

News

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PRODUCTIVITY AND COSTS Fourth Quarter and Annual Averages, 1990

The Bureau of Labor Statistics of the U.S. Department of Labor today reported fourth quarter seasonally adjusted annual rates of productivity change--as measured by output per hour of all persons--and annual changes for the full year 1990. The changes were:

| | Fourth quarter | Annual averages 1989-1990 |
|-----------------------------------|-------------------|------------------------------|
| Business sector,..... | -0.5 | -0.6 |
| Nonfarm business sector..... | 0.1 | -0.8 |
| Manufacturing..... | -2.4 | 3.0 |
| Durable goods manufacturing..... | -3.3 | 3.6 |
| Nondurable goods manufacturing... | -0.1 | 2.2 |

Fourth-quarter and annual 1990 measures are summarized in tables A and B and appear in detail in tables 1 through 6. In business and nonfarm business, productivity declined between 1989 and 1990, marking the second year in which output per hour of all persons fell.

In the fourth quarter productivity increased slightly in nonfarm business and declined in business and manufacturing.

THIRD-TO-FOURTH QUARTER CHANGES, 1990

Business

Productivity decreased at a 0.5 percent annual rate during the fourth quarter of 1990 in the business sector, as output fell 2.5 percent and hours of all persons engaged in the sector declined 2.1 percent (seasonally adjusted annual rates). The decline in productivity was the second in 1990, and the declines in output and hours were the greatest in 8 years. During the third quarter of 1990, business productivity had increased 0.9 percent, as output grew 0.5 percent and hours were reduced 0.4 percent (table 1).

Hourly compensation increased at a 3.4 percent annual rate during the fourth quarter of 1990, compared with a 4.6 percent increase during the third quarter. This measure includes wages and salaries, supplements, employer contributions to employee-benefit plans, and taxes. Unit labor costs, which reflect changes in hourly compensation and productivity, increased at a 3.9 percent annual rate during the fourth quarter, compared with a 3.7 percent increase one quarter earlier.

Table A. Productivity and costs: Preliminary fourth-quarter 1990 measures
(Seasonally adjusted annual rates)

| Sector | Productivity | Output | Hours | Hourly compensation | Real hourly compensation | Unit labor costs |
|---|--------------|--------|-------|---------------------|--------------------------|------------------|
| Percent change from preceding quarter | | | | | | |
| Business | -0.5 | -2.5 | -2.1 | 3.4 | -3.1 | 3.9 |
| Nonfarm business | 0.1 | -2.7 | -2.7 | 3.8 | -2.7 | 3.7 |
| Manufacturing | -2.4 | -8.6 | -6.4 | 3.7 | -2.7 | 6.3 |
| Durable | -3.3 | -12.1 | -9.1 | 3.6 | -2.9 | 7.1 |
| Nondurable | -0.1 | -2.4 | -2.4 | 4.7 | -1.8 | 4.7 |
| Percent change from same quarter a year ago | | | | | | |
| Business | 0.1 | 0.1 | 0.1 | 4.5 | -1.7 | 4.4 |
| Nonfarm business | -0.1 | 0.1 | 0.2 | 4.3 | -1.8 | 4.4 |
| Manufacturing | 2.7 | 0.1 | -2.5 | 3.7 | -2.4 | 1.0 |
| Durable | 3.8 | 0.0 | -3.7 | 3.5 | -2.6 | -0.3 |
| Nondurable | 1.2 | 0.3 | -0.8 | 4.2 | -1.9 | 3.0 |

Real hourly compensation, which takes into account changes in the Consumer Price Index for All Urban Consumers (CPI-U), fell 3.1 percent in the fourth quarter, compared with a 1.9 percent drop in the third quarter. This series declined during 3 quarters in 1990.

The implicit price deflator for business output, which reflects changes in unit labor costs and unit nonlabor payments, increased 2.0 percent in the fourth quarter, the smallest increase in the past 11 quarters.

Nonfarm business

In the nonfarm business sector, output and hours of all persons--employees, proprietors, and unpaid family workers--both fell 2.7 percent, leaving productivity almost unchanged. During the third quarter, nonfarm productivity had increased 0.6 percent (table 2). As in the more comprehensive business sector, the drop in hours was the second in succession and the largest since the fourth quarter of 1982.

Hourly compensation rose 3.8 percent in the fourth quarter, but fell 2.7 percent when the increase in the CPI-U was taken into account. Unit labor costs increased 3.7 percent, compared with a 4.1 percent rise during the third quarter.

The implicit price deflator for nonfarm business output rose 2.4 percent in the fourth quarter, compared with a 3.6 percent increase one quarter earlier.

Manufacturing

Manufacturing productivity declined more rapidly than in the more comprehensive business sector reported above, falling at a 2.4 percent seasonally adjusted annual rate in the fourth quarter of 1990. Output fell 8.6 percent and hours of all persons decreased 6.4 percent. This was the first quarterly decline in output since the fourth quarter of 1989 (when it fell 1.3 percent) and the largest since 1981. The decline in hours was the third quarter of decline in 1990 and the largest since the fourth quarter of 1982, when hours fell 8.6 percent. During the third quarter, productivity rose 5.4 percent, output rose 3.5 percent and hours fell 1.7 percent (table 3).

Hourly compensation of manufacturing workers increased 3.7 percent during the fourth quarter, but fell 2.7 percent when the increase in consumer prices was taken into account. Unit labor costs rose at a 6.3 percent annual rate in the fourth quarter of 1990, compared with a 1.3 percent decrease during the third quarter.

