor coverings	178.6	180.7	182.8	181.9	181.7	180.9	182.3	181.4	180.3	'180.6	179.8	180.3	180.5	180.7	
12-4	Household appliances	186.9	186.1	188.8	189.1	190.1	190.8	190.9	191.3	193.4	'195.3	195.9	196.3	197.8	198.5	
12-5	Home electronic equipment	89.1	86.7	87.4	87.6	87.8	88.1	88.0	89.6	89.3	'89.6	88.8	88.2	88.1	88.2	
12-6	Other household durable goods	280.8	276.4	282.1	280.9	285.8	285.8	285.3	286.2	283.4	'283.7	284.3	283.5	283.1	284.6	
13	Nonmetallic mineral products	309.5	313.6	314.3	314.1	313.2	313.3	313.7	313.5	315.6	'319.0	319.7	320.0	319.1	318.7	
13-11	Flat glass	212.9	210.3	218.3	218.3	218.3	218.5	218.5	216.1	216.2	'216.2	216.2	216.2	216.2	216.2	
13-2	Concrete ingredients	296.3	297.5	297.7	298.0	298.5	298.4	298.5	298.7	306.2	'308.4	309.5	309.2	310.7	310.9	
13-3	Concrete products	291.2	293.5	293.4	293.4	292.9	293.3	293.4	293.6	295.5	'295.9	296.0	297.3	297.1	297.9	
13-4	Structural clay products, excluding refractories	249.7	250.7	250.9	250.9	255.3	256.2	256.5	257.5	257.5	'257.7	257.4	260.7	258.1	258.4	
13-5	Refractories	302.5	307.1	307.1	307.1	307.8	308.9	311.3	316.8	335.1	'335.1	338.4	339.7	340.4	340.9	
13-6	Asphalt roofing	407.0	428.5	421.9	420.9	401.6	402.9	410.2	405.6	401.3	'400.4	392.8	385.2	384.0	388.8	
13-7	Gypsum products	256.2	260.7	259.7	255.3	252.9	252.4	251.3	249.7	250.4	'255.0	260.7	262.8	259.4	256.4	
13-8	Glass containers	328.5	335.3	335.5	335.5	335.5	335.5	335.5	335.5	335.4	'352.2	355.2	357.4	357.4	357.4	
13-9	Other nonmetallic minerals	463.9	476.8	476.2	475.3	474.3	473.3	473.5	474.7	474.7	'478.7	480.1	478.8	472.1	465.2	
14	Transportation equipment (12/68 = 100)	235.4	234.3	235.0	235.9	231.8	244.5	246.3	246.8	248.6	'245.2	244.9	245.6	247.2	249.6	
14-1	Motor vehicles and equipment	237.5	236.7	237.4	238.4	232.8	247.8	248.9	249.5	250.8	'246.8	246.4	246.6	248.7	251.5	
14-4	Railroad equipment	338.2	331.4	338.1	338.7	338.7	338.7	341.3	340.1	345.8	'345.8	352.8	353.9	349.6	349.6	
15	Miscellaneous products	265.6	266.3	263.2	262.6	267.0	268.5	269.5	267.6	268.3	'273.5	272.9	273.3	272.3	271.6	
15-1	Toys, sporting goods, small arms, ammunition	212.2	211.2	213.2	212.7	213.6	213.0	212.7	213.3	218.4	'220.1	221.6	221.9	222.7	222.9	
15-2	Tobacco products	268.3	268.7	268.8	268.8	274.5	278.2	278.2	278.2	278.2	'270.3	270.3	271.8	271.8	280.3	
15-3	Notions	259.6	268.0	267.5	267.7	267.8	269.7	269.7	269.7	270.3	'270.4	271.8	271.8	280.3	280.3	
15-4	Photographic equipment and supplies	210.1	212.5	211.4	207.1	208.7	208.9	209.0	209.9	209.9	'210.5	212.5	214.6	210.9	210.8	
15-5	Mobile homes (12/74 = 100)	(⁶)	(⁶)	158.1	158.3	158.7	159.1	159.3	159.3	159.5	159.6	161.6	162.0	162.1	162.5	
15-9	Other miscellaneous products	346.9	346.9	333.1	334.6	345.5	348.5	344.8	344.6	342.2	'341.1	334.3	333.5	330.8	328.0	

¹ Data for February 1982 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

² Prices for natural gas are lagged 1 month.

³ Includes only domestic production.

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

⁵ Some prices for industrial chemicals are lagged 1 month.

⁶ Not available.

r = revised.

25. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1981	1981							1982					
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ¹	Mar.	Apr.	May	June
All commodities — less farm products	295.7	296.7	298.0	298.7	298.5	299.5	299.4	300.0	302.0	'301.9	301.4	300.9	301.1	302.3
All foods	251.9	252.2	255.2	253.7	251.7	249.1	247.4	247.6	251.6	'253.2	251.5	254.4	257.9	259.0
Processed foods	252.2	253.1	256.0	255.0	252.8	250.0	247.6	246.5	250.5	'251.9	252.1	254.9	259.0	260.9
Industrial commodities less fuels		263.5	265.0	266.1	266.4	268.7	269.0	269.4	271.1	'271.5	271.6	272.2	272.8	272.5
Selected textile mill products (Dec. 1975 = 100)	135.9	135.9	136.8	137.2	138.1	138.2	138.4	137.9	139.3	'139.7	139.0	138.9	138.9	138.1
Hosiery	134.3	135.7	135.8	135.3	135.5	136.5	136.5	136.7	136.9	'136.9	137.5	138.1	138.5	138.5
Underwear and nightwear	203.5	203.5	204.7	204.7	204.7	204.7	205.7	206.3	213.9	'215.6	216.4	216.4	216.3	217.8
Chemicals and allied products, including synthetic rubber and fibers and yarns	278.6	281.2	282.3	284.0	284.4	283.8	283.2	283.1	284.3	'285.1	285.8	285.7	287.3	284.8
Pharmaceutical preparations	186.8	186.6	189.0	188.4	191.6	192.8	192.5	193.3	196.8	'199.3	200.0	204.4	205.3	205.3
Lumber and wood products, excluding millwork	303.1	312.2	308.7	306.2	298.0	290.1	286.4	290.7	289.9	'287.9	288.6	289.9	287.2	294.0
Special metals and metal products	279.4	277.9	280.2	281.9	280.1	286.7	286.8	286.6	287.9	'288.0	285.5	285.7	286.4	285.8
Fabricated metal products	280.0	279.0	281.7	283.1	283.9	286.0	287.0	287.1	289.4	'289.0	291.5	292.5	294.3	294.6
Copper and copper products	204.0	203.7	202.5	206.2	205.1	201.9	198.9	195.4	194.5	'194.1	191.0	190.5	191.6	180.0
Machinery and motive products	256.7	255.6	257.4	258.6	257.7	264.3	265.8	266.9	268.9	'268.1	268.2	269.3	270.5	271.8
Machinery and equipment, except electrical	288.3	287.3	290.4	291.7	293.8	295.0	296.4	298.4	300.7	'302.3	302.2	304.1	305.2	305.7
Agricultural machinery, including tractors	296.2	294.8	295.6	298.2	301.6	305.7	312.5	314.7	315.1	'316.0	315.5	317.7	318.2	319.8
Metalworking machinery	329.4	328.3	330.1	331.4	333.9	336.7	338.3	341.2	343.8	'344.9	346.4	348.8	349.4	350.3
Numerically controlled machine tools (Dec. 1971 = 100)	239.4	241.4	241.7	241.8	241.8	241.8	242.2	242.0	240.1	'239.8	240.3	240.2	240.3	240.3
Total tractors	324.0	322.5	325.5	327.8	330.7	338.3	342.2	342.3	346.9	'346.9	346.4	351.7	352.4	353.2
Agricultural machinery and equipment less parts	289.0	287.9	288.6	291.1	294.0	297.6	303.5	305.8	306.5	'307.4	307.3	309.2	309.6	311.0
Farm and garden tractors less parts	298.9	298.0	298.0	301.4	305.5	313.0	319.6	319.7	319.7	'319.7	318.8	322.3	322.9	324.3
Agricultural machinery, excluding tractors less parts	294.4	292.5	293.9	295.8	298.7	299.9	303.5	310.9	311.6	'313.2	307.3	314.3	314.7	316.5
Industrial valves	314.8	315.3	317.5	319.8	322.7	322.4	323.4	325.3	328.6	'330.2	327.1	327.7	327.9	327.2
Industrial fittings	302.1	303.0	303.0	303.0	304.3	304.1	304.1	304.1	304.1	'304.1	304.1	309.1	309.1	309.1
Construction materials	283.0	285.0	285.7	285.5	284.4	284.6	284.1	285.2	286.6	'286.9	287.4	288.1	287.9	289.1

¹ Data for February 1982 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication. r = revised.

26. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1981	1981							1982					
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ¹	Mar.	Apr.	May	June
Total durable goods	269.8	269.1	270.8	271.9	271.8	275.0	275.4	276.0	277.6	'277.4	277.3	278.1	278.4	278.4
Total nondurable goods	312.4	315.7	316.8	316.2	315.0	312.8	311.4	311.4	314.7	'315.4	314.2	313.5	314.5	316.0
Total manufactures	285.9	286.9	288.0	288.6	288.3	289.8	289.7	289.9	291.9	'292.0	291.9	290.9	291.3	292.4
Durable	269.6	268.9	270.6	271.7	271.7	275.1	275.8	276.5	278.0	'277.8	277.8	278.7	279.1	279.4
Nondurable	303.6	306.4	306.9	306.9	306.3	305.5	304.5	304.3	306.8	'307.2	305.8	303.9	304.1	306.2
Total raw or slightly processed goods	330.7	335.4	337.9	335.8	332.7	326.4	323.3	323.6	328.9	'330.6	329.9	332.2	334.9	333.6
Durable	271.4	272.4	271.2	275.9	270.4	263.7	253.4	247.8	253.8	'253.7	250.7	245.9	239.4	225.2
Nondurable	334.0	338.9	341.8	339.1	336.3	330.0	327.4	328.2	333.4	'335.2	334.7	337.5	340.8	340.6

¹ Data for February 1982 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication. r = revised.

27. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1981	1981							1982					
			June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ¹	Mar.	Apr.	May	June
MINING															
1011	Iron ores (12/75 = 100)	167.3	168.1	168.1	168.1	168.1	168.1	171.3	171.3	171.3	171.3	171.3	171.3	177.1	177.1
1092	Mercury ores (12/75 = 100)	346.0	352.0	358.3	365.4	364.5	354.1	354.1	343.7	347.9	313.7	325.0	327.0	308.3	307.5
1211	Bituminous coal and lignite	493.9	488.4	502.1	503.4	506.0	506.2	507.8	510.3	520.9	'525.8	521.9	527.2	529.4	529.8
1311	Crude petroleum and natural gas	898.8	713.7	911.5	900.3	913.6	900.8	907.5	919.7	'913.9	904.7	894.9	902.0	915.1	
1442	Construction sand and gravel	277.3	278.4	278.4	278.2	279.2	279.7	279.8	280.7	'289.9	292.7	292.2	294.4	295.2	
1455	Kaolin and ball clay (6/76 = 100)	138.7	137.1	137.1	137.1	137.1	143.4	143.4	143.4	149.6	149.6	149.6	151.7	151.7	
MANUFACTURING															
2011	Meatpacking plants	243.1	245.9	252.6	250.9	252.7	244.1	237.0	234.1	237.6	'244.4	247.0	253.3	264.3	265.7
2013	Sausages and other prepared meats	241.3	238.1	246.0	254.0	253.9	252.2	248.9	247.0	245.6	'251.0	248.2	253.4	265.9	273.7
2016	Poultry dressing plants	192.0	198.3	203.6	201.2	188.8	175.5	172.8	166.7	(²)	(²)	(²)	(²)	(²)	(²)
2021	Creamery butter	274.8	273.5	273.8	273.7	275.0	279.2	279.5	275.0	275.0	276.4	276.8	275.3	274.9	274.9

See footnotes at end of table.

27. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1981	1981								1982					
			June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. 1	Mar.	Apr.	May	June	
MANUFACTURING—Continued																
2022	Cheese, natural and processed (12/72 = 100)	215.8	216.1	213.8	214.5	215.0	215.4	215.9	218.4	218.6	217.9	216.8	216.6	217.1	217.9	
2024	Ice cream and frozen desserts (12/72 = 100)	211.9	212.4	212.7	212.7	212.7	212.5	212.5	212.7	212.8	212.8	210.9	214.2	214.2	214.2	
2033	Canned fruits and vegetables	248.5	248.9	251.6	252.9	254.3	257.0	256.4	258.9	260.8	262.6	262.7	261.5	262.3	264.6	
2034	Dehydrated food products (12/73 = 100)	177.6	175.0	180.5	178.7	183.4	182.1	181.4	182.1	184.0	181.8	181.5	181.5	178.5	178.5	
2041	Flour mills (12/71 = 100)	195.9	199.3	196.5	191.0	195.3	191.1	191.5	189.2	191.5	187.5	187.3	192.5	188.4	189.1	
2044	Rice milling	277.2	300.3	297.4	284.3	268.2	247.3	235.4	215.1	205.9	192.2	183.5	177.9	183.0	180.3	
2048	Prepared foods, n.e.c. (12/75 = 100)	124.6	127.5	125.9	124.8	119.6	117.3	116.4	116.0	116.0	115.9	114.8	115.4	116.7	115.7	
2061	Raw cane sugar	273.5	263.3	272.2	254.6	212.3	219.9	224.3	230.8	247.6	245.1	233.0	242.9	269.2	286.7	
2063	Beet sugar	320.6	339.7	274.1	287.5	270.7	250.3	230.4	250.5	266.4	272.2	272.4	272.6	280.2	280.2	
2067	Chewing gum	309.8	303.1	303.1	303.2	303.2	303.2	303.2	303.2	303.3	303.3	303.4	303.4	303.4	303.4	
2074	Cottonseed oil mills	199.0	212.3	212.0	206.0	182.3	172.0	167.2	182.4	184.9	170.5	158.2	164.6	167.9	170.2	
2075	Soybean oil mills	245.8	248.4	253.7	245.8	234.2	229.7	221.2	221.9	223.1	220.4	217.8	225.0	232.0	226.4	
2077	Animal and marine fats and oils	288.1	291.3	288.8	294.1	281.2	274.0	272.3	266.6	260.4	262.6	271.8	273.3	271.5	272.3	
2083	Malt	282.5	286.1	286.1	286.1	275.4	275.4	275.4	275.4	267.1	267.1	267.1	259.1	259.8	259.8	
2085	Distilled liquor, except brandy (12/75 = 100)	134.7	134.6	134.6	135.5	135.5	135.5	137.9	137.9	140.1	137.9	140.2	140.2	139.8	139.8	
2091	Canned and cured seafoods (12/73 = 100)	187.8	187.5	187.4	188.4	188.8	188.2	188.3	188.5	187.2	187.0	187.7	188.2	188.0	188.4	
2092	Fresh or frozen packaged fish	369.6	375.5	367.6	347.1	353.5	356.9	360.8	369.5	396.8	389.2	420.7	433.8	427.5	442.8	
2095	Roasted coffee (12/72 = 100)	238.0	238.6	236.4	235.7	237.3	238.2	239.2	240.4	245.1	247.7	248.7	250.7	247.9	247.6	
2098	Macaroni and spaghetti	252.0	246.6	259.5	259.5	259.5	259.5	259.5	259.5	259.5	259.5	259.5	259.5	259.5	259.5	
2111	Cigarettes	277.7	278.3	278.3	278.3	284.2	288.4	288.4	288.4	288.4	319.7	319.7	319.7	319.8	319.8	
2121	Cigars	169.1	168.5	169.7	169.7	174.5	174.5	174.5	174.5	174.5	178.6	175.6	176.8	176.6	176.6	
2131	Chewing and smoking tobacco	320.9	320.8	321.0	321.3	325.3	326.1	326.1	326.1	326.1	349.4	349.4	349.4	353.6	353.6	
2211	Weaving mills, cotton (12/72 = 100)	234.1	234.3	234.7	237.4	236.0	233.2	229.8	227.6	227.3	227.1	226.5	226.1	227.7	226.0	
2221	Weaving mills, synthetic (12/77 = 100)	136.6	137.1	138.0	139.3	139.5	139.4	139.8	139.5	139.8	139.7	139.9	139.2	139.9	138.0	
2251	Women's hosiery, except socks (12/75 = 100)	113.5	115.6	115.5	115.0	115.0	115.2	115.1	115.2	115.6	115.6	116.2	116.3	117.0	117.0	
2254	Knit underwear mills	210.2	210.0	210.7	210.8	210.9	210.9	212.8	213.0	225.2	225.2	235.5	236.5	226.0	228.7	
2257	Circular knit fabric mills (6/76 = 100)	110.8	110.4	111.0	112.0	111.9	112.0	112.4	111.8	112.4	113.2	110.6	110.1	109.7	108.2	
2261	Finishing plants, cotton (6/76 = 100)	144.9	146.2	146.3	146.2	145.4	144.9	143.5	141.4	140.5	140.3	140.8	141.6	141.4	141.3	
2262	Finishing plants, synthetics, silk (6/76 = 100)	126.5	126.6	127.1	127.8	129.0	129.1	129.1	128.6	129.4	129.9	128.3	128.1	128.2	127.2	
2272	Tufted carpets and rugs	154.3	155.6	158.3	157.4	157.3	155.7	157.0	156.7	155.5	155.7	155.7	156.1	156.4	156.9	
2281	Yarn mills, except wool (12/71 = 100)	221.8	225.8	225.1	225.4	223.8	222.4	219.9	217.2	216.3	215.7	215.6	214.6	214.9	214.0	
2282	Throwing and winding mills (6/76 = 100)	138.6	139.3	142.7	146.8	148.0	154.5	145.6	146.0	145.7	150.3	150.8	150.9	152.6	149.3	
2284	Thread mills (6/76 = 100)	151.4	151.1	151.1	151.1	154.8	157.0	157.0	156.8	156.8	156.8	156.8	156.7	156.6	156.5	
2298	Cordage and twine (12/77 = 100)	134.8	134.3	134.3	134.3	139.3	139.3	139.3	140.7	141.0	141.0	141.0	141.0	141.0	141.0	
2311	Men's and boys' suits and coats	223.9	224.6	225.9	226.2	226.5	227.4	228.4	230.5	233.7	233.6	233.9	234.3	234.6	235.3	
2321	Men's and boys' shirts and nightwear	208.8	207.5	210.5	210.6	211.5	212.4	212.6	213.4	173.4	215.9	192.7	193.1	173.6	215.7	
2322	Men's and boys' underwear	230.6	230.7	230.8	230.8	230.8	230.8	233.0	233.0	246.9	246.9	247.4	247.4	247.4	251.2	
2323	Men's and boys' neckwear (12/75 = 100)	114.6	115.4	113.9	113.9	113.9	113.9	113.9	113.9	115.3	117.3	117.3	117.3	117.3	121.3	
2327	Men's and boys' separate trousers	186.1	186.1	186.4	186.4	186.4	186.8	186.9	187.1	188.4	188.4	188.2	193.0	194.9	195.0	
2328	Men's and boys' work clothing	248.4	248.3	250.8	251.1	251.2	253.1	253.2	253.3	252.5	254.2	252.9	253.8	253.7	254.1	
2331	Women's and misses' blouses and waists (6/78 = 100)	119.8	118.5	121.0	121.2	121.3	126.4	126.7	126.7	126.5	126.5	123.9	123.8	123.7	123.7	
2335	Women's and misses' dresses (12/77 = 100)	121.1	122.5	123.0	124.3	123.5	123.4	124.1	122.7	123.0	123.0	123.6	122.9	122.9	123.1	
2341	Women's and children's underwear (12/72 = 100)	169.9	170.5	170.6	170.6	170.6	170.6	171.6	171.6	174.7	174.8	175.7	175.7	172.7	179.4	
2342	Brassieres and allied garments (12/75 = 100)	136.8	136.9	138.8	138.8	138.8	138.8	138.9	140.1	145.1	148.8	149.2	149.2	148.5	148.5	
2361	Children's dresses and blouses (12/77 = 100)	120.3	120.5	121.6	121.7	121.7	122.0	122.5	123.2	123.2	123.2	122.0	121.0	121.0	121.0	
2381	Fabric dress and work gloves	289.3	292.1	289.2	289.2	289.2	289.2	289.2	289.2	293.8	297.4	295.5	295.5	295.5	294.5	
2394	Canvas and related products (12/77 = 100)	132.1	130.1	130.1	133.1	134.6	137.6	137.6	139.7	144.9	144.9	147.8	146.3	146.5	143.8	
2396	Automotive and apparel trimmings (12/77 = 100)	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	
2421	Sawmills and planing mills (12/71 = 100)	228.2	234.8	233.5	231.2	225.2	219.5	216.5	218.6	218.0	216.9	217.1	218.4	216.8	219.7	
2436	Softwood veneer and plywood (12/75 = 100)	142.0	148.1	143.8	139.6	135.4	129.3	129.0	134.5	132.5	130.5	132.3	129.2	126.0	133.3	
2439	Structural wood members, n.e.c. (12/75 = 100)	156.6	158.2	157.6	156.9	156.6	154.8	154.2	153.2	153.9	153.5	152.3	152.9	151.5	152.9	
2448	Wood pallets and skids (12/75 = 100)	152.5	153.0	153.1	152.9	152.8	152.0	150.4	149.9	149.8	149.0	148.1	145.8	144.6	144.2	
2451	Mobile homes (12/74 = 100)	156.8	156.1	158.1	158.3	158.7	159.2	159.3	160.3	160.4	160.5	162.7	162.9	163.1	163.4	
2492	Particleboard (12/75 = 100)	172.8	182.3	179.6	173.6	170.5	168.0	166.9	170.3	172.6	170.7	173.4	176.8	176.7	176.9	
2511	Wood household furniture (12/71 = 100)	197.4	197.5	198.6	199.2	200.1	201.0	202.0	202.8	203.6	204.3	204.8	207.0	207.3	207.6	
2512	Upholstered household furniture (12/71 = 100)	174.9	173.9	175.1	175.1	175.3	175.6	179.5	182.1	184.4	179.3	182.0	184.6	185.1	185.1	
2515	Mattresses and bedspreads	193.7	190.5	191.3	194.6	195.2	195.2	197.5	198.0	204.4	205.6	210.0	210.1	210.3	210.3	
2521	Wood office furniture	254.6	254.6	254.7	254.7	257.1	257.1	257.0	257.6	261.9	270.7	271.9	271.9	271.9	271.9	
2611	Pulp mills (12/73 = 100)	253.2	251.3	251.3	251.3	251.3	255.0	262.5	262.5	258.6	258.6	262.9	258.8	254.8	246.5	
2621	Paper mills, except building (12/74 = 100)	156.3	155.7	157.0	157.4	158.8	159.8	159.7	159.6	162.0	162.0	161.9	161.8	160.5	160.8	
2631	Paperboard mills (12/74 = 100)	151.8	152.3	151.7	152.4	153.7	153.6	153.5	152.7	152.5	153.4	153.2	153.0	151.5	150.0	
2647	Sanitary paper products	343.8	344.4	344.2	344.3	344.3	344.0	344.1	344.6	344.6	344.6	345.6	345.5	344.7	347.3	
2654	Sanitary food containers	245.3	242.2	246.0	252.9	253.2	253.4	253.3	253.3	254.0	256.9	261.4	261.4	261.4	261.4	
2655	Fiber cans, drums, and similar products (12/75 = 100)	163.0	160.9	163.2	163.2	163.2	167.6	167.6	170.0	176.4	176.5	176.5				

