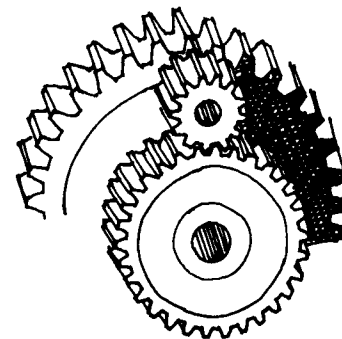


# Productivity Reports



## Productivity and costs in 1984

LAWRENCE J. FULCO

The strongest productivity advances in some years were registered by major Bureau of Labor Statistics measures during 1984.<sup>1</sup> Output per hour of all persons—labor productivity—reflected the continuation of the economic expansion that began during the first quarter of 1983. Although output, hours, and employment grew strongly in major sectors, continued moderation in the advance of hourly compensation contributed to slow growth of unit labor costs. Prices for the goods and services which make up the output of these sectors reflected this slow growth, as well as dampened rates of increase in other costs and in unit profits. The expansion has been predictably uneven, with employment advancing fastest in goods-producing industries during the last year.

The following tabulation shows the changes during 1984 in productivity and related measures. Additional information appears in tables 29–32 of the Current Labor Statistics section of this issue.

<i>Sector</i>	<i>Productivity</i>	<i>Output</i>	<i>Hours</i>
Business .....	3.2	8.8	5.4
Nonfarm business .....	2.7	8.5	5.7
Manufacturing .....	3.5	10.5	6.7
Durable .....	4.8	14.4	9.1
Nondurable .....	1.5	4.9	3.3
Nonfinancial corporations ...	2.3	9.0	6.6

### Business sector

Business, the most comprehensive sector for which BLS prepares quarterly productivity measures, accounted for 79 percent of gross national product in 1984.<sup>2</sup> Annual changes in productivity are generally thought to reflect two components: short-run effects of the business cycle and other transitory influences, and long-run, or secular, effects of shifts in the underlying composition of output, the labor force, and the stage of economic development. Productivity

growth usually accelerates in the recovery-expansion phase of the business cycle, and 1984 encompassed the fifth through eighth quarters of the current expansion.

Table 1 presents the annual rates of growth in productivity and related measures during the recovery periods that followed the troughs of postwar business cycles. This table shows that productivity advances over the 2-year recovery-expansion from the 1982 business cycle trough have been lower than average. However, the gains in output, hours, and employment have been very high by historical standards. In addition, the rate of growth of compensation per hour has been a good deal slower than has been typical of like recovery periods, and has contributed to much smaller increases in unit labor costs. In fact, unit labor costs in manufacturing have actually declined in the current recovery.

The 1984 productivity gains probably reflected the cyclical rebound. However, it is possible that some of these gains reflect a movement back to the higher secular growth rate in productivity noted before 1973. Whether this is so will not be evident until data for additional years can be analyzed. Chart 1 shows the relationship between productivity, hourly compensation, and unit labor costs since 1973.

Productivity increased 3.2 percent in the business sector in 1984, as output increased 8.8 percent and hours rose 5.4 percent. The increase in productivity was the largest since 1976 and the gain in hours—which reflects changes in both employment and average weekly hours—was the largest ever recorded for that series.

Most of these gains took place in the first two quarters; productivity, output, and hours all grew more slowly during the second half of the year. Output increased at an 11.3-percent annual rate during the first two quarters but grew at only a 3.4-percent rate during the remaining quarters. The rate of increase in hours and productivity similarly slowed during the last half of 1984. Because very high growth rates such as those experienced during the first half of the year are not likely to be sustainable for an extended period, growth in future quarters may not be as vigorous.

Gains in hourly compensation during the current recovery have been smaller than the recent trend, and smaller than the gains observed during similar recovery-expansion periods. These outlays, which include employer expenditures for wages, salaries, supplements, and all other employee

Lawrence J. Fulco is a supervisory economist in the Office of Productivity and Technology, Bureau of Labor Statistics.

benefit plans, posted gains during 1983 and 1984 which were the smallest in nearly two decades. Real hourly compensation, which is adjusted for changes in the Consumer Price Index for All Urban Consumers (CPI-U), was unchanged in 1984.