Both durable and nondurable goods industries experienced productivity declines in the fourth quarter, but the decrease in durable goods manufacturing (-3.3 percent) was larger than the decline in nondurables (-0.1 percent). Output and hours declined in both subsectors (tables 4 and 5).

ANNUAL CHANGES, 1989-1990

Business

Business productivity declined 0.6 percent when the annual average for 1989 is compared with the average for 1990 (table B). This was the second annual drop in a row. Output rose only 0.3 percent in 1990, and hours of all persons engaged in the sector increased 0.9 percent. The increases in productivity, output, and hours were all smaller than the gains in 1989 (table C).

Table B. Productivity and costs: 1990 annual measures

| Sector | Productivity | Output | Hours | Hourly compensation | Real hourly compensation | Unit labor costs |
|--|--------------|--------|-------|---------------------|--------------------------|------------------|
| Percent change in annual averages, 1989-1990 | | | | | | |
| Business | -0.6 | 0.3 | 0.9 | 3.6 | -1.7 | 4.3 |
| Nonfarm business | -0.8 | 0.2 | 1.1 | 3.5 | -1.8 | 4.3 |
| Manufacturing | 3.0 | 0.8 | -2.1 | 3.3 | -2.0 | 0.3 |
| Durable | 3.6 | 0.6 | -2.9 | 3.1 | -2.2 | -0.5 |
| Nondurable | 2.2 | 1.2 | -0.9 | 3.8 | -1.5 | 1.6 |

Hourly compensation increased 3.6 percent in 1990, compared with a 3.3 percent increase during 1989. Unit labor costs increased 4.3 percent during 1990, compared with a 3.8 percent increase one year earlier. Real hourly compensation declined 1.7 percent in 1990, compared with a 1.5 percent drop in 1989. At 101.7, the index of real hourly compensation for 1990 is lower than that of any year since 1985, when it was 101.2 (1982=100).

The implicit price deflator for business output increased 3.8 percent in 1990, compared with a 3.9 percent increase in 1989. The implicit price deflator reflects changes in unit labor costs and unit nonlabor payments. The somewhat smaller increase in business prices reflected in the deflator for 1990 partly reflects a deceleration in nonlabor payments, which include capital consumption allowances, indirect business taxes, net interest, and profits. Unit labor costs, on the other hand, grew more rapidly in 1990 than in 1989 (table C).

Nonfarm business

Productivity decreased 0.8 percent in the nonfarm business sector during 1990, as output rose 0.2 percent and hours of all persons increased 1.1 percent. This was the first time since 1979-1980 that productivity declined for 2 consecutive years. Hourly compensation rose 3.5 percent in 1990, but fell 1.8 percent when the increase in the CPI-U was taken into account. Unit labor costs increased 4.3 percent, compared with a 3.9 percent rise during 1989.

The implicit price deflator for nonfarm business output rose 3.8 percent in 1990, compared with a 3.9 percent increase one year earlier.

Table C. Annual changes in productivity and related measures, 1981-1990

| Measure | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------|------|------|------|------|------|------|------|------|------|------|
| Business: | | | | | | | | | | |
| Productivity..... | 1.5 | -0.7 | 2.3 | 2.5 | 2.0 | 2.3 | 1.1 | 2.2 | -0.5 | -0.6 |
| Output..... | 2.1 | -3.1 | 4.2 | 8.4 | 4.2 | 3.1 | 4.1 | 5.3 | 2.1 | 0.3 |
| Hours..... | 0.6 | -2.5 | 1.8 | 5.7 | 2.1 | 0.8 | 3.0 | 3.0 | 2.6 | 0.9 |
| Hourly comp..... | 9.3 | 7.5 | 3.8 | 4.1 | 4.4 | 5.2 | 3.7 | 4.5 | 3.3 | 3.6 |
| Real hourly comp. | -1.0 | 1.3 | 0.6 | -0.2 | 0.8 | 3.2 | 0.1 | 0.4 | -1.5 | -1.7 |
| Implicit price def. | 9.6 | 5.9 | 3.3 | 3.3 | 2.5 | 2.1 | 2.7 | 3.0 | 3.9 | 3.8 |
| Nonfarm Business: | | | | | | | | | | |
| Productivity..... | 1.0 | -0.9 | 2.9 | 2.1 | 1.3 | 2.0 | 1.0 | 2.5 | -0.7 | -0.8 |
| Output..... | 1.7 | -3.3 | 5.0 | 8.3 | 3.9 | 3.0 | 4.2 | 5.7 | 2.0 | 0.2 |
| Hours..... | 0.7 | -2.4 | 2.0 | 6.0 | 2.5 | 0.9 | 3.2 | 3.1 | 2.7 | 1.1 |
| Hourly comp..... | 9.4 | 7.4 | 4.0 | 3.9 | 4.1 | 5.1 | 3.6 | 4.4 | 3.2 | 3.5 |
| Real hourly comp. | -0.8 | 1.2 | 0.7 | -0.4 | 0.5 | 3.2 | -0.1 | 0.3 | -1.5 | -1.8 |
| Implicit price def. | 9.7 | 6.3 | 3.5 | 3.0 | 3.0 | 2.3 | 2.7 | 2.7 | 3.9 | 3.8 |

Manufacturing

Manufacturing productivity increased more rapidly in 1990 than in the more comprehensive business sectors reported above, growing at a substantial 3.0 percent. Output rose 0.8 percent and hours of all persons declined 2.1 percent. During 1989, productivity rose 3.3 percent, output rose 3.6 percent, and hours increased 0.3 percent.

