

# News

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## PRODUCTIVITY AND COSTS First Quarter 1991

The Bureau of Labor Statistics of the U.S. Department of Labor today reported preliminary productivity data--as measured by output per hour of all persons--for the first quarter of 1991. The seasonally-adjusted annual rates of productivity change in the first quarter were:

- 0.7 percent in the business sector,
- 1.0 percent in the nonfarm business sector,
- 0.9 percent in manufacturing,
- 0.9 percent in durable goods manufacturing, and
- 0.4 percent in nondurable goods manufacturing.

The productivity decline in manufacturing contrasted with increases in the broader sectors of the economy. Underlying declines in output and hours occurred in all sectors, but were more pronounced in manufacturing. Output and hours changes in this sector, which includes about 20 percent of all persons engaged in U.S. business, tend to be more volatile than in the more comprehensive business and nonfarm business divisions. First-quarter measures are summarized in table A and appear in detail in tables 1-5.

### Business

Productivity rose at a 0.7 percent annual rate during the first quarter of 1991 in the business sector, as output fell 4.0 percent and hours of all persons engaged in the sector decreased 4.6 percent (seasonally adjusted annual rates). During the fourth quarter of 1990, productivity had fallen 1.2 percent, but the declines in output and hours were smaller than during the first quarter of 1991 (table 1). The output decline in the first quarter of 1991 was the largest since a 5.5 percent drop was recorded in the first quarter of 1982.

This release replaces the one issued on Monday, May 6, which contained some erroneous data.

Table A. Productivity and costs: Preliminary first quarter 1991 measures  
(Seasonally adjusted annual rates)

Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Percent change from preceding quarter						
Business	0.7	-4.0	-4.6	3.7	0.2	3.0
Nonfarm business	1.0	-3.9	-4.9	4.0	0.5	3.0
Manufacturing	-0.9	-10.5	-9.7	3.4	-0.1	4.4
Durable	-0.9	-12.9	-12.2	3.5	0.0	4.4
Nondurable	-0.4	-6.5	-6.2	3.9	0.3	4.3
Percent change from same quarter a year ago						
Business	0.3	-1.4	-1.7	4.3	-1.0	4.0
Nonfarm business	0.3	-1.5	-1.8	4.4	-0.9	4.1
Manufacturing	1.5	-2.9	-4.4	4.2	-1.0	2.7
Durable	2.5	-3.8	-6.1	4.4	-0.9	1.9
Nondurable	0.4	-1.5	-1.9	4.4	-0.9	4.0

Hourly compensation increased 3.7 percent during the first quarter of 1991, compared with a 3.5 percent rise in the fourth quarter of 1990. 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 3.0 percent annual rate during the first quarter, compared with a 4.8 percent increase in the fourth quarter of last year.

Real hourly compensation, which takes into account changes in the Consumer Price Index for All Urban Consumers (CPI-U), increased at a 0.2 percent annual rate in the first quarter; it had declined 3.2 percent in the fourth quarter of 1990. The first quarter increase partly reflects a smaller increase in the CPI-U.

The implicit price deflator for the business sector, which reflects changes in unit labor costs and unit nonlabor payments, increased 5.1 percent in the first quarter. This was the largest increase in business sector prices since the third quarter of 1982, when a 5.6 percent increase occurred.

### **Nonfarm business**

Productivity rose at a 1.0 percent annual rate in the nonfarm business sector during the first quarter of 1991, as output fell 3.9 percent and hours of all persons decreased 4.9 percent. The declines in output and hours were larger than those recorded in the fourth quarter of 1990 when output fell 3.6 percent and hours declined 2.8 percent. During the fourth quarter of 1990, productivity fell 0.7 percent in this sector (table 2).

Hourly compensation increased 4.0 percent in the first quarter, compared with a 3.9 percent increase one quarter earlier. When the rise in the CPI-U was taken into account, real hourly compensation rose 0.5 percent. Unit labor costs rose 3.0 percent, compared with a 4.7 percent rise during the fourth quarter of 1990.

The implicit price deflator for nonfarm business output rose 4.9 percent in the first quarter, compared with a 2.5 percent rise one quarter earlier. This was the largest quarterly increase in the prices of the goods and services which make up nonfarm business output since the fourth quarter of 1988, when a 5.9 percent increase occurred.

### **Manufacturing**

Productivity declined at a 0.9 percent seasonally adjusted annual rate in manufacturing in the first quarter of 1991, as output fell 10.5 percent and hours of all persons declined 9.7 percent (seasonally adjusted annual rates). This was the second drop in manufacturing productivity in a row and reflected substantial declines in both output and hours.