Unit labor costs—compensation per unit of output—respond to changes in both productivity and hourly compensation. During 1984, these costs registered their smallest annual increase since 1965. In both 1983 and 1984, prices of the goods and services which comprise the output of the business sector posted the smallest gains since 1967.

Business payrolls numbered about 84.3 million positions in 1984, compared with 80.6 million in 1983.

### Nonfarm business

Nonfarm business is nearly as large as the business sector, because farm employment accounts for only 3.5 percent of the business total.<sup>4</sup> However, the weather and changes in foreign supplies of and demand for agricultural commodities often lead to wide swings in farm productivity and related measures. By focusing on the nonfarm portion of the business sector, analysts can study data which are unaffected by these external influences, but which are nearly as comprehensive as the business measures. In 1984, nonfarm business productivity increased 2.7 percent, as output grew 8.5

**Table 1. Changes in productivity and related measures eight quarters after the trough of postwar recessions**  
(Percent change at compound annual rate)

Trough quarter	Change over eight posttrough quarters					
	Productivity	Output	Hours	Employment	Hourly compensation	Unit labor costs
<b>Business</b>						
1949 IV	5.6	8.8	3.1	3.0	8.7	2.9
1954 II	2.8	5.9	3.0	3.1	4.2	1.4
1958 II	2.7	5.7	2.9	2.6	4.6	1.8
1961 I	4.4	5.2	0.8	0.7	4.6	0.2
1970 IV	4.0	6.7	2.5	2.7	6.5	2.4
1975 I	3.8	6.4	2.5	2.6	8.1	4.0
1980 III <sup>1</sup>	2.7	4.5	1.7	1.9	9.3	6.4
Average	3.9	6.5	2.5	2.5	6.1	2.1
1982 IV	3.1	7.9	4.6	3.9	3.9	0.8
<b>Nonfarm business</b>						
1949 IV	4.7	9.4	4.5	4.1	8.3	3.4
1954 II	2.6	6.2	3.6	3.3	4.7	2.0
1958 II	2.3	6.0	3.6	3.2	4.3	1.9
1961 I	3.8	5.5	1.6	1.4	3.9	0.0
1970 IV	4.3	7.0	2.6	2.6	6.6	2.3
1975 I	3.7	6.6	2.8	2.9	7.7	3.9
1980 III <sup>1</sup>	2.0	3.8	1.8	2.0	9.5	7.4
Average	3.6	6.8	3.1	2.9	5.9	2.3
1982 IV	3.1	8.0	4.7	4.0	4.1	1.0
<b>Manufacturing</b>						
1949 IV	4.8	13.8	8.5	7.4	9.1	4.1
1954 II	2.3	6.0	3.6	2.8	4.7	2.4
1958 II	3.4	8.4	4.9	3.9	4.2	0.9
1961 I	6.2	9.7	3.3	2.3	3.3	-2.7
1970 IV	6.2	10.0	3.6	2.3	5.6	-0.5
1975 I	5.8	9.5	3.4	2.4	8.1	2.2
1980 III <sup>1</sup>	5.5	7.9	2.3	2.0	8.4	2.8
Average	4.8	9.6	4.6	3.5	5.8	1.1
1982 IV	3.8	9.8	5.7	4.2	3.4	-0.5

<sup>1</sup>Percent change over four posttrough quarters.

**Table 2. Hours by industry, fourth-quarter 1982 and fourth-quarter 1984**

Industry	Hours (billions)		Annualized rate of growth 1982 IV-1984 IV (percent)
	1982 IV	1984 IV	
Total	170.452	185.004	4.2
Goods producing	52.641	58.680	5.6
Farm	6.293	6.537	1.9
Mining	2.221	2.260	0.9
Construction	7.288	8.627	8.8
Manufacturing	36.839	41.256	5.8
Non-goods producing	117.811	126.324	3.6
Transportation, communications, and public utilities	10.160	10.711	2.7
Trade	33.997	37.094	4.5
Finance, insurance, and real estate	10.101	10.899	3.9
Services	32.849	36.236	5.0
Government enterprises	30.704	31.384	1.1

percent and hours of all persons engaged in the sector increased 5.7 percent. As in the more comprehensive business sector, growth was much stronger during the first two quarters.