Hourly compensation of manufacturing workers increased 3.3 percent during 1990, but declined 2.0 percent when the increase in consumer prices was taken into account. This marked the fourth year in a row real hourly compensation declined for manufacturing workers. Unit labor costs rose 0.3 percent in 1990, compared with a 0.6 percent increase during 1989.

Both durable and nondurable goods industries experienced productivity increases in 1990, but gains were faster for durables producers (tables 4, 5).

Revised third quarter 1990 measures

Previous and revised productivity and cost measures for the third quarter are compared in table D for nonfinancial corporations. Current measures are little changed from those announced December 5, 1990.

Table D. Previously published and current measures for nonfinancial corporations, third quarter 1990
Percent change from previous quarter
(Seasonally adjusted annual rates)

| Item | Produc- tivity | Output | Hours | Real | | | Unit profits | Implicit price deflator |
|----------|-------------------|--------|-------|-----------------------------|-----------------------------|------------------------|-----------------|-------------------------------|
| | | | | Hourly compen- sation | hourly compen- sation | Unit labor costs | | |
| Previous | -1.0 | -0.8 | 0.2 | 4.3 | -2.0 | 5.4 | -31.2 | 2.8 |
| Current | -1.0 | -0.8 | 0.2 | 4.4 | -2.1 | 5.5 | -25.3 | 3.4 |

Next release date

The next issue of **Productivity and Costs** is scheduled for release at 10:00 AM EST, Wednesday, March 6, 1991, and will contain measures for nonfinancial corporations, business, nonfarm business, and manufacturing. New and revised annual productivity measures for selected industries are also released today in USDL 91-41, **Productivity by Industry: 1989**.

NOTE: In the January 1991 issue of the Survey of Current Business, the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce will publish revisions to their measures of real gross product originating by industry for the period 1977-1988. BLS will publish new manufacturing output and productivity indexes for 1977-1988 using these revised gross product originating data in our next press release (March 6).

Listings of historical manufacturing productivity and related measures reflecting these revisions are now available from BLS. We will also continue to make available data on trends prior to 1977 based on information we now have for that period. However, BEA plans further work to improve pre-1977 gross product originating data and we will revise our pre-1977 productivity and cost measures when that work is complete.

The manufacturing indexes published in tables 3 through 5 of this release have been benchmarked to the revised BEA data. However, the annual and quarterly percentage changes of output and productivity for the recent years (1989 and 1990 in this case) are as usual based on the industrial production indexes published by the Federal Reserve Board.

None of these changes will have any impact on productivity and cost measures for business or nonfarm business because output measures for these sectors are not based on gross product originating.

TECHNICAL NOTES

Labor Input: The primary source of hours and employment data is the BLS Current Employment Statistics (CES) program, which provides monthly survey data on total employment and average weekly hours of production and nonsupervisory workers in nonagricultural establishments. Nonproduction and supervisory worker hours are developed by BLS from supplementary sources. Jobs rather than persons are counted. Weekly hours are adjusted to the hours at work definition using the BLS Hours at Work survey, conducted for this purpose.

Data from the BLS Current Population Survey (CPS) are used for farm labor; in the nonfarm sector, the National Income and Product Accounts (NIPA) prepared by the Bureau of Economic Analysis of the Department of Commerce and the CPS are used to measure labor input for government enterprises, proprietors, and unpaid family workers.

Output: Business sector output is equal to gross national product (GNP) in constant 1982 dollars, less the rest-of-the-world sector, general government, output of nonprofit institutions, output of paid employees of private households, rental value of owner-occupied dwellings, and the statistical discrepancy in computing the NIPA. Corresponding exclusions are also made in labor inputs. Business output was about 81 percent of GNP in 1989. Nonfarm business, which also excludes farming, was about 79 percent of GNP in 1989.

Total manufacturing measures are computed by summing series prepared for the durable and nondurable goods sectors. Durables include the following 2-digit SIC industries: Primary metals; fabricated metal products; nonelectrical machinery; electrical machinery; transportation equipment; instruments; lumber and lumber products; furniture and fixtures; stone, clay, and glass products; and miscellaneous manufactures. Nondurables include: Textile mill products, apparel products, leather and leather products, printing and publishing, chemicals and chemical products, petroleum products, rubber and plastic products, food, and tobacco products. Manufacturing accounted for about 22 percent of GNP in 1989.

Nonfinancial corporate output is equal to GNP in constant 1982 dollars, less the rest-of-the-world sector, general government, output of nonprofit institutions, output of paid employees of private households, rental value of owner-occupied dwellings, unincorporated business, the output of corporations engaged in banking, finance, stock and commodity trading, and credit and insurance agencies, and the statistical discrepancy in computing the NIPA. Nonfinancial corporations accounted for about 60 percent of GNP in 1989.

Productivity: These productivity measures describe the relationship between real output and the labor time involved in its production. They show the changes from period to period in the amount of goods and services produced per hour. Although these measures relate output to hours at work of all persons engaged in a sector, they do not measure the specific contribution of labor, capital, or any other factor of production. Rather, they reflect the joint effects of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and effort of the work force.