27. Continued — Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1981	1981								1982					
			June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. 1	Mar.	Apr.	May	June	
3021	Rubber and plastic footwear (12/71 = 100)	184.4	184.1	185.0	185.4	185.3	185.0	185.0	185.2	186.1	188.4	189.1	189.0	186.7	187.0	
3031	Reclaimed rubber (12/73 = 100)	193.4	187.7	192.9	200.3	200.3	200.3	200.3	200.3	200.3	200.4	204.9	206.9	207.2	208.4	
3079	Miscellaneous plastic products (6/78 = 100)	128.8	129.6	129.2	130.2	130.3	130.8	130.8	131.0	131.1	131.6	132.5	132.9	132.7	132.9	
3111	Leather tanning and finishing (12/77 = 100)	150.6	150.7	151.3	148.5	148.3	148.2	146.8	147.5	150.8	149.3	148.2	147.5	147.3	146.9	
3143	Men's footwear, except athletic (12/75 = 100)	169.1	169.6	170.7	171.4	170.9	170.5	170.6	171.3	173.1	172.2	173.6	174.9	175.1	175.2	
3144	Women's footwear, except athletic	217.8	218.5	218.9	217.8	218.2	212.5	212.7	212.4	208.5	209.8	211.6	215.6	213.4	215.2	
3171	Women's handbags and purses (12/75 = 100)	155.5	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	
3211	Flat glass (12/71 = 100)	175.6	174.6	180.0	180.0	180.0	180.0	180.1	177.4	177.5	177.5	177.5	177.5	177.5	177.5	
3221	Glass containers	328.4	335.2	335.4	335.4	335.4	335.4	335.4	335.4	335.3	352.1	355.1	357.3	357.3	357.3	
3241	Cement, hydraulic	328.5	331.0	331.6	331.6	332.0	330.3	330.3	330.3	339.6	341.5	338.3	337.9	338.6	338.7	
3251	Brick and structural clay tile	296.9	298.5	298.9	298.9	299.9	299.9	300.5	300.5	298.9	299.4	291.8	299.2	305.8	306.4	
3253	Ceramic wall and floor tile (12/75 = 100)	132.5	132.1	132.1	132.1	140.4	140.4	140.4	140.4	140.4	140.4	136.8	137.1	138.0	138.0	
3255	Clay refractories	310.4	312.2	312.3	312.3	312.5	313.9	315.2	319.9	329.6	354.4	357.5	357.0	357.2	357.1	
3259	Structural clay products, n.e.c.	222.7	223.9	223.9	223.9	227.5	231.7	231.7	236.6	225.6	226.0	196.8	202.4	216.4	216.5	
3261	Vitreous plumbing fixtures	254.9	255.8	258.7	259.6	259.0	259.0	259.3	260.1	261.1	260.6	260.7	261.9	265.4	265.5	
3262	Vitreous china food utensils	335.0	336.6	336.6	336.6	336.8	336.8	344.7	344.7	347.7	347.7	347.3	336.2	345.2	348.8	
3263	Fine earthenware food utensils	308.9	309.6	309.6	309.6	313.8	313.8	315.0	315.0	315.1	315.1	314.4	312.8	314.1	314.8	
3269	Pottery products, n.e.c. (12/75 = 100)	160.1	160.7	160.7	160.7	161.8	161.8	163.7	163.7	164.3	164.3	164.1	161.4	163.6	164.8	
3271	Concrete block and brick	270.4	271.2	271.2	274.0	274.2	274.3	274.2	275.1	274.9	276.4	276.3	276.4	276.6	277.0	
3273	Ready-mixed concrete	298.7	301.7	300.7	300.0	299.2	299.5	299.4	299.6	301.9	301.9	302.0	303.3	303.9	304.7	
3274	Lime (12/75 = 100)	172.5	173.0	173.1	173.9	173.7	173.7	173.5	173.8	178.8	183.7	186.0	186.6	188.1	188.4	
3275	Gypsum products	257.3	260.9	261.8	258.9	252.9	251.5	252.5	250.6	250.9	253.9	260.5	262.2	258.8	256.2	
3291	Abrasive products (12/71 = 100)	232.5	234.1	235.0	235.1	237.3	237.6	241.0	241.0	241.3	248.3	247.8	248.9	251.2	252.1	
3297	Nonclay refractories (12/74 = 100)	185.3	189.7	189.7	189.7	189.7	189.7	190.2	190.3	191.2	198.3	200.5	202.4	203.2	203.9	
3312	Blast furnaces and steel mills	342.8	338.2	350.1	350.0	350.3	353.1	353.0	353.3	354.7	354.4	354.5	356.1	355.9	353.6	
3313	Electrometallurgical products (12/75 = 100)	121.8	120.7	121.2	121.5	121.4	125.4	125.4	125.3	125.3	123.4	120.3	120.3	120.3	120.4	
3316	Cold finishing of steel shapes	316.2	309.5	325.0	325.7	326.2	326.4	326.4	326.7	327.0	327.0	327.0	327.6	327.8	326.5	
3317	Steel pipes and tubes	341.5	336.3	348.2	350.6	350.5	362.0	362.3	363.0	363.7	364.1	366.0	365.8	365.8	365.7	
3321	Gray iron foundries (12/68 = 100)	299.5	298.4	298.8	299.9	302.0	303.3	305.2	306.1	307.9	310.0	310.6	310.4	311.4	311.6	
3333	Primary zinc	326.5	335.1	335.4	353.8	355.9	337.0	337.5	315.7	308.6	311.2	298.6	273.4	259.9	259.7	
3334	Primary aluminum	333.5	332.5	334.2	334.4	333.6	333.5	332.5	332.8	324.1	320.2	320.7	316.5	313.8	308.4	
3351	Copper rolling and drawing	212.4	210.6	209.4	212.9	214.1	212.3	209.2	207.1	204.8	203.9	199.6	196.6	197.5	189.8	
3353	Aluminum sheet, plate, and foil (12/75 = 100)	175.9	176.1	177.3	177.4	178.0	179.9	180.2	180.8	181.8	181.7	181.0	184.1	187.7	178.0	
3354	Aluminum extruded products (12/75 = 100)	180.1	180.8	181.2	181.3	181.2	181.3	181.4	181.1	180.8	180.8	180.5	179.9	180.2	180.1	
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	159.1	157.3	157.2	157.2	157.7	163.0	166.2	166.1	166.1	166.5	165.9	162.9	163.0	165.4	
3411	Metal cans	305.3	304.7	305.5	306.7	306.8	307.0	306.0	304.9	310.8	314.0	315.1	319.6	320.4	319.3	
3425	Hand saws and saw blades (12/72 = 100)	201.3	200.2	201.4	204.2	206.6	204.8	205.0	206.0	211.6	214.8	214.3	214.9	220.8	220.9	
3431	Metal sanitary ware	265.0	265.2	269.2	269.7	270.2	270.3	271.6	271.8	271.3	271.8	273.8	275.8	275.7	276.0	
3465	Automotive stampings (12/75 = 100)	146.4	145.2	146.2	146.4	146.9	147.4	149.7	149.1	150.1	144.7	152.6	152.7	153.0	153.0	
3482	Small arms ammunition (12/75 = 100)	160.5	157.8	157.8	159.9	159.9	159.9	159.9	163.9	167.5	167.5	173.2	171.9	171.9	175.9	
3493	Steel springs, except wire	245.1	241.9	243.7	248.9	252.4	253.9	254.1	256.1	257.4	256.6	256.6	256.0	255.3	255.2	
3494	Valves and pipe fittings (12/71 = 100)	248.4	248.5	250.0	251.0	252.7	252.9	253.5	255.7	257.7	258.9	257.4	258.6	259.2	259.0	
3498	Fabricated pipe and fittings	361.4	361.6	364.6	370.0	375.1	377.7	378.6	379.3	378.6	377.7	376.5	385.5	385.4	385.4	
3519	Internal combustion engines, n.e.c.	311.0	307.2	312.0	314.2	322.1	323.2	326.4	325.4	329.4	332.0	330.7	332.6	337.0	337.7	
3531	Construction machinery (12/76 = 100)	157.0	156.9	159.0	159.5	160.1	161.0	161.6	159.7	162.5	162.4	163.2	164.1	165.2	165.3	
3532	Mining machinery (12/72 = 100)	282.3	280.8	282.7	285.3	286.9	288.5	290.8	292.9	295.5	297.8	299.6	301.4	302.7	303.5	
3533	Oilfield machinery and equipment	395.4	390.3	401.3	406.5	411.3	415.6	418.2	420.3	427.2	429.3	433.7	436.2	435.8	437.8	
3534	Elevators and moving stairways	253.5	251.2	252.1	252.8	254.6	257.0	260.7	265.6	264.3	269.8	269.9	270.8	271.6	273.5	
3542	Machine tools, metal forming types (12/71 = 100)	306.4	305.7	307.6	309.5	312.0	311.7	312.3	319.3	319.7	322.8	324.5	325.5	325.6	326.5	
3546	Power driven hand tools (12/76 = 100)	147.1	147.1	148.2	148.4	148.6	149.5	149.5	150.0	153.3	153.2	153.4	154.0	156.1	156.4	
3552	Textile machinery (12/69 = 100)	243.4	244.4	246.2	245.4	248.2	248.0	247.9	249.9	252.3	253.5	253.4	256.2	256.5	258.1	
3553	Woodworking machinery (12/72 = 100)	224.5	219.7	224.0	225.4	228.9	228.9	229.1	229.1	233.7	232.9	229.6	235.0	234.7	234.4	
3576	Scales and balances, excluding laboratory	226.2	230.3	226.6	226.6	226.1	226.2	226.3	226.5	228.3	228.8	229.8	229.6	229.5	230.6	
3592	Carburetors, pistons, rings, valves (6/76 = 100)	177.9	176.5	180.8	181.3	182.1	185.4	187.2	187.3	185.3	189.6	190.2	192.6	195.2	195.7	
3612	Transformers	209.7	209.6	210.7	212.8	214.5	217.3	222.0	222.0	220.5	222.2	222.4	223.2	224.7	224.8	
3623	Welding apparatus, electric (12/72 = 100)	227.2	227.2	228.3	229.6	231.6	232.5	233.2	235.8	236.8	236.9	231.5	232.9	232.9	233.1	
3631	Household cooking equipment (12/75 = 100)	141.1	141.0	140.5	141.5	141.6	141.6	141.9	142.6	146.0	146.8	146.9	146.2	146.8	146.9	
3632	Household refrigerators, freezers (6/76 = 100)	132.3	130.8	135.5	135.5	136.4	137.8	137.9	137.9	140.1	141.1	140.8	142.5	143.2	144.3	
3633	Household laundry equipment (12/73 = 100)	174.2	173.6	174.1	174.6	177.2	177.0	178.4	178.8	180.1	180.5	186.2	186.9	188.6	189.0	
3635	Household vacuum cleaners	156.8	158.6	158.6	158.8	158.8	161.3	161.0	160.8	165.6	165.2	158.8	158.2	158.3	158.4	
3636	Sewing machines (12/75 = 100)	146.6	153.8	153.8	153.8	153.8	156.0	156.0	156.0	156.0	155.8	155.2	153.7	153.7	153.7	
3641	Electric lamps	277.5	276.5	275.2	280.0	283.1	285.9	284.8	281.3	282.1	286.1	283.5	290.7	294.5	293.9	
3644	Noncurrent-carrying wiring devices (12/72 = 100)	250.4	251.5	253.3	253.8	258.5	258.7	262.1	262.1	257.9	259.0	261.5	259.5	263.0	261.1	
3646	Commercial lighting fixtures (12/75 = 100)	154.4	156.2	154.4	155.5	157.6	158.9	159.3	159.2	159.2	161.1	163.2	163.6	167.5	167.2	
3648	Lighting equipment, n.e.c. (12/75 = 100)	155.7	153.7	153.8	161.3	161.7	162.0	162.4	163.1	162.8	167.8	168.8	170.2	170.4	170.9	
3671	Electron tubes receiving type	309.7	312.5	327.4	327.5	327.5	327.5	327.8	342.2	374.1	374.2	375.1	375.2	375.0	375.1	
3674	Semiconductors and related devices	90.4	90.3	89.2	89.2	91.4	91.6	92.0	91.7	90.9	90.2	91.2	90.1	89.6	89.7	
3675	Electronic capacitors (12/75 = 100)	170.3	171.2	171.4	178.8	172.4	171.5	168.1	166.6	167.4	169.7	168.6	167.8	166.6	166.8	
3676	Electronic resistors (12/75 = 100)	141.3	141.2	142.1	142.5	142.7	142.7	143.0	142.8	143.7	144.0	144.0	144.7	145.2	144.9	
3678	Electronic connectors (12/75 = 100)	154.8	154.3	155.0	155.8	156.5	156.8	155.8	155.8	155.9	156.2	157.1	156.7	158.1	158.3	
3692	Primary batteries, dry and wet	182.2	181.0	181.6	182.7	182.7	182.7	182.7	182.7	182.0	184.3	191.2	195.4			