Hourly compensation of all manufacturing workers increased 3.4 percent during the first quarter, with somewhat faster gains recorded for producers of nondurable goods. Real hourly compensation for the whole sector fell 0.1 percent when the increase in consumer prices is taken into account, compared with a 2.1 percent decline in the fourth quarter of 1990.

Unit labor costs rose at a 4.4 percent annual rate in the first quarter of 1991, compared with a 6.1 percent increase one quarter earlier.

**Table B. Nonfinancial corporations: Fourth quarter and 1990 annual measures**  
(Seasonally adjusted annual rates)

Period	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs	Unit profits	Implicit price deflator
1990 III -								
1990 IV	0.4	-4.1	-4.5	3.9	-2.9	3.4	-28.4	2.2
1989 IV -								
1990 IV	-0.1	-0.5	-0.4	4.4	-1.7	4.5	-10.6	3.5
1990								
Annual	-1.1	-0.2	0.9	3.3	-2.0	4.4	-8.8	3.6

**Fourth-quarter measures for nonfinancial corporations**

Fourth-quarter 1990 measures of productivity and costs also were announced today for the nonfinancial corporate sector, together with revised annual movements (tables B and C). Output per all-employee hour rose 0.4 percent from the third to the fourth quarter of 1990, as output decreased less--4.1 percent--than all-employee hours--4.5 percent--(seasonally-adjusted annual rates). Productivity thus decreased for the first and third quarters of 1990, but rose during the second and fourth quarters (table 6).

Hourly compensation increased 3.9 percent in the fourth quarter, and unit labor costs rose 3.4 percent. Unit nonlabor costs increased 9.1 percent, and unit profits fell at a 28.4 percent annual rate. This was the second consecutive quarter in which profits per unit of output declined. The implicit deflator for nonfinancial corporate output rose 2.2 percent during the fourth quarter.

For the year as a whole, productivity slipped 1.1 percent, compared with a 1.6 percent decline during 1989. Hourly compensation rose 3.3 percent in both years. Real hourly compensation declined 2.0 percent in 1990, the largest annual decrease since a 2.6 percent decline was recorded in 1980. The cumulative drop was 3.9 percent from 1986 to 1990.

Table C. Nonfinancial corporations: Previous and current 1990 annual change in productivity and related measures  
(Percent change)

Measure	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs	Unit profits	Implicit price deflator
Previous	-1.0	-0.1	0.9	3.3	-2.0	4.3	-7.7	3.6
Current	-1.1	-0.2	0.9	3.3	-2.0	4.4	-8.8	3.6

#### REVISED MEASURES

Current and previous measures for the fourth quarter and full year 1990 for the business, nonfarm business, and manufacturing sectors are compared in table D. The quarterly movements differ somewhat from those that had been reported on March 6, based on information then available. The annual movements were similar to those previously published.

On May 3, the U.S. Department of Commerce announced revised measures of gross product originating by industry for 1987 and 1988 and new results for 1989. The productivity and cost measures for manufacturing contained in this issue of *Productivity and Costs* reflect these new measures. Revised measures for 1987-1989 are shown in appendix tables 1-3.

**Table D. Previous and current productivity and related measures,  
fourth quarter and annual averages, 1990  
(Seasonally-adjusted annual rates)**

Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Percent change, third to fourth quarter 1990						
<b>Business:</b>						
Previous	-0.3	-2.4	-2.2	3.6	-3.2	3.8
Current	-1.2	-3.4	-2.2	3.5	-3.2	4.8
<b>Nonfarm business:</b>						
Previous	0.3	-2.6	-2.8	4.0	-2.8	3.7
Current	-0.7	-3.6	-2.8	3.9	-2.9	4.7
<b>Manufacturing:</b>						
Previous	-1.6	-8.3	-6.8	4.7	-2.1	6.4
Current	-1.3	-8.1	-6.9	4.7	-2.1	6.1
Percent change, 1989 to 1990						
<b>Business:</b>						
Previous	-0.6	0.3	0.9	3.6	-1.7	4.3
Current	-0.7	0.2	0.9	3.6	-1.7	4.3
<b>Nonfarm business:</b>						
Previous	-0.8	0.2	1.0	3.5	-1.8	4.3
Current	-0.9	0.2	1.0	3.5	-1.8	4.4
<b>Manufacturing:</b>						
Previous	3.0	0.9	-2.1	3.3	-2.0	0.3
Current	2.6	0.4	-2.2	3.4	-1.9	0.7

Table E compares previous and current measures, reflecting the introduction of the revised data. Changes in the measure of manufacturing output have affected the pattern and trend of productivity movements during the period. The 1986-1990 productivity trend is somewhat lower using the revised statistics, showing a 3.3 percent average rate of increase over the period. Previously, the growth rate had been 4.3 percent per year.