Table 1. Business sector: Productivity, hourly compensation, unit labor cost, and prices, seasonally adjusted

| Year and quarter | Output per hour of all persons | Output | Hours of all persons | Compensation per hour (1) | Real compensation per hour (2) | Unit labor cost | Unit non-labor payments (3) | Implicit price deflator (4) | |
|--|--------------------------------|--------|----------------------|---------------------------|--------------------------------|-----------------|-----------------------------|-----------------------------|--------|
| Indexes 1982=100 | | | | | | | | | |
| 1989 | I | 113.0 | 135.6 | 120.0 | 131.8 | 104.3 | 116.7 | 130.9 | 121.2 |
| | II | 113.0 | 135.9 | 120.2 | 132.7 | 103.5 | 117.4 | 133.3 | 122.5 |
| | III | 112.6 | 136.1 | 120.9 | 133.1 | 103.1 | 118.2 | 133.9 | 123.3 |
| | IV | 111.9 | 135.5 | 121.0 | 133.8 | 102.6 | 119.5 | 134.5 | 124.3 |
| | ANNUAL | 112.6 | 135.8 | 120.5 | 132.9 | 103.4 | 117.9 | 133.1 | 122.8 |
| 1990 | I | 111.7 | 136.0 | 121.7 | 135.3 | 101.7 | 121.1 | 135.5 | 125.8 |
| | II | 111.9 | 136.4 | 121.9 | 137.0 | 102.1 | 122.5 | 137.0 | 127.2 |
| | III | r112.1 | r136.5 | 121.8 | r138.6 | 101.7 | r123.6 | 137.8 | r128.2 |
| | IV | 112.0 | 135.7 | 121.1 | 139.8 | 100.9 | 124.8 | 137.3 | 128.8 |
| | ANNUAL | 111.9 | 136.1 | 121.6 | 137.7 | 101.7 | 123.0 | 136.9 | 127.5 |
| Percent change from previous quarter at annual rate(5) | | | | | | | | | |
| 1989 | I | -0.5 | 3.5 | 4.0 | 3.3 | -2.0 | 3.8 | 1.9 | 3.1 |
| | II | 0.1 | 0.9 | 0.8 | 2.6 | -3.2 | 2.5 | 7.7 | 4.3 |
| | III | -1.6 | 0.6 | 2.2 | 1.1 | -1.7 | 2.8 | 1.8 | 2.5 |
| | IV | -2.3 | -1.8 | 0.4 | 2.2 | -1.8 | 4.6 | 1.7 | 3.5 |
| | ANNUAL | -0.5 | 2.1 | 2.6 | 3.3 | -1.5 | 3.8 | 4.1 | 3.9 |
| 1990 | I | -0.9 | 1.4 | 2.3 | 4.5 | -3.3 | 5.4 | 3.1 | 4.6 |
| | II | 0.6 | 1.2 | 0.5 | 5.4 | 1.6 | 4.7 | 4.5 | 4.6 |
| | III | r0.9 | r0.5 | -0.4 | r4.6 | r-1.9 | r3.7 | r2.4 | r3.2 |
| | IV | -0.5 | -2.5 | -2.1 | 3.4 | -3.1 | 3.9 | -1.5 | 2.0 |
| | ANNUAL | -0.6 | 0.3 | 0.9 | 3.6 | -1.7 | 4.3 | 2.8 | 3.8 |
| Percent change from corresponding quarter of previous year | | | | | | | | | |
| 1989 | I | -0.2 | 3.4 | 3.6 | 4.4 | -0.4 | 4.6 | 4.0 | 4.4 |
| | II | 0.1 | 2.5 | 2.3 | 3.7 | -1.4 | 3.6 | 5.5 | 4.2 |
| | III | -0.9 | 1.7 | 2.7 | 2.6 | -2.0 | 3.5 | 4.0 | 3.7 |
| | IV | -1.1 | 0.8 | 1.9 | 2.3 | -2.2 | 3.4 | 3.2 | 3.4 |
| | ANNUAL | -0.5 | 2.1 | 2.6 | 3.3 | -1.5 | 3.8 | 4.1 | 3.9 |
| 1990 | I | -1.2 | 0.3 | 1.4 | 2.6 | -2.5 | 3.8 | 3.6 | 3.7 |
| | II | -1.0 | 0.3 | 1.4 | 3.3 | -1.3 | 4.4 | 2.8 | 3.8 |
| | III | r-0.4 | r0.3 | 0.7 | r4.2 | r-1.4 | r4.6 | 2.9 | 4.0 |
| | IV | 0.1 | 0.1 | 0.1 | 4.5 | -1.7 | 4.4 | 2.1 | 3.6 |
| | ANNUAL | -0.6 | 0.3 | 0.9 | 3.6 | -1.7 | 4.3 | 2.8 | 3.8 |

See footnotes following table 6.
r=revised

February 4, 1991
Source: Bureau of Labor Statistics

Table 2. Nonfarm business sector: Productivity, hourly compensation, unit labor cost, and prices, seasonally adjusted