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 28 through 31, 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*, the productivity tables 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.

28. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years, 1950-81

[1977=100]

Item	1950	1955	1960	1965	1970	1974	1975	1976	1977	1978	1979	1980	1981
Private business sector:													
Output per hour of all persons	50.3	58.2	65.1	78.2	86.1	92.7	94.8	97.9	100.0	99.8	99.5	99.3	100.4
Compensation per hour	20.0	26.3	33.9	41.7	58.2	78.0	85.5	92.9	100.0	108.4	119.3	131.5	144.6
Real compensation per hour	50.4	59.6	69.4	80.0	90.8	95.9	96.3	98.8	100.0	100.7	99.6	96.7	96.3
Unit labor cost	39.8	45.2	52.1	53.3	67.6	84.2	90.2	94.8	100.0	108.6	119.9	132.4	144.0
Unit nonlabor payments	43.5	47.8	50.8	57.8	63.4	78.9	90.7	94.4	100.0	105.1	110.9	118.3	130.6
Implicit price deflator	41.0	46.1	51.7	54.8	66.2	82.4	90.4	94.7	100.0	107.4	116.9	127.6	139.4
Nonfarm business sector:													
Output per hour of all persons	56.2	62.7	68.2	80.4	86.7	93.1	95.0	98.1	100.0	99.8	99.1	98.8	99.7
Compensation per hour	21.8	28.3	35.6	42.8	58.6	78.4	86.0	93.0	100.0	108.5	119.0	130.8	143.9
Real compensation per hour	55.0	63.9	73.0	82.2	91.5	96.4	96.8	99.0	100.0	100.7	99.3	96.2	95.9
Unit labor cost	38.8	45.1	52.3	53.2	67.6	84.3	90.5	94.8	100.0	108.7	120.0	132.4	144.3
Unit nonlabor payments	42.8	47.9	50.5	58.2	64.0	76.1	88.9	94.0	100.0	103.6	108.5	117.6	130.4
Implicit price deflator	40.2	46.0	51.7	54.9	66.4	81.6	89.9	94.5	100.0	107.0	116.2	127.4	139.7
Nonfinancial corporations:													
Output per hour of all employees	(¹)	(¹)	66.3	79.9	85.4	91.3	94.4	97.4	100.0	100.4	100.4	101.0	103.5
Compensation per hour	(¹)	(¹)	36.3	43.0	58.3	77.6	85.5	92.5	100.0	108.2	118.7	130.7	143.9
Real compensation per hour	(¹)	(¹)	74.2	82.6	91.0	95.4	96.3	98.5	100.0	100.5	99.1	96.2	95.9
Unit labor cost	(¹)	(¹)	54.7	53.8	68.3	85.1	90.6	95.0	100.0	107.8	118.2	129.4	139.0
Unit nonlabor payments	(¹)	(¹)	54.6	60.8	63.1	75.7	90.9	95.0	100.0	103.8	108.3	117.3	132.3
Implicit price deflator	(¹)	(¹)	54.7	56.2	66.5	81.8	90.7	95.0	100.0	106.4	114.8	125.2	136.7
Manufacturing:													
Output per hour of all persons	49.5	56.5	60.1	74.6	79.2	90.9	93.5	97.7	100.0	100.9	102.0	101.7	104.0
Compensation per hour	21.5	28.8	36.7	42.9	57.6	76.4	85.5	92.4	100.0	108.2	118.8	131.6	146.2
Real compensation per hour	54.1	65.2	75.1	82.3	89.9	93.9	96.3	98.3	100.0	100.5	99.2	96.8	97.4
Unit labor cost	43.4	51.0	61.1	57.4	72.7	84.1	91.4	94.6	100.0	107.3	116.5	129.4	140.6
Unit nonlabor payments	55.1	59.4	62.0	70.3	66.0	70.4	88.5	95.1	100.0	104.7	105.7	108.7	122.6
Implicit price deflator	46.8	53.4	61.3	61.2	70.7	80.1	90.6	94.7	100.0	106.5	113.4	123.4	135.4

¹ Not available.