Hourly compensation increased 4.1 percent, and real hourly compensation declined 0.1 percent over the year. Unit labor costs were 1.4 percent higher in 1984 than in 1983. As in the more comprehensive business sector, this gain was modest by historical standards; the increases in unit labor costs during 1983 and 1984 were the smallest since 1961-65, when gains were less than 0.6 percent each year. Prices of nonfarm output increased 3.1 percent in 1984, compared with a 3.2-percent advance in 1983. These were the smallest increases since 1972.

The nonfarm business sector provided 81.3 million jobs in 1984, compared with 77.6 million during the previous year.

### Manufacturing

Productivity increased 3.5 percent in manufacturing in 1984, as output rose 10.5 percent and hours, 6.7 percent. The gains were the largest since the 1950's. Unlike the more comprehensive business sectors, manufacturing showed vigorous growth in productivity and output through the third quarter of 1984, but in the fourth quarter both measures declined.

Hourly compensation increased 3.6 percent, compared with a 3.4-percent rise in 1983. These were the two smallest annual increases in hourly compensation since 1965. Coupled with the strong productivity gains, the modest increases in hourly compensation held unit labor costs in both years below those recorded in 1982; it was the first period of such decline since 1962-65. Real hourly compensation declined 0.6 percent in 1984.

Durable goods manufacturing, which accounts for about 60 percent of all manufacturing employment, tends to be more volatile during periods of economic change. In 1984, output and employee hours in durables industries grew almost three times as fast as in nondurables. Productivity also

increased faster in durable goods manufacturing, and unit labor costs fell more than 1.5 percent. The decline in these costs during 1983 and 1984 were the first such drops since the mid-1960's.

Total manufacturing employment averaged 20 million in 1984, down slightly from the 21.4 million peak in 1979.

**Nonfinancial corporations**

Productivity increased 2.3 percent in nonfinancial corporations in 1984, compared with a 3.3-percent rise during 1983. These concerns, which employ 70 percent of the business work force, include all corporations doing business

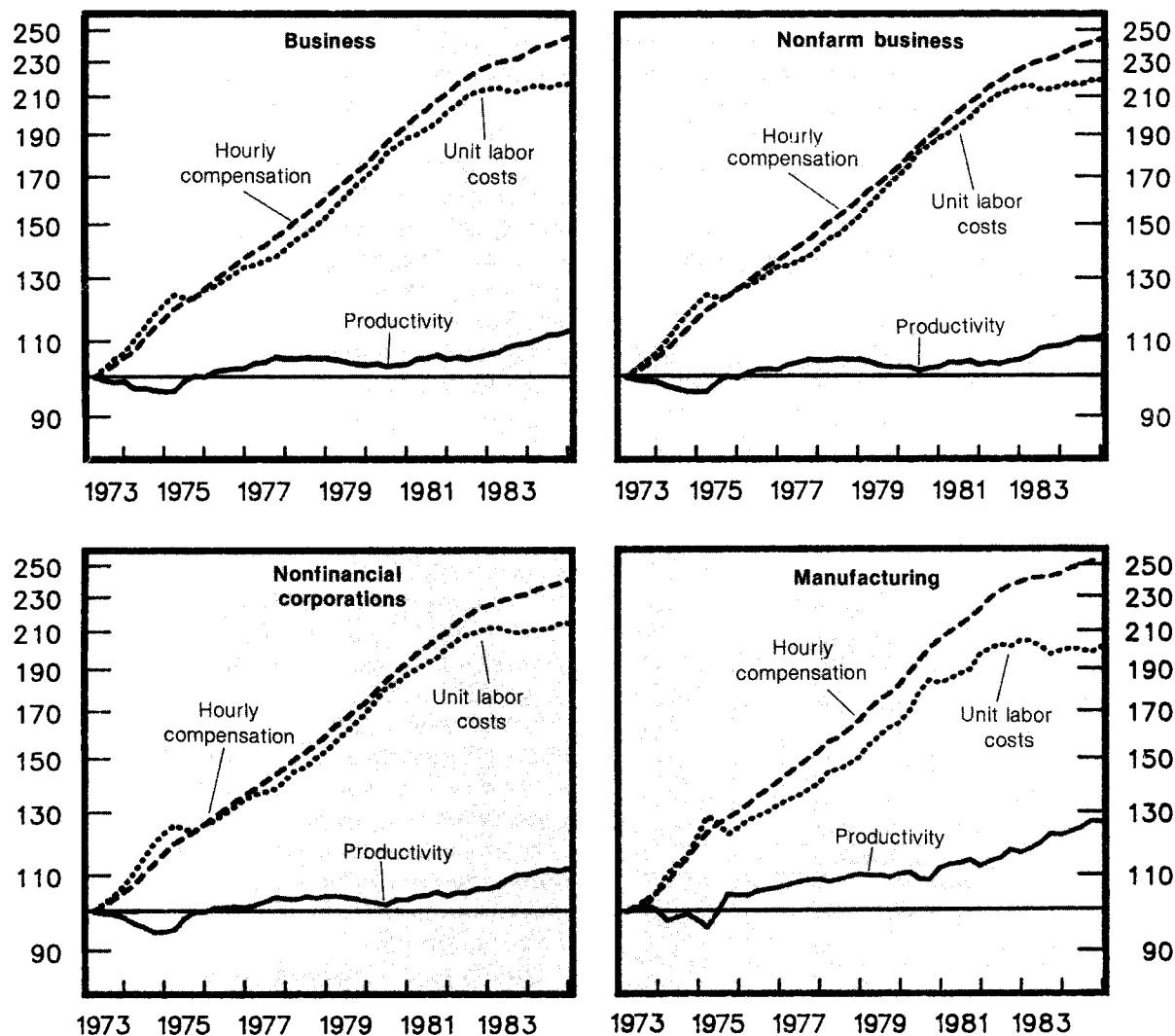
in the United States with the exception of banks, brokers, and insurance companies. Output and hours grew strongly during 1984, while hourly compensation advanced modestly. Since 1980, nonfinancial corporations have registered progressively smaller annual increases in hourly compensation; in 1984, such outlays rose 3.5 percent. Again, the slowing of advances in hourly compensation has been reflected in unit labor costs, which rose 1.1 percent in 1984 and 0.8 percent in 1983. These were the smallest increases since 1961-65.