| Year and quarter | Output per hour of all persons | Output | Hours of all persons | Compensation per hour (1) | Real compensation per hour (2) | Unit labor cost | Unit non-labor payments (3) | Implicit price deflator (4) | |
|--|--------------------------------|--------|----------------------|---------------------------|--------------------------------|-----------------|-----------------------------|-----------------------------|--------|
| Indexes 1982=100 | | | | | | | | | |
| 1989 | I | 112.1 | 136.4 | 121.7 | 131.0 | 103.7 | 116.9 | 131.0 | 121.4 |
| | II | 112.0 | 136.8 | 122.2 | 131.6 | 102.6 | 117.5 | 134.0 | 122.7 |
| | III | 111.7 | 137.1 | 122.7 | 132.1 | 102.3 | 118.3 | 134.8 | 123.5 |
| | IV | 111.0 | 136.3 | 122.8 | 132.9 | 101.9 | 119.7 | 135.4 | 124.7 |
| | ANNUAL | 111.7 | 136.7 | 122.3 | 131.9 | 102.7 | 118.1 | 133.8 | 123.0 |
| 1990 | I | 110.7 | 136.8 | 123.7 | 134.2 | 100.9 | 121.3 | 135.7 | 125.8 |
| | II | 110.7 | 137.2 | 123.9 | 135.8 | 101.2 | 122.7 | 137.5 | 127.3 |
| | III | r110.9 | r137.4 | 123.9 | r137.4 | 100.8 | r123.9 | 138.3 | r128.4 |
| | IV | 110.9 | 136.4 | 123.0 | 138.7 | 100.1 | 125.0 | 138.3 | 129.2 |
| | ANNUAL | 110.8 | 137.0 | 123.6 | 136.5 | 100.8 | 123.2 | 137.4 | 127.7 |
| Percent change from previous quarter at annual rate (5) | | | | | | | | | |
| 1989 | I | -2.7 | 1.2 | 4.0 | 3.3 | -2.0 | 6.1 | -3.3 | 2.8 |
| | II | -0.3 | 1.3 | 1.6 | 1.7 | -4.1 | 2.0 | 9.3 | 4.4 |
| | III | -1.0 | 0.6 | 1.6 | 1.6 | -1.2 | 2.6 | 2.6 | 2.6 |
| | IV | -2.5 | -2.1 | 0.5 | 2.3 | -1.6 | 5.0 | 1.7 | 3.9 |
| | ANNUAL | -0.7 | 2.0 | 2.7 | 3.2 | -1.5 | 3.9 | 3.9 | 3.9 |
| 1990 | I | -1.3 | 1.4 | 2.8 | 3.9 | -3.8 | 5.3 | 1.0 | 3.8 |
| | II | 0.3 | 1.2 | 0.9 | 5.0 | 1.2 | 4.7 | 5.2 | 4.8 |
| | III | r0.6 | r0.4 | -0.2 | r4.7 | -1.8 | r4.1 | r2.6 | r3.6 |
| | IV | 0.1 | -2.7 | -2.7 | 3.8 | -2.7 | 3.7 | 0.0 | 2.4 |
| | ANNUAL | -0.8 | 0.2 | 1.1 | 3.5 | -1.8 | 4.3 | 2.7 | 3.8 |
| Percent change from corresponding quarter of previous year | | | | | | | | | |
| 1989 | I | -0.1 | 3.6 | 3.7 | 4.4 | -0.4 | 4.5 | 3.3 | 4.1 |
| | II | 0.0 | 2.6 | 2.6 | 3.5 | -1.6 | 3.6 | 5.3 | 4.1 |
| | III | -1.0 | 1.7 | 2.7 | 2.6 | -2.0 | 3.6 | 4.7 | 3.9 |
| | IV | -1.6 | 0.3 | 1.9 | 2.2 | -2.2 | 3.9 | 2.5 | 3.4 |
| | ANNUAL | -0.7 | 2.0 | 2.7 | 3.2 | -1.5 | 3.9 | 3.9 | 3.9 |
| 1990 | I | -1.3 | 0.3 | 1.6 | 2.4 | -2.7 | 3.7 | 3.6 | 3.7 |
| | II | -1.1 | 0.3 | 1.4 | 3.2 | -1.4 | 4.4 | 2.6 | 3.8 |
| | III | r-0.7 | r0.2 | 1.0 | r4.0 | -1.5 | 4.8 | r2.6 | 4.0 |
| | IV | -0.1 | 0.1 | 0.2 | 4.3 | -1.8 | 4.4 | 2.2 | 3.7 |
| | ANNUAL | -0.8 | 0.2 | 1.1 | 3.5 | -1.8 | 4.3 | 2.7 | 3.8 |

See footnotes following table 6.
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February 4, 1991
Source: Bureau of Labor Statistics

Table 3. Manufacturing sector: Productivity, hourly compensation, and unit labor cost, seasonally adjusted