Historical measures are available on request from the BLS Office of Productivity and Technology, Washington, D.C. 20212, telephone (202) 523-9261. This new information also is incorporated in the "Major Sector Labor and Multifactor Productivity" BLS data diskette, available for \$38, prepaid. Ordering information is on the last page of this release.

Table E. Previous and current productivity and related measures for manufacturing, 1987-1990  
(Percent change from previous year)

Year	Productivity	Output	Hours
1987: Previous	5.0	5.8	0.7
Current	5.3	6.1	0.7
1988: Previous	6.0	9.2	3.0
Current	4.5	7.7	3.0
1989: Previous	3.3	3.6	0.3
Current	0.9	1.3	0.3
1990: Previous	3.0	0.9	-2.1
Current	2.6	0.4	-2.2

**Next release date**

The next release of Productivity and Costs is scheduled for 10:00 AM EDT, Wednesday, June 5, 1991. First-quarter measures for nonfinancial corporations and measures for business, nonfarm business, and manufacturing will be released at that time.

#### 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. 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, unpaid family workers, and paid employees of private households.

**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 1990. Nonfarm business, which also excludes farming, was about 79 percent of GNP in 1990.

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 23 percent of GNP in 1990.

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 59 percent of GNP in 1990.

**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								
1990 I	111.7	136.0	121.7	135.3	101.8	121.1	135.5	125.8
II	111.9	136.4	121.9	137.0	102.2	122.5	137.0	127.2
III	112.1	136.5	121.8	138.6	101.7	123.6	137.8	128.2
IV	111.8	135.4	121.1	139.8	100.8	125.0	136.7	128.8
ANNUAL	111.9	136.1	121.6	137.7	101.7	123.1	136.8	127.5
1991 I	112.0	134.0	119.7	141.1	100.9	126.0	139.8	130.4
Percent change from previous quarter at annual rate(5)								
1990 I	-0.9	1.4	2.3	4.5	-2.7	5.4	3.1	4.6
II	0.6	1.2	0.5	5.4	1.4	4.7	4.5	4.6
III	0.9	0.5	-0.4	4.6	-2.1	3.7	2.4	3.2
IV	-1.2	-3.4	-2.2	3.5	-3.2	4.8	-3.2	2.0
ANNUAL	-0.7	0.2	0.9	3.6	-1.7	4.3	2.7	3.8
1991 I	0.7	-4.0	-4.6	3.7	0.2	3.0	9.2	5.1
Percent change from corresponding quarter of previous year								
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	-0.4	0.3	0.7	4.2	-1.3	4.6	2.9	4.0
IV	-0.1	-0.1	0.1	4.5	-1.7	4.6	1.7	3.6
ANNUAL	-0.7	0.2	0.9	3.6	-1.7	4.3	2.7	3.8
1991 I	0.3	-1.4	-1.7	4.3	-1.0	4.0	3.1	3.7

See footnotes following table 6.  
r=revised

May 8, 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								
1990	I	110.7	136.8	123.7	134.2	101.0	121.3	135.7
	II	110.7	137.2	123.9	135.8	101.3	122.7	137.5
	III	110.9	137.4	123.9	137.4	100.8	123.9	138.3
	IV	110.7	136.1	123.0	138.7	100.0	125.3	137.7
	ANNUAL	110.8	136.9	123.6	136.6	100.8	123.3	137.3
1991	I	111.0	134.8	121.5	140.1	100.2	126.2	140.6
Percent change from previous quarter at annual rate (5)								
1990	I	-1.3	1.4	2.8	3.9	-3.2	5.3	1.0
	II	0.3	1.2	0.9	5.0	1.0	4.7	5.2
	III	0.6	0.4	-0.2	4.7	-2.0	4.1	2.6
	IV	-0.7	-3.6	-2.8	3.9	-2.9	4.7	-1.7
	ANNUAL	-0.9	0.2	1.0	3.5	-1.8	4.4	2.6
1991	I	1.0	-3.9	-4.9	4.0	0.5	3.0	8.7
Percent change from corresponding quarter of previous year								
1990	I	-1.3	0.3	1.6	2.4	-2.6	3.7	3.6
	II	-1.1	0.3	1.4	3.2	-1.3	4.4	2.6
	III	-0.7	0.2	1.0	4.0	-1.5	4.8	2.6
	IV	-0.3	-0.1	0.1	4.4	-1.8	4.7	1.7
	ANNUAL	-0.9	0.2	1.0	3.5	-1.8	4.4	2.6
1991	I	0.3	-1.5	-1.8	4.4	-0.9	4.1	3.6