29. Annual changes in productivity, hourly compensation, unit costs, and prices, 1971-81

Item	Year											Annual rate of change	
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1950-81	1960-81
Private business sector:													
Output per hour of all persons	3.6	3.5	2.7	-2.3	2.3	3.3	2.1	-0.2	-0.3	-0.2	1.1	2.4	2.1
Compensation per hour	6.6	6.5	8.0	9.4	9.6	8.6	7.7	8.4	10.1	10.2	10.0	6.2	7.2
Real compensation per hour	2.2	3.1	1.7	-1.4	0.4	2.7	1.2	0.7	-1.1	-2.9	-0.3	2.3	1.7
Unit labor cost	2.9	2.9	5.2	11.9	7.2	5.1	5.5	8.6	10.4	10.4	8.8	3.6	5.0
Unit nonlabor payments	7.6	4.5	5.9	4.4	15.0	4.1	5.9	5.1	5.5	6.6	10.4	3.3	4.5
Implicit price deflator	4.4	3.4	5.4	9.4	9.7	4.7	5.6	7.4	8.8	9.2	9.3	3.5	4.9
Nonfarm business sector:													
Output per hour of all persons	3.3	3.7	2.5	-2.4	2.1	3.2	2.0	-0.2	-0.7	-0.3	0.9	2.1	1.8
Compensation per hour	6.6	6.7	7.6	9.4	9.6	8.1	7.6	8.5	9.7	9.9	10.0	5.9	7.0
Real compensation per hour	2.2	3.3	1.3	-1.4	0.4	2.2	1.0	0.7	-1.4	-3.2	-0.3	2.0	1.5
Unit labor cost	3.1	2.8	4.9	12.1	7.4	4.7	5.5	8.7	10.4	10.3	9.0	3.7	5.0
Unit nonlabor payments	7.4	3.2	1.3	5.9	16.7	5.7	6.4	3.6	4.8	8.4	10.9	3.3	4.4
Implicit price deflator	4.5	3.0	3.7	10.1	10.3	5.1	5.8	7.0	8.6	9.7	9.6	3.6	4.8
Nonfinancial corporations:													
Output per hour of all employees	4.8	3.0	2.6	-3.4	3.4	3.2	2.7	0.4	0.0	0.6	2.4	(¹)	2.0
Compensation per hour	6.5	5.8	7.7	9.7	10.1	8.2	8.1	8.2	9.7	10.1	10.0	(¹)	6.9
Real compensation per hour	2.1	2.5	1.4	-1.1	0.9	2.3	1.5	0.5	-1.4	-3.0	-0.3	(¹)	1.4
Unit labor cost	1.6	2.8	4.9	13.6	6.5	4.9	5.3	7.8	9.7	9.5	7.4	(¹)	4.8
Unit nonlabor payments	7.4	2.7	1.5	7.1	20.1	4.6	5.2	3.8	4.4	8.3	12.8	(¹)	4.0
Implicit price deflator	3.5	2.8	3.8	11.4	10.9	4.8	5.2	6.4	7.9	9.1	9.2	(¹)	4.5
Manufacturing:													
Output per hour of all persons	6.1	5.0	5.4	-2.4	2.9	4.4	2.4	0.9	1.1	-0.3	2.2	2.6	2.6
Compensation per hour	6.1	5.4	7.2	10.6	11.9	8.0	8.3	8.2	9.8	10.7	11.1	5.8	6.9
Real compensation per hour	1.8	2.0	0.9	-0.3	2.5	2.1	1.7	0.5	-1.3	-2.5	0.7	2.0	1.4
Unit labor cost	0.0	0.3	1.7	13.3	8.8	3.4	5.7	7.3	8.6	11.0	8.7	3.1	4.1
Unit nonlabor payments	11.2	0.8	-3.3	-1.8	25.9	7.4	5.2	4.7	0.9	2.9	12.7	2.3	3.0
Implicit price deflator	3.1	0.5	0.3	9.0	13.1	4.6	5.6	6.5	6.4	8.8	9.7	2.8	3.8

¹ Not available.

30. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1977=100]

Item	Annual average		Quarterly indexes										
			1979		1980				1981				1982
	1980	1981	III	IV	I	II	III	IV	I	II	III	IV	I
Private business sector:													
Output per hour of all persons	99.3	100.4	99.4	99.1	99.5	99.1	99.4	99.1	100.3	101.2	100.9	99.2	98.9
Compensation per hour	131.5	144.6	120.7	123.2	126.4	130.1	133.1	135.9	139.8	143.3	146.5	148.5	151.2
Real compensation per hour	96.7	96.3	99.2	98.0	96.7	96.6	96.9	96.0	96.1	96.9	96.3	95.8	96.8
Unit labor cost	132.4	144.0	121.4	124.3	127.0	131.3	133.9	137.1	139.4	141.6	145.2	149.7	152.8
Unit nonlabor payments	118.3	130.6	111.5	112.2	115.2	116.0	119.7	122.7	127.6	129.3	132.4	132.6	129.2
Implicit price deflator	127.6	139.4	118.1	120.2	123.0	126.1	129.1	132.2	135.4	137.5	140.9	143.9	144.9
Nonfarm business sector:													
Output per hour of all persons	98.8	99.7	98.9	98.8	98.9	98.2	99.0	99.0	100.0	100.4	99.9	98.2	98.3
Compensation per hour	130.8	143.9	120.2	123.0	126.0	129.4	132.3	135.4	139.2	142.4	145.7	147.9	150.8
Real compensation per hour	96.2	95.9	98.8	97.8	96.4	96.0	96.3	95.7	95.7	96.3	95.8	95.4	96.5
Unit labor cost	132.4	144.3	121.5	124.4	127.4	131.8	133.6	136.8	139.1	141.9	145.8	150.7	153.3
Unit nonlabor payments	117.6	130.4	109.2	110.1	113.9	115.1	119.2	122.0	127.8	128.7	132.2	132.8	129.7
Implicit price deflator	127.4	139.7	117.4	119.7	122.9	126.3	128.8	131.9	135.3	137.5	141.2	144.7	145.4
Nonfinancial corporations:													
Output per hour of all employees	101.0	103.5	100.5	99.9	100.2	100.1	101.8	101.8	103.4	104.0	103.8	102.4	102.3
Compensation per hour	130.7	143.9	120.1	122.7	125.7	129.3	132.5	135.5	139.3	142.4	145.5	148.0	151.1
Real compensation per hour	96.2	95.9	98.7	97.5	96.2	95.9	96.5	95.7	95.8	96.3	95.7	95.5	96.7
Total unit costs	129.7	140.9	118.2	121.3	124.2	129.2	131.1	134.1	136.0	138.7	142.2	147.0	150.0
Unit labor cost	129.4	139.0	119.5	122.8	125.4	129.1	130.2	133.1	134.7	137.0	140.2	144.6	147.7
Unit nonlabor costs	130.2	146.1	114.6	117.2	120.9	129.3	133.8	136.9	139.5	143.6	147.7	153.8	156.3
Unit profits	90.2	103.6	97.5	92.2	95.5	83.4	89.1	92.4	106.8	102.8	106.7	96.6	80.7
Implicit price deflator	125.2	136.7	115.9	118.1	121.0	124.1	126.4	129.5	132.7	134.7	138.2	141.4	142.2
Manufacturing:													
Output per hour of all persons	101.7	104.0	102.0	102.1	102.1	100.8	100.7	103.1	103.9	104.8	105.0	102.0	100.7
Compensation per hour	131.6	146.2	119.8	122.3	125.4	130.0	133.9	137.3	141.1	144.8	148.0	150.8	154.7
Real compensation per hour	96.8	97.4	98.5	97.2	96.0	96.5	97.5	97.0	97.1	97.9	97.3	97.3	99.0
Unit labor cost	129.4	140.6	117.5	119.8	122.8	129.0	133.0	133.2	135.8	138.2	141.0	147.8	153.5

31. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1977=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	III 1980 to IV 1980	IV 1980 to I 1981	I 1981 to II 1981	II 1981 to III 1981	III 1981 to IV 1981	IV 1981 to I 1982	IV 1979 to IV 1980	I 1980 to I 1981	II 1980 to II 1981	III 1980 to III 1981	IV 1980 to IV 1981	I 1981 to I 1982
	Private business sector:											
Output per hour of all persons	-1.1	4.7	3.5	-1.1	-6.6	-0.9	0.0	0.8	2.1	1.5	0.0	-1.4
Compensation per hour	8.6	11.9	10.4	9.3	5.5	7.6	10.3	10.6	10.1	10.1	9.3	8.2
Real compensation per hour	-3.8	0.5	3.2	-2.3	-2.1	4.2	-2.0	-0.6	0.3	-0.6	-0.2	0.7
Unit labor costs	9.8	6.9	6.6	10.6	13.0	8.6	10.3	9.7	7.8	8.5	9.3	9.7
Unit nonlabor payments	10.2	17.1	5.3	10.1	0.4	-9.7	9.3	10.8	11.5	10.6	8.1	1.3
Implicit price deflator	9.9	10.0	6.2	10.4	8.9	2.6	10.0	10.1	9.0	9.1	8.9	7.0
Nonfarm business sector:												
Output per hour of all persons	-0.2	4.4	1.4	-1.7	-6.9	0.5	0.2	1.2	2.3	0.9	-0.8	-1.7
Compensation per hour	9.8	11.7	9.6	9.5	6.3	7.9	10.1	10.5	10.0	10.2	9.3	8.3
Real compensation per hour	-2.7	0.3	-2.5	-2.2	-1.4	4.5	-2.2	-0.7	0.3	-0.6	-0.2	0.8
Unit labor costs	10.1	7.0	8.1	11.5	14.1	7.3	9.9	9.2	7.6	9.2	10.1	10.2
Unit nonlabor payments	9.9	20.2	3.0	11.3	-1.8	-9.0	10.8	12.2	11.8	10.9	8.8	1.5
Implicit price deflator	10.0	11.0	6.5	11.4	10.1	2.1	10.2	10.1	8.9	9.7	9.7	7.5
Nonfinancial corporations:												
Output per hour of all employees	0.0	6.6	2.2	-0.5	-5.5	-0.3	1.9	3.2	3.8	2.0	0.6	-1.1
Compensation per hour	9.4	11.7	9.3	9.1	6.9	8.6	10.4	10.8	10.1	9.9	9.2	8.5
Real compensation per hour	-3.1	0.3	2.1	-2.5	0.8	5.2	-1.9	-0.4	0.4	-0.8	-0.3	0.9
Total unit costs	9.4	5.6	8.4	10.3	14.4	8.3	10.5	9.5	7.4	8.4	9.6	10.3
Unit labor costs	9.4	4.8	7.0	9.7	13.2	8.9	8.4	7.4	6.1	7.7	8.6	9.7
Unit nonlabor costs	9.5	7.9	12.3	11.8	17.6	6.7	16.8	15.4	11.1	10.4	12.3	12.0
Unit profits	15.7	77.9	-13.9	15.7	-32.6	^c -51.4	0.3	11.8	23.3	19.7	4.5	-24.4
Implicit price deflator	9.9	10.4	6.2	10.7	9.6	2.4	9.6	9.7	8.6	9.3	9.2	7.2
Manufacturing:												
Output per hour of all persons	9.8	3.1	3.5	0.9	-11.0	-4.9	1.0	1.8	4.0	4.3	-1.1	-3.0
Compensation per hour	10.5	11.6	10.8	9.3	7.6	10.7	12.3	12.5	11.4	10.5	9.8	9.6
Real compensation per hour	-2.2	^c 0.2	3.5	-2.4	-0.2	7.2	-0.2	1.1	1.5	-0.2	0.3	2.0
Unit labor costs	0.6	8.2	7.0	8.3	20.9	16.5	11.2	10.6	7.1	6.0	11.0	13.0

c = corrected.

WAGE AND COMPENSATION DATA

Data for the Employment Cost Index are reported to the Bureau of Labor Statistics by a sample of 2,000 private nonfarm establishments and 750 State and local government units selected to represent total employment in those sectors. On average, each reporting unit provides wage and compensation information on five well-specified occupations.

Data on negotiated wage and benefit changes are obtained from contracts on file at the Bureau, direct contact with the parties, and secondary sources.

Definitions

The **Employment Cost Index (ECI)** is a quarterly measure of the average change in the cost of employing labor. The rate of total compensation, which comprises wages, salaries, and employer costs for employee benefits, is collected for workers performing specified tasks. Employment in each occupation is held constant over time for all series produced in the ECI, except those by region, bargaining status, and area. As a consequence, only changes in compensation are measured. Industry and occupational employment data from the 1970 Census of Population are used in deriving constant weights for the ECI. While holding total industry and occupational employment fixed, in the estimation of indexes by region, bargaining status, and area, the employment in those measures is allowed to vary over time in accord with changes in the sample. The rate of change (in percent) is available for wages and salaries, as well as for total compensation. Data are collected for the pay period including the 12th day of the survey months of March, June, September, and December. The statistics are neither annualized nor adjusted for seasonal influence.

Wages and salaries consist of earnings before payroll deductions, excluding premium pay for overtime, work on weekends and holidays, and shift differentials. Production bonuses, incentive earnings, commissions, and cost-of-living adjustments are included; nonproduction bonuses are included with other supplemental pay items in the benefits category; and payments-in-kind, free room and board, and tips are excluded. *Benefits* include supplemental pay, insurance, retirement and savings plans, and hours-related and legally required benefits.

Data on negotiated wage changes apply to private nonfarm industry collective bargaining agreements covering 1,000 workers or more. Data on compensation changes apply only to those agreements covering 5,000 workers or more. *First-year* wage or compensation changes refer to average negotiated changes for workers covered by settlements reached in the period and implemented within the first 12 months after the effective date of the agreement. *Changes over the life*

of the agreement refer to all adjustments specified in the contract, expressed as an average annual rate. These measures exclude wage changes that may occur under cost-of-living adjustment clauses, that are triggered by movements in the Consumer Price Index. *Wage-rate changes* are expressed as a percent of straight-time hourly earnings; *compensation changes* are expressed as a percent of total wages and benefits.

Effective wage adjustments reflect all negotiated changes implemented in the reference period, regardless of the settlement date. They include changes from settlements reached during the period, changes deferred from contracts negotiated in an earlier period, and cost-of-living adjustments. The data also reflect contracts providing for no wage adjustment in the period. Effective adjustments and each of their components are prorated over all workers in bargaining units with at least 1,000 workers.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980, to produce a measure of the percent change in employers' cost for employees' total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the civilian nonfarm economy.

Data for the broad white-collar, blue-collar, and service worker groups, and the manufacturing, nonmanufacturing, and service industry groups are presented in the ECI. Additional occupation and industry detail are provided for the wages and salaries component of total compensation in the private nonfarm sector. For State and local government units, additional industry detail is shown for both total compensation and its wages and salaries component.

Historical indexes (June 1981=100) of the quarterly rates of changes presented in the ECI are also available.

For a more detailed discussion of the ECI, see chapter 25, "The Employment Cost Index," of the BLS *Handbook of Methods* (Bulletin 1910), and the *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor,'" July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; and "The Employment Cost Index: recent trends and expansion," May 1982.

Additional data for the ECI and other measures of wage and compensation changes appear in *Current Wage Developments*, a monthly periodical of the Bureau.

32. Employment Cost Index, total compensation

[June 1981 = 100]

Series	1980				1981				1982	Percent change	
	March	June	Sept.	Dec.	March	June	Sept.	Dec.	March	3 months ended	12 months ended
										March 1982	
Civilian nonfarm workers¹	—	—	—	—	—	100.0	102.6	104.5	106.3	1.7	—
Workers, by occupational group											
White-collar workers	—	—	—	—	—	100.0	102.7	104.9	106.5	1.5	—
Blue-collar workers	—	—	—	—	—	100.0	102.3	104.1	105.7	1.5	—
Service workers	—	—	—	—	—	100.0	102.8	104.2	107.2	2.9	—
Workers, by industry division											
Manufacturing	—	—	—	—	—	100.0	102.1	104.0	106.0	1.9	—
Nonmanufacturing	—	—	—	—	—	100.0	102.8	104.8	106.4	1.5	—
Services	—	—	—	—	—	100.0	104.4	107.1	108.2	1.0	—
Public administration ²	—	—	—	—	—	100.0	104.3	106.0	108.1	2.0	—
Private nonfarm workers	88.6	90.7	92.8	94.7	98.1	100.0	102.0	104.0	105.8	1.7	7.8
Workers, by occupational group											
White-collar workers	88.7	90.8	92.6	94.5	98.3	100.0	101.8	104.0	105.8	1.7	7.6
Blue-collar workers	88.3	90.5	93.0	94.9	97.8	100.0	102.2	104.0	105.6	1.5	8.0
Service workers	89.9	90.8	92.7	94.3	99.3	100.0	101.9	103.1	106.7	3.5	7.5
Workers, by industry division											
Manufacturing	88.7	90.5	92.6	94.7	98.0	100.0	102.1	104.0	106.0	1.9	8.2
Nonmanufacturing	88.6	90.8	92.9	94.7	98.2	100.0	102.0	103.9	105.7	1.7	7.6
State and local government workers	—	—	—	—	—	100.0	105.3	107.4	108.8	1.3	—
Workers, by occupational group											
White-collar workers	—	—	—	—	—	100.0	105.7	107.8	109.1	1.2	—
Blue-collar workers	—	—	—	—	—	100.0	104.2	105.9	108.2	2.2	—
Workers, by industry division											
Services	—	—	—	—	—	100.0	105.8	107.9	109.0	1.0	—
Schools	—	—	—	—	—	100.0	106.0	107.9	108.9	.9	—
Elementary and secondary	—	—	—	—	—	100.0	106.3	108.3	109.3	.9	—
Hospitals and other services ³	—	—	—	—	—	100.0	105.0	107.8	109.5	1.6	—
Public administration ²	—	—	—	—	—	100.0	104.3	106.0	108.1	2.0	—

¹Excludes private household and Federal workers.

²Consists of legislative, judicial, administrative, and regulatory activities.

³Includes, for example, library, social, and health services.

NOTE: Dashes indicate data not available.

33. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1981 = 100]

Series	1980				1981				1982	Percent change	
	March	June	Sept.	Dec.	March	June	Sept.	Dec.		3 months ended	12 months ended
									March 1982		
Civilian nonfarm workers¹	—	—	—	—	—	100.0	102.5	104.4	106.3	1.8	—
Workers, by occupational group											
White-collar workers	—	—	—	—	—	100.0	102.6	104.7	106.7	1.9	—
Blue-collar workers	—	—	—	—	—	100.0	102.4	104.0	105.5	1.4	—
Service workers	—	—	—	—	—	100.0	102.5	103.6	106.8	3.1	—
Workers, by industry division											
Manufacturing	—	—	—	—	—	100.0	102.1	104.0	105.9	1.8	—
Nonmanufacturing	—	—	—	—	—	100.0	102.7	104.5	106.5	1.9	—
Services	—	—	—	—	—	100.0	104.4	106.6	108.6	1.9	—
Public administration ²	—	—	—	—	—	100.0	103.8	105.5	107.5	1.9	—
All private nonfarm workers³	89.6	91.5	93.5	95.4	98.0	100.0	102.0	103.8	105.9	2.0	8.1
Workers, by occupational group											
White-collar workers	89.7	91.4	93.3	95.2	98.1	100.0	101.8	103.9	106.2	2.2	8.3
Professional and technical workers	89.2	90.8	93.2	95.3	98.2	100.0	103.3	105.5	108.0	2.4	10.0
Managers and administrators	90.6	92.0	93.5	94.7	98.6	100.0	101.6	102.8	105.8	2.9	7.3
Salesworkers	88.5	90.7	92.2	94.8	96.2	100.0	98.0	101.9	102.2	.3	6.2
Clerical workers	90.3	91.9	93.8	95.7	98.6	100.0	102.7	104.2	107.0	2.7	8.5
Blue-collar workers	89.3	91.6	93.8	95.7	97.7	100.0	102.3	103.9	105.4	1.4	7.9
Craft and kindred workers	89.3	91.4	94.0	96.1	97.8	100.0	102.9	104.3	106.2	1.8	8.6
Operatives, except transport	89.4	91.5	93.6	95.5	97.8	100.0	102.1	104.1	105.4	1.2	7.8
Transport equipment operatives	89.1	92.2	93.5	95.3	96.8	100.0	101.0	102.7	103.2	.5	6.6
Nonfarm laborers	89.6	91.8	93.9	95.7	97.5	100.0	101.5	103.3	104.1	.8	6.8
Service workers	90.8	91.9	93.4	94.8	99.2	100.0	101.8	102.7	106.7	3.9	7.6
Workers, by industry division											
Manufacturing	89.9	91.8	93.6	95.7	97.9	100.0	102.1	104.0	105.9	1.8	8.2
Durables	89.3	91.2	93.5	95.7	97.9	100.0	102.1	104.5	106.3	1.7	8.6
Nondurables	91.0	92.7	93.8	95.7	97.8	100.0	102.0	103.1	105.3	2.1	7.7
Nonmanufacturing	89.5	91.3	93.4	95.2	98.1	100.0	102.0	103.8	105.9	2.0	8.0
Construction	89.3	91.9	94.5	95.9	97.6	100.0	103.0	104.3	105.9	1.5	8.5
Transportation and public utilities	88.2	90.2	93.1	95.6	97.7	100.0	102.0	103.6	105.7	2.0	8.2
Wholesale and retail trade	90.5	92.2	93.6	95.1	98.2	100.0	101.3	102.3	103.9	1.6	5.8
Retail trade	89.7	92.1	93.0	95.9	98.5	100.0	102.0	103.4	106.3	2.8	7.9
Finance, insurance, and real estate	90.8	92.2	93.8	94.8	98.1	100.0	101.0	101.9	103.0	1.1	5.0
Services	87.1	89.4	91.2	93.1	95.7	100.0	98.3	102.3	103.7	1.4	8.4
Services	90.5	91.9	94.2	95.7	99.6	100.0	103.6	105.8	108.8	2.8	9.2
State and local governments	—	—	—	—	—	100.0	105.0	107.0	108.2	1.1	—
Workers, by occupational group											
White-collar workers	—	—	—	—	—	100.0	105.4	107.5	108.5	.9	—
Blue-collar workers	—	—	—	—	—	100.0	103.9	105.5	107.5	1.9	—
Workers, by industry division											
Services	—	—	—	—	—	100.0	105.5	107.6	108.4	.7	—
Schools	—	—	—	—	—	100.0	105.7	107.7	108.3	.6	—
Elementary and secondary	—	—	—	—	—	100.0	106.0	107.9	108.7	.7	—
Hospitals and other services ⁴	—	—	—	—	—	100.0	104.6	107.3	108.8	1.4	—
Public administration ²	—	—	—	—	—	100.0	103.3	105.5	107.5	1.9	—

¹Excludes private household and Federal workers.

²Consists of legislative, judicial, administrative, and regulatory activities.

³Excludes private household workers.

⁴Includes, for example, library, social, and health services.

NOTE: Dashes indicate data not available.

34. Employment Cost Index, wages and salaries, private nonfarm workers, by bargaining status, region, and area size

[June 1981 = 100]

Series	1980				1981				1982	Percent change	
	March	June	Sept.	Dec.	March	June	Sept.	Dec.	March	3 months ended	12 months ended
										March 1982	
COMPENSATION											
Workers, by bargaining status ¹											
Union	87.4	89.7	92.4	94.7	97.6	100.0	102.5	104.8	106.5	1.6	9.1
Manufacturing	—	—	—	—	—	100.0	102.3	104.6	106.3	1.6	—
Nonmanufacturing	—	—	—	—	—	100.0	102.7	105.0	106.8	1.7	—
Nonunion	89.3	91.1	92.8	94.6	98.4	100.0	101.7	103.5	105.3	1.7	7.0
Manufacturing	—	—	—	—	—	100.0	101.8	103.5	105.7	2.1	—
Nonmanufacturing	—	—	—	—	—	100.0	101.7	103.5	105.2	1.6	—
Workers, by area size ¹											
Metropolitan areas	88.5	90.6	92.8	94.7	98.1	100.0	102.1	104.1	105.7	1.5	7.7
Other areas	88.8	90.3	91.9	94.2	98.1	100.0	101.8	105.2	106.2	2.9	8.3
WAGES AND SALARIES											
Workers, by bargaining status ¹											
Union	88.4	90.8	93.5	95.8	97.4	100.0	102.7	105.0	106.5	1.4	9.3
Manufacturing	88.8	91.3	93.8	96.1	97.7	100.0	102.6	104.7	105.9	1.1	8.4
Nonmanufacturing	88.0	90.4	93.1	95.5	97.1	100.0	102.8	105.2	107.0	1.7	10.2
Nonunion	90.2	91.8	93.4	95.1	98.2	100.0	101.6	103.2	105.6	2.3	7.5
Manufacturing	91.0	92.3	93.4	95.4	97.9	100.0	101.7	103.3	105.9	2.5	8.2
Nonmanufacturing	89.9	91.5	93.4	95.0	98.3	100.0	101.6	103.2	105.5	2.2	7.3
Workers, by region ¹											
Northeast	90.6	92.5	94.2	96.0	98.3	100.0	101.7	104.4	106.1	1.6	7.9
South	89.7	91.4	93.2	94.9	98.0	100.0	101.9	102.8	105.7	2.8	7.9
North Central	89.7	91.6	93.3	95.3	98.1	100.0	101.6	103.3	104.7	1.4	6.7
West	88.2	90.4	93.5	95.3	97.9	100.0	103.2	105.1	107.9	2.7	10.2
Workers, by area size ¹											
Metropolitan areas	89.4	91.4	93.5	95.4	97.9	100.0	102.1	104.0	105.9	1.8	8.2
Other areas	90.1	91.5	92.9	95.1	98.3	100.0	101.8	103.1	106.0	2.8	7.8

¹ The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see BLS *Handbook of Methods*, Bulletin 1910.

35. Wage and compensation change, major collective bargaining settlements, 1977 to date
 [In percent]

Measure	Annual average					Quarterly average									
	1977	1978	1979	1980	1981	1980				1981				1982 ^P	
						I	II	III	IV	I	II	III	IV		
Total compensation changes covering 5,000 workers or more, all industries:															
First year of contract	9.6	8.3	9.0	10.4	10.2	8.8	10.2	11.4	8.5	7.7	11.6	10.5	11.0	1.8	
Annual rate over life of contract ..	6.2	6.3	6.6	7.1	8.3	6.7	7.4	7.2	6.1	7.2	10.8	8.1	5.8	1.1	
Wage rate changes covering at least 1,000 workers, all industries:															
First year of contract	7.8	7.6	7.4	9.5	9.8	8.2	9.1	10.5	8.3	7.1	11.8	10.8	9.0	2.2	
Annual rate over life of contract ..	5.8	6.4	6.0	7.1	7.9	6.5	7.3	7.4	6.5	6.2	9.7	8.7	5.7	2.0	
Manufacturing:															
First year of contract	8.4	8.3	6.9	7.4	7.2	7.2	6.7	8.4	7.8	6.4	8.2	9.0	6.6	1.9	
Annual rate over life of contract ..	5.5	6.6	5.4	5.4	6.1	5.7	5.1	5.6	5.8	5.5	6.7	7.5	5.4	1.8	
Nonmanufacturing (excluding construction):															
First year of contract	8.0	8.0	7.6	9.5	9.8	9.4	10.3	9.5	8.2	8.0	11.8	8.6	9.6	1.8	
Annual rate over life of contract ..	5.9	6.5	6.2	6.6	7.3	7.6	8.5	5.9	6.8	7.3	9.1	7.2	5.6	1.4	
Construction:															
First year of contract	6.3	6.5	8.8	13.6	13.5	10.8	12.2	15.4	14.3	11.4	12.9	16.4	11.4	9.3	
Annual rate over life of contract ..	6.3	6.2	8.3	11.5	11.3	9.1	10.4	13.0	12.0	10.3	11.1	12.4	11.7	8.9	