| Year and quarter | Output per hour of all persons | Output (6) | Hours of all persons | Compensation per hour(1) | Real compensation per hour(2) | Unit labor cost | |
|--|--------------------------------|------------|----------------------|--------------------------|-------------------------------|-----------------|-------|
| Indexes 1982=100 | | | | | | | |
| 1989 | I | r137.0 | r151.2 | 110.4 | 126.7 | 100.2 | r92.5 |
| | II | r138.3 | r152.1 | 110.0 | 127.1 | 99.1 | r91.9 |
| | III | r137.9 | r151.5 | 109.9 | 128.2 | 99.3 | r92.9 |
| | IV | r138.8 | r151.0 | 108.8 | 128.9 | 98.9 | r92.9 |
| | ANNUAL | r138.0 | r151.5 | 109.8 | 127.7 | 99.4 | r92.6 |
| 1990 | I | r140.5 | r151.7 | 108.0 | 129.7 | 97.5 | r92.3 |
| | II | r141.5 | r153.3 | 108.3 | 131.2 | 97.8 | r92.7 |
| | III | r143.4 | r154.7 | 107.9 | r132.5 | 97.2 | r92.4 |
| | IV | 142.5 | 151.2 | 106.1 | 133.7 | 96.5 | 93.8 |
| | ANNUAL | 142.1 | 152.7 | 107.5 | 131.9 | 97.4 | 92.8 |
| Percent change from previous quarter at annual rate(5) | | | | | | | |
| 1989 | I | 2.7 | 3.1 | 0.3 | 5.2 | -0.2 | 2.4 |
| | II | 3.9 | 2.4 | -1.4 | 1.3 | -4.5 | -2.5 |
| | III | -1.0 | -1.4 | -0.4 | 3.6 | 0.7 | 4.6 |
| | IV | 2.5 | -1.3 | -3.7 | 2.4 | -1.6 | -0.1 |
| | ANNUAL | r3.3 | r3.6 | 0.3 | 3.9 | -0.9 | r0.6 |
| 1990 | I | 4.9 | 1.8 | -2.9 | 2.3 | -5.4 | -2.5 |
| | II | 3.1 | 4.3 | 1.2 | 4.7 | 1.0 | 1.6 |
| | III | r5.4 | r3.5 | r-1.7 | r4.0 | r-2.5 | r-1.3 |
| | IV | -2.4 | -8.6 | -6.4 | 3.7 | -2.7 | 6.3 |
| | ANNUAL | 3.0 | 0.8 | -2.1 | 3.3 | -2.0 | 0.3 |
| Percent change from corresponding quarter of previous year | | | | | | | |
| 1989 | I | r4.9 | r6.7 | 1.8 | 4.6 | -0.2 | r-0.3 |
| | II | r4.1 | r4.9 | 0.8 | 4.1 | -1.1 | r0.0 |
| | III | r2.0 | r2.4 | 0.4 | 3.7 | -0.9 | r1.7 |
| | IV | 2.0 | 0.7 | -1.3 | 3.1 | -1.4 | 1.1 |
| | ANNUAL | r3.3 | r3.6 | 0.3 | 3.9 | -0.9 | r0.6 |
| 1990 | I | r2.6 | 0.4 | -2.1 | 2.4 | -2.7 | -0.2 |
| | II | 2.4 | 0.8 | -1.5 | 3.2 | -1.3 | 0.9 |
| | III | r4.0 | r2.1 | -1.8 | 3.3 | -2.1 | -0.6 |
| | IV | 2.7 | 0.1 | -2.5 | 3.7 | -2.4 | 1.0 |
| | ANNUAL | 3.0 | 0.8 | -2.1 | 3.3 | -2.0 | 0.3 |

See footnotes following table 6.
r=revised

February 4, 1991
Source: Bureau of Labor Statistics

Table 4. Durable manufacturing sector: Productivity, hourly compensation, and unit labor cost, seasonally adjusted

| Year and quarter | Output per hour of all persons | Output (6) | Hours of all persons | Compensation per hour (1) | Real compensation per hour (2) | Unit labor cost | |
|---|--------------------------------|------------|----------------------|---------------------------|--------------------------------|-----------------|-------|
| ----- Indexes 1982=100 | | | | | | | |
| 1989 | I | r149.5 | r167.5 | 112.0 | 125.3 | 99.2 | r83.8 |
| | II | r152.0 | r168.6 | 110.9 | 125.7 | 98.0 | r82.7 |
| | III | r152.0 | r167.9 | 110.5 | 127.0 | 98.4 | r83.6 |
| | IV | r152.0 | r166.2 | 109.3 | 127.6 | 97.9 | r84.0 |
| | ANNUAL | r151.4 | r167.5 | 110.7 | 126.4 | 98.4 | r83.5 |
| 1990 | I | r153.8 | r166.8 | 108.5 | 128.1 | 96.3 | r83.3 |
| | II | r156.2 | r169.8 | 108.7 | 129.5 | 96.5 | r82.9 |
| | III | r159.1 | r171.6 | 107.9 | r131.0 | r96.1 | r82.3 |
| | IV | 157.7 | 166.2 | 105.3 | 132.1 | 95.3 | 83.7 |
| | ANNUAL | 156.9 | 168.6 | 107.5 | 130.3 | 96.2 | 83.1 |
| ----- Percent change from previous quarter at annual rate(5) | | | | | | | |
| 1989 | I | 2.1 | 2.2 | 0.1 | 6.2 | 0.8 | 4.1 |
| | II | 6.9 | 2.8 | -3.8 | 1.2 | -4.5 | -5.3 |
| | III | -0.2 | -1.7 | -1.5 | 4.3 | 1.4 | 4.5 |
| | IV | 0.0 | -4.1 | -4.1 | 1.8 | -2.1 | 1.8 |
| | ANNUAL | r4.1 | r4.1 | 0.0 | 4.1 | -0.7 | r0.0 |
| 1990 | I | 4.8 | 1.6 | -3.1 | 1.5 | -6.1 | -3.1 |
| | II | 6.6 | 7.3 | 0.7 | 4.4 | 0.7 | -2.0 |
| | III | r7.5 | r4.3 | -3.0 | r4.6 | r-1.9 | r-2.7 |
| | IV | -3.3 | -12.1 | -9.1 | 3.6 | -2.9 | 7.1 |
| | ANNUAL | 3.6 | 0.6 | -2.9 | 3.1 | -2.2 | -0.5 |
| ----- Percent change from corresponding quarter of previous year | | | | | | | |
| 1989 | I | r5.7 | r8.6 | 2.8 | 4.0 | -0.7 | r-1.6 |
| | II | r5.2 | r5.8 | 0.6 | 4.4 | -0.8 | r-0.8 |
| | III | r3.2 | r2.7 | -0.4 | 4.4 | -0.3 | r1.1 |
| | IV | 2.1 | -0.2 | -2.3 | 3.4 | -1.1 | 1.2 |
| | ANNUAL | r4.1 | r4.1 | 0.0 | 4.1 | -0.7 | r0.0 |
| 1990 | I | 2.8 | -0.4 | -3.1 | 2.2 | -2.9 | -0.6 |
| | II | 2.7 | 0.7 | -2.0 | 3.0 | -1.6 | 0.3 |
| | III | 4.7 | 2.2 | -2.4 | r3.1 | -2.4 | r-1.5 |
| | IV | 3.8 | 0.0 | -3.7 | 3.5 | -2.6 | -0.3 |
| | ANNUAL | 3.6 | 0.6 | -2.9 | 3.1 | -2.2 | -0.5 |