Profits rose 37.3 percent in 1984, and profit per unit of output increased 25.9 percent. Prices rose a modest 3.0

**Chart 1. Productivity and related measures in four sectors of the economy, first-quarter 1973 to fourth-quarter 1984**

Ratio scale (1st quarter 1973 = 100)

Ratio scale



percent in the nonfinancial corporate sector, reflecting the dampened increases in unit labor costs, nonlabor costs, and profits. This advance and the 3.1-percent rise in 1983 were the smallest price gains for the sector since 1972. There were about 59 million employees of nonfinancial corporations in 1984.

### Increase in hours

The rebound from the trough of the recession has been felt in every segment of the economy. Hours of all persons

(employment multiplied by average weekly hours) grew at a 4.2-percent annual rate over the eight-quarter period. The most rapid growth occurred in the construction industry, which is part of the goods-producing sector. Hours in these businesses increased at a 5.6-percent annual rate during the recovery, compared with a 3.6-percent rate of growth among non-goods producers. The smallest gains were reported in mining (0.9 percent) and government enterprises (1.1 percent). Table 2 shows hours by industry for the fourth quarters of 1982 and 1984, as well as the compound annual rate of growth over the eight-quarter span. □

### FOOTNOTES

<sup>1</sup> Annual changes in this article refer to movements in the average of the four quarterly values from one year to the next. This is not the same as comparing yearend (fourth-quarter) values from year to year. Both annual changes and changes from the same quarter of the preceding year can be found in tables 32 and 34 (respectively) of the Current Labor Statistics section of the *Review*.

<sup>2</sup> Business sector output is equal to gross national product, less the rest-of-the-world sector, general government, output of paid employees of private households and nonprofit institutions, and the statistical discrepancy in computing the national income accounts. Corresponding exclusions are also made in labor input.

<sup>3</sup> Nonfarm business productivity growth averaged 2.0 percent from 1947 to 1981; before 1973, growth averaged 2.5 percent annually, but subsequently fell to only 0.6 percent a year. The slowdown in labor productivity growth has been long studied and discussed; see, for example, Jerome A. Mark and William H. Waldorf, "Multifactor productivity: a new BLS measure," *Monthly Labor Review*, December 1983, pp. 3-15.

<sup>4</sup> Employment continued to shift away from agriculture after World War II, and this movement of workers to highly productive industrial jobs contributed to rapid productivity growth. The percentage of business employment in farms was 11.8 percent in 1954, 7.8 percent in 1964, 4.6 percent in 1974, and 3.5 percent in 1984.