See footnotes following table 6.  
r=revised

May 8, 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							
1990	I	135.1	145.9	108.0	129.7	97.6	96.0
	II	136.1	147.5	108.3	131.2	97.8	96.4
	III	137.9	148.8	107.9	132.5	97.2	96.1
	IV	137.5	145.7	106.0	134.0	96.7	97.5
	ANNUAL	136.8	147.0	107.4	132.0	97.4	96.5
1991	I	137.2	141.7	103.3	135.1	96.6	98.5
Percent change from previous quarter at annual rate(5)							
1990	I	4.9	1.8	-2.9	2.3	-4.8	-2.5
	II	3.1	4.3	1.2	4.7	0.8	1.6
	III	5.4	3.5	-1.7	4.0	-2.7	-1.3
	IV	-1.3	-8.1	-6.9	4.7	-2.1	6.1
	ANNUAL	2.6	0.4	-2.2	3.4	-1.9	0.7
1991	I	-0.9	-10.5	-9.7	3.4	-0.1	4.4
Percent change from corresponding quarter of previous year							
1990	I	1.4	-0.8	-2.1	2.4	-2.7	1.0
	II	1.8	0.2	-1.5	3.2	-1.3	1.4
	III	3.8	1.9	-1.8	3.3	-2.1	-0.4
	IV	3.0	0.3	-2.6	3.9	-2.2	0.9
	ANNUAL	2.6	0.4	-2.2	3.4	-1.9	0.7
1991	I	1.5	-2.9	-4.4	4.2	-1.0	2.7

See footnotes following table 6.  
r=revised

May 8, 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							
1990	I	147.2	159.7	108.5	128.1	96.4	87.0
	II	149.6	162.6	108.7	129.5	96.6	86.5
	III	152.3	164.3	107.9	131.0	96.1	86.0
	IV	151.2	159.1	105.2	132.6	95.6	87.7
	ANNUAL	150.3	161.4	107.4	130.4	96.3	86.8
1991	I	150.9	153.7	101.9	133.7	95.6	88.6
Percent change from previous quarter at annual rate (5)							
1990	I	4.8	1.6	-3.1	1.5	-5.5	-3.1
	II	6.6	7.3	0.7	4.4	0.5	-2.0
	III	7.5	4.3	-3.0	4.6	-2.1	-2.7
	IV	-2.9	-12.1	-9.5	5.0	-1.8	8.1
	ANNUAL	3.3	0.3	-2.9	3.2	-2.1	-0.1
1991	I	-0.9	-12.9	-12.2	3.5	0.0	4.4
Percent change from corresponding quarter of previous year							
1990	I	2.0	-1.2	-3.1	2.2	-2.8	0.2
	II	2.3	0.3	-2.0	3.0	-1.5	0.7
	III	4.5	2.0	-2.4	3.1	-2.3	-1.4
	IV	3.9	0.0	-3.8	3.9	-2.2	0.0
	ANNUAL	3.3	0.3	-2.9	3.2	-2.1	-0.1
1991	I	2.5	-3.8	-6.1	4.4	-0.9	1.9

See footnotes following table 6.  
r=revised

May 8, 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							
1990	I	118.8	127.6	107.4	132.2	99.6	111.3
	II	118.1	127.4	107.9	134.0	99.9	113.5
	III	118.7	128.0	107.9	135.1	99.1	113.8
	IV	119.4	127.8	107.0	136.7	98.6	114.5
	ANNUAL	118.9	127.7	107.4	134.6	99.4	113.3
1991	I	119.3	125.6	105.3	138.0	98.7	115.7
Percent change from previous quarter at annual rate (5)							
1990	I	5.2	2.3	-2.7	3.6	-3.5	-1.5
	II	-2.4	-0.6	1.8	5.4	1.4	8.0
	III	2.2	2.1	0.0	3.3	-3.3	1.1
	IV	2.3	-0.9	-3.1	4.9	-1.9	2.6
	ANNUAL	1.7	0.6	-1.0	3.9	-1.5	2.2
1991	I	-0.4	-6.5	-6.2	3.9	0.3	4.3
Percent change from corresponding quarter of previous year							
1990	I	0.6	0.0	-0.7	2.9	-2.2	2.2
	II	1.0	0.2	-0.8	3.7	-0.8	2.7
	III	2.7	1.6	-1.1	3.9	-1.5	1.2
	IV	1.8	0.7	-1.0	4.3	-1.9	2.5
	ANNUAL	1.7	0.6	-1.0	3.9	-1.5	2.2
1991	I	0.4	-1.5	-1.9	4.4	-0.9	4.0