See footnotes following table 6.
r=revised

February 4, 1991
Source: Bureau of Labor Statistics

Table 5. Nondurable manufacturing sector: Productivity, hourly compensation, and unit labor cost, seasonally adjusted

| Year and quarter | Output per hour of all persons | Output (6) | Hours of all persons | Compensation per hour(1) | Real compensation per hour(2) | Unit labor cost | |
|--|--------------------------------|------------|----------------------|--------------------------|-------------------------------|-----------------|--------|
| Indexes 1982=100 | | | | | | | |
| 1989 | I | r119.8 | r129.5 | 108.1 | 128.5 | 101.7 | r107.3 |
| | II | r119.6 | r130.1 | 108.7 | 129.1 | 100.7 | r107.9 |
| | III | r119.0 | r129.7 | 109.0 | 130.0 | 100.6 | r109.2 |
| | IV | r121.1 | r130.9 | 108.1 | 131.1 | 100.5 | r108.3 |
| | ANNUAL | r119.8 | r130.0 | 108.5 | 129.6 | 100.9 | r108.2 |
| 1990 | I | r122.6 | r131.6 | 107.4 | 132.2 | 99.4 | r107.9 |
| | II | r121.8 | r131.4 | 107.9 | 134.0 | 99.9 | r109.9 |
| | III | r122.5 | r132.1 | 107.9 | 135.1 | 99.1 | r110.3 |
| | IV | 122.5 | 131.3 | 107.2 | 136.6 | 98.6 | 111.5 |
| | ANNUAL | 122.4 | 131.6 | 107.5 | 134.5 | 99.3 | 109.9 |
| Percent change from previous quarter at annual rate(5) | | | | | | | |
| 1989 | I | 3.9 | 4.7 | 0.7 | 3.6 | -1.7 | -0.3 |
| | II | -0.5 | 1.8 | 2.3 | 1.9 | -3.9 | 2.4 |
| | III | -2.1 | -1.0 | 1.1 | 2.6 | -0.3 | 4.8 |
| | IV | 7.1 | 3.7 | -3.2 | 3.4 | -0.6 | -3.4 |
| | ANNUAL | r2.0 | r2.8 | 0.8 | 3.7 | -1.1 | r1.6 |
| 1990 | I | 5.2 | 2.3 | -2.7 | 3.6 | -4.1 | -1.5 |
| | II | -2.4 | -0.6 | 1.8 | 5.4 | 1.6 | 8.0 |
| | III | r2.2 | r2.1 | 0.0 | 3.3 | r-3.1 | r1.1 |
| | IV | -0.1 | -2.4 | -2.4 | 4.7 | -1.8 | 4.7 |
| | ANNUAL | 2.2 | 1.2 | -0.9 | 3.8 | -1.5 | 1.6 |
| Percent change from corresponding quarter of previous year | | | | | | | |
| 1989 | I | r3.3 | r3.6 | 0.3 | 5.2 | 0.4 | r1.9 |
| | II | r2.3 | r3.5 | 1.2 | 3.6 | -1.5 | r1.3 |
| | III | r0.3 | 1.8 | 1.5 | 2.9 | -1.7 | 2.6 |
| | IV | 2.1 | 2.3 | 0.2 | 2.9 | -1.6 | 0.8 |
| | ANNUAL | r2.0 | r2.8 | 0.8 | 3.7 | -1.1 | r1.6 |
| 1990 | I | 2.3 | 1.7 | -0.7 | 2.9 | -2.2 | 0.5 |
| | II | 1.9 | 1.1 | -0.8 | 3.7 | -0.9 | 1.9 |
| | III | r2.9 | r1.9 | -1.1 | 3.9 | r-1.6 | r1.0 |
| | IV | 1.2 | 0.3 | -0.8 | 4.2 | -1.9 | 3.0 |
| | ANNUAL | 2.2 | 1.2 | -0.9 | 3.8 | -1.5 | 1.6 |

See footnotes following table 6.
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February 4, 1991
Source: Bureau of Labor Statistics

Table 6. Nonfinancial corporations: Productivity, hourly compensation, unit labor cost, unit profits, and prices, seasonally adjusted