36. Effective wage adjustments in collective bargaining units covering 1,000 workers or more, 1977 to date

Measure	Year					Year and quarter									
	1977	1978	1979	1980	1981	1980				1981				1982 ^P	
						I	II	III	IV	I	II	III	IV		
Average percent adjustment (including no change):															
All industries	8.0	8.2	9.1	9.9	9.5	1.6	3.3	3.5	1.3	1.7	3.2	3.3	1.5	9	
Manufacturing	8.4	8.6	9.6	10.2	9.4	2.0	3.4	2.9	1.7	2.3	2.4	3.1	1.9	8	
Nonmanufacturing	7.6	7.9	8.8	9.7	9.5	1.3	3.2	4.0	1.1	1.2	3.8	3.4	1.1	10	
From settlements reached in period	3.0	2.0	3.0	3.6	2.5	4	1.0	1.7	.5	4	1.1	.5	4	1	
Deferred from settlements reached in earlier period	3.2	3.7	3.0	3.5	3.8	5	1.4	1.2	.3	5	1.4	1.5	4	5	
From cost-of-living clauses	1.7	2.4	3.1	2.8	3.2	7	8	.7	.6	.7	.7	1.2	6	2	
Total number of workers receiving wage change (in thousands)¹															
From settlements reached in period	—	—	—	—	8,648	—	—	—	—	3,855	4,701	4,364	3,225	2,713	
Deferred from settlements reached in earlier period	—	—	—	—	2,270	—	—	—	—	579	909	540	604	153	
From cost-of-living clauses	—	—	—	—	6,267	—	—	—	—	888	2,055	3,023	882	1,033	
Number of workers receiving no adjustments (in thousands)	—	—	—	—	4,593	—	—	—	—	2,639	2,669	2,934	2,179	1,750	
Number of workers receiving no adjustments (in thousands)	—	—	—	—	145	—	—	—	—	4,937	4,092	4,428	5,568	6,176	

¹ The total number of workers who received adjustments does not equal the sum of workers that received each type of adjustment, because some workers received more than one type of adjustment during the period.

523-1320

WORK STOPPAGE DATA

Work stoppages include all known strikes or lockouts involving 1,000 workers or more and lasting a full shift or longer. Data are based largely on newspaper accounts and 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.

Estimates of days idle as a percent of estimated working time measures only the impact of larger strikes (1,000 workers or more). Formerly, these estimates measured the impact of strikes involving 6 workers or more; that is, the impact of virtually *all* strikes. Due to budget stringencies, collection of data on strikes involving 6 workers or more was discontinued with the December 1981 data.

37. Work stoppages involving 1,000 workers or more, 1947 to date						
Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month or year	Beginning in month or year (in thousands)	In effect during month (in thousands)	Number (in thousands)	Percent of estimated working time
1947	270		1,629		25,720	
1948	245		1,435		26,127	.22
1949	262		2,537		43,420	.38
1950	424		1,698		30,390	.26
1951	415		1,462		15,070	.12
1952	470		2,746		48,820	.38
1953	437		1,623		18,130	.14
1954	265		1,075		16,630	.13
1955	363		2,055		21,180	.16
1956	287		1,370		26,840	.20
1957	279		887		10,340	.07
1958	332		1,587		17,900	.13
1959	245		1,381		60,850	.43
1960	222		896		13,260	.09
1961	195		1,031		10,140	.07
1962	211		793		11,760	.08
1963	181		512		10,020	.07
1964	246		1,183		16,220	.11
1965	268		999		15,140	.10
1966	321		1,300		16,000	.10
1967	381		2,192		31,320	.18
1968	392		1,855		35,567	.20
1969	412		1,576		29,397	.16
1970	381		2,468		52,761	.29
1971	298		2,516		35,538	.19
1972	250		975		16,764	.09
1973	317		1,400		16,260	.08
1974	424		1,796		31,809	.16
1975	235		965		17,563	.09
1976	231		1,519		23,962	.12
1977	298		1,212		21,258	.10
1978	219		1,006		23,774	.11
1979	235		1,021		20,409	.09
1980	187		795		20,844	.09
1981	145		729		16,908	.07
1981: January	6	12	12.0	29.6	257.9	.01
February	7	10	10.7	20.9	118.5	.01
March	16	20	201.6	207.8	861.8	.04
April	17	27	48.0	223.5	4,085.2	.20
May	18	27	85.1	259.0	4,454.0	.24
June	30	43	200.1	415.1	2,618.3	.13
1982 P: January	2	4	6.1	11.4	199.9	.01
February	2	6	2.5	13.9	236.9	.01
March	3	8	8.3	21.3	352.2	.02
April	8	15	34.7	54.3	478.3	.02
May	r 14	r 20	r 43.7	r 59.3	r 616.1	.03
June	14	22	33.3	56.4	816.9	.04

r = revised.

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SALES PUBLICATIONS

BLS Bulletins

Bargaining Calendar, 1982. Bulletin 2127, 63 pp., \$4.50 (GPO Stock No. 029-001-02698-6). Presents information on anticipated union adjustments for 1982. The information—identified by company and union—includes major situations in which contracts expire, deferred wage increases come due, escalator clauses are reviewed, and contracts are reopened.

BLS Economic Growth Model System Used for Projections to 1990. Bulletin 2112, 108 pp., \$5.50 (GPO Stock No. 029-001-02705-2). Describes the current Economic Growth model which was used to develop the revised 1990 industry and occupational employment projections. Intended for analysts who desire detailed information on the BLS projection methods, models, and techniques.

Major Collective Bargaining Agreements: Union Security and Dues Checkoff Provisions. Bulletin 1425-21, 75 pp., \$4.75 (GPO Stock No. 029-001-02707-9). The 21st and last in a series of BLS studies, this bulletin provides information about two important issues in collective bargaining: The protection of a union's status by some type of union security provision and the collection of union dues by a dues checkoff arrangement.

Occupational Injuries and Illnesses in the United States by Industry, 1980. Bulletin 2130, 48 pp., \$3.25 (GPO Stock No. 029-001-02706-1). Contains 1979 and 1980 data by industry on occupational injuries, illnesses, and fatalities in private, non-farm establishments.

Occupational Outlook Handbook, 1982-83 Edition. Bulletin 2200, 484 pp., \$9, softcover edition; \$13, hardcover edition (GPO Stock No. 029-001-02651-0). An encyclopedia of careers covering more than 250 occupations. For each of these occupations information is included on what the work is like, job prospects through the 1980's, level and places of employment, educational and training requirements, advancement possibilities, related occupations, and where to find additional information.

Area Wage Survey Bulletins

Washington, D.C.-Maryland-Virginia, Metropolitan Area, March 1982. Bulletin 3015-8.

The annual series of 70 area wage survey bulletins is available by subscription for \$90 per year.

Periodicals

CPI Detailed Report, April. Comprehensive report on consumer price movements, including statistical tables and technical notes. 109 pp., \$3.50 (\$20 per year).

Current Wage Developments, June. Monthly report on employee wage and benefit changes; collective bargaining settlements; and special wage trends. 62 pp., \$2.50 (\$14 per year).

Employment and Earnings, June. Report on national, State, and area employment; unemployment; hourly and weekly earnings; and hours of work for May. 152 pp., \$3.75 (\$31 per year). Special feature of this issue: Annual averages for unemploy-

ment in States and areas; Establishment data adjusted to new benchmarks.

Occupational Outlook Quarterly, Summer 1982, supplement to the Occupational Outlook Handbook featuring guidance information on selected careers each quarter, 40 pp., \$2.75 (\$8 per year).

Articles: The Job Outlook for College Graduates During the 1980's; The Class of '77 One Year After Graduation; Career Information: What's Available in Schools? You're a What? Puppeteer.

Producer Prices and Price Indexes, Data for April 1982. Monthly report on producer price movements. Text, tables, and technical notes. 116 pp., \$3.25 (\$20 per year).

Microfiche

Gross Flow Data From the Current Population Survey, 1970-80.

Provides unpublished data on movements between various labor force classifications. Available only from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Va. 22151. Order No. PB82-174327.

Employment and Unemployment in States and Local Areas, January-June 1981. Provides provisional monthly estimates of the labor force, employment and unemployment for States, labor market areas, counties, and cities of 25,000 or more inhabitants. These estimates are used in the administration of Federal economic assistance programs.

Mailgram Service

Consumer price index data summary by mailgram within 24 hours of the CPI release. Provides unadjusted and seasonally adjusted U.S. City Average data for All Urban Consumers (CPI-U) and for Urban Wage Earners and Clerical Workers (CPI-W). (NTISUB/158). \$125 in contiguous United States.

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BLS Reports

Evaluating Your Firm's Injury and Illness Record, 1980: Transportation and Public Utilities Industries. Report 662, 11 pp. Wholesale and Retail Trade Industries. Report 661, 13 pp. These reports provide a means of comparing a firm's safety record with the record of other firms of similar size and with the industry as a whole. They present tabulations of occupational injury and illness incidence rates for the subject industry by employment size and quartile distribution.

U.S. Department of State Indexes of Living Costs Abroad and Quarters Allowances, April 1982. Report 666, 6 pp. Beginning with the next issue, this quarterly publication will be for sale by the Superintendent of Documents. (Subscription—\$6.50, single copy—\$1.75.)

Employment in Perspective: Minority Workers, First Quarter 1982, Report 667. 3 pp. Focuses on some of the available labor force data for black, and Hispanic workers by family type and family relationship in 1981.

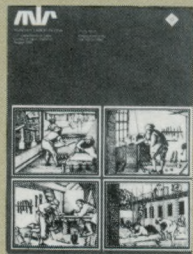
Evaluating Your Firm's Injury and Illness Record, 1980: Construction Industries, May 1982. Report 659. 9 pp. Manufacturing Industries, May 1982. Report 660. 31 pp.



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