| Year and quarter | Output per all-employee hour | Output | Employee hours | Hourly compensation (1) | Real hourly compensation (2) | Unit labor cost | Unit non-labor cost (7) | Total unit cost (8) | Unit profits (9) | Implicit price deflator (4) | |
|--|------------------------------|--------|----------------|-------------------------|------------------------------|-----------------|-------------------------|---------------------|------------------|-----------------------------|--------|
| ----- | | | | | | | | | | | |
| Indexes 1982=100 | | | | | | | | | | | |
| 1989 | I | 111.9 | 136.2 | 121.7 | 128.3 | 101.5 | 114.6 | 108.0 | 112.7 | 162.3 | 115.9 |
| | II | 111.6 | 136.4 | 122.2 | 128.8 | 100.5 | 115.4 | 110.6 | 114.1 | 162.9 | 117.1 |
| | III | 111.8 | 137.1 | 122.7 | 129.3 | 100.2 | 115.7 | 113.3 | 115.0 | 159.3 | 117.8 |
| | IV | 110.5 | 135.9 | 123.0 | 130.0 | 99.7 | 117.6 | 115.2 | 117.0 | 147.2 | 118.9 |
| | ANNUAL | 111.6 | 136.4 | 122.2 | 129.3 | 100.6 | 115.8 | 111.8 | 114.7 | 157.9 | 117.4 |
| 1990 | I | 110.1 | 136.0 | 123.5 | 130.9 | 98.4 | 118.9 | 116.2 | 118.1 | 147.6 | 120.0 |
| | II | 110.6 | 136.9 | 123.8 | 133.0 | 99.1 | 120.2 | 116.2 | 119.1 | 153.9 | 121.3 |
| | III | 110.3 | 136.6 | 123.9 | 134.4 | 98.6 | r121.9 | r118.6 | r120.9 | r143.1 | r122.3 |
| ----- | | | | | | | | | | | |
| Percent change from previous quarter at annual rate(5) | | | | | | | | | | | |
| 1989 | I | -3.6 | -0.1 | 3.6 | 4.6 | -0.8 | 8.4 | 2.6 | 6.8 | -32.5 | 2.4 |
| | II | -1.1 | 0.6 | 1.7 | 1.8 | -4.0 | 2.8 | 9.9 | 4.7 | 1.5 | 4.4 |
| | III | 0.6 | 2.1 | 1.5 | 1.6 | -1.2 | 1.0 | 10.2 | 3.5 | -8.5 | 2.4 |
| | IV | -4.6 | -3.6 | 1.1 | 1.9 | -2.0 | 6.9 | 6.9 | 6.9 | -27.1 | 3.6 |
| | ANNUAL | -1.6 | 1.1 | 2.8 | 3.3 | -1.5 | 5.0 | 5.9 | 5.3 | -10.4 | 3.7 |
| 1990 | I | -1.5 | 0.2 | 1.8 | 2.8 | -4.9 | 4.4 | 3.3 | 4.1 | 1.2 | 3.9 |
| | II | 1.9 | 2.8 | 0.9 | 6.6 | 2.8 | 4.6 | 0.2 | 3.4 | 18.2 | 4.5 |
| | III | -1.0 | -0.8 | 0.2 | r4.4 | r-2.1 | r5.5 | r8.3 | 6.3 | r-25.3 | r3.4 |
| ----- | | | | | | | | | | | |
| Percent change from corresponding quarter of previous year | | | | | | | | | | | |
| 1989 | I | -1.5 | 2.3 | 3.8 | 4.4 | -0.4 | 6.0 | 3.6 | 5.3 | -8.1 | 4.0 |
| | II | -1.7 | 1.4 | 3.1 | 3.5 | -1.6 | 5.3 | 5.7 | 5.4 | -8.5 | 4.0 |
| | III | -1.4 | 1.3 | 2.7 | 2.7 | -1.9 | 4.1 | 6.9 | 4.9 | -7.0 | 3.8 |
| | IV | -2.2 | -0.3 | 2.0 | 2.5 | -2.0 | 4.8 | 7.4 | 5.5 | -17.8 | 3.2 |
| | ANNUAL | -1.6 | 1.1 | 2.8 | 3.3 | -1.5 | 5.0 | 5.9 | 5.3 | -10.4 | 3.7 |
| 1990 | I | -1.7 | -0.2 | 1.5 | 2.0 | -3.0 | 3.8 | 7.6 | 4.8 | -9.0 | 3.6 |
| | II | -1.0 | 0.4 | 1.3 | 3.2 | -1.4 | 4.2 | 5.1 | 4.4 | -5.5 | 3.6 |
| | III | -1.3 | -0.4 | 1.0 | 3.9 | -1.6 | 5.3 | r4.6 | r5.1 | r-10.2 | r3.8 |

See footnotes following table 6.
r=revised

February 4, 1991
Source: Bureau of Labor Statistics

SOURCE: Output data from the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Compensation and hours data from the Bureau of Labor Statistics, U.S. Department of Labor, and the Bureau of Economic Analysis.

RELIABILITY: Productivity and cost measures are regularly revised as more complete information becomes available. The measures are first published 30 days after the close of the reference period; revisions appear 30 days later, and third revisions after an additional 60 days. In the business sector, the probability is 0.95 that the third publication (third revision) of a quarterly index of output per hour of all persons will differ from the initial value by between -1.8 and +2.1 index points. This interval is based on the performance of this measure between the second quarter of 1976 and the third quarter of 1989.

Footnotes, Tables 1-6

- (1) Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Except for nonfinancial corporations, where there are no self-employed, data also include an estimate of wages, salaries, and supplemental payments for the self-employed.
- (2) Compensation per hour adjusted for changes in the Consumer Price Index for All Urban Consumers.
- (3) Unit nonlabor payments include profits, capital consumption allowances, interest, rental income of persons, and indirect taxes.
- (4) Current dollar gross product divided by constant dollar gross product.
- (5) Quarterly changes: Percent change compounded at annual rate from the original data rather than index numbers. Annual changes: Percent change between annual average levels.
- (6) Quarterly manufacturing output measures are based on the index of industrial production prepared monthly by the Board of Governors of the Federal Reserve adjusted by BLS to annual manufacturing output levels (gross product originating) from the National Income and Product Accounts prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce.
- (7) Unit nonlabor cost includes capital consumption allowances, interest, rental income of persons, and indirect taxes. For nonfinancial corporations, rental income of persons is zero by definition.
- (8) Total unit cost is the sum of labor and nonlabor costs.
- (9) Unit profits include corporate profits with inventory valuation and capital consumption adjustments.