See footnotes following table 6.  
r=revised

May 8, 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	101.6	114.6	108.0	112.7	162.3
	II	111.6	136.4	122.2	128.8	100.5	115.4	110.6	114.1	162.9
	III	111.8	137.1	122.7	129.3	100.1	115.7	113.3	115.0	159.3
	IV	110.5	135.9	123.0	130.0	99.6	117.6	115.2	117.0	147.2
	ANNUAL	111.6	136.4	122.2	129.3	100.6	115.8	111.8	114.7	157.9
1990	I	110.1	136.0	123.5	130.9	98.5	118.9	116.2	118.1	147.6
	II	110.6	136.9	123.8	133.0	99.2	120.2	116.2	119.1	153.9
	III	110.3	136.6	123.9	134.4	98.6	121.9	118.6	120.9	143.1
	IV	110.4	135.2	122.5	135.7	97.9	122.9	121.2	122.4	131.6
	ANNUAL	110.4	136.2	123.3	133.6	98.6	121.0	118.0	120.2	144.1
Percent change from previous quarter at annual rate(5)										
1989	I	-3.6	-0.1	3.6	4.6	-0.4	8.4	2.6	6.8	-32.5
	II	-1.1	0.6	1.7	1.8	-4.1	2.8	9.9	4.7	1.5
	III	0.6	2.1	1.5	1.6	-1.5	1.0	10.2	3.5	-8.5
	IV	-4.6	-3.6	1.1	1.9	-2.0	6.9	6.9	6.9	-27.1
	ANNUAL	-1.6	1.1	2.8	3.3	-1.5	5.0	5.9	5.3	-10.4
1990	I	-1.5	0.2	1.8	2.8	-4.3	4.4	3.3	4.1	1.2
	II	1.9	2.8	0.9	6.6	2.6	4.6	0.2	3.4	18.2
	III	-1.0	-0.8	0.2	4.4	-2.3	5.5	8.3	6.3	-25.3
	IV	0.4	-4.1	-4.5	3.9	-2.9	3.4	9.1	5.0	-28.4
	ANNUAL	-1.1	-0.2	0.9	3.3	-2.0	4.4	5.6	4.8	-8.8
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
	II	-1.7	1.4	3.1	3.5	-1.5	5.3	5.7	5.4	-8.5
	III	-1.4	1.3	2.7	2.7	-1.9	4.1	6.9	4.9	-7.0
	IV	-2.2	-0.3	2.0	2.5	-2.0	4.8	7.4	5.5	-17.8
	ANNUAL	-1.6	1.1	2.8	3.3	-1.5	5.0	5.9	5.3	-10.4
1990	I	-1.7	-0.2	1.5	2.0	-3.0	3.8	7.6	4.8	-9.0
	II	-1.0	0.4	1.3	3.2	-1.3	4.2	5.1	4.4	-5.5
	III	-1.3	-0.4	1.0	3.9	-1.5	5.3	4.6	5.1	-10.2
	IV	-0.1	-0.5	-0.4	4.4	-1.7	4.5	5.2	4.7	-10.6
	ANNUAL	-1.1	-0.2	0.9	3.3	-2.0	4.4	5.6	4.8	-8.8

See footnotes following table 6.  
r=revised

May 8, 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 -1.7 and +2.0 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.

Appendix table 1.  
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							
1987	I	123.5	130.0	105.3	118.5	102.2	96.0
	II	126.1	132.8	105.3	118.3	100.8	93.8
	III	127.4	135.6	106.4	118.8	100.3	93.3
	IV	128.6	138.7	107.9	119.9	100.3	93.3
	ANNUAL	126.4	134.3	106.2	118.9	101.0	94.1
1988	I	130.2	141.3	108.5	121.1	100.5	93.0
	II	131.8	143.8	109.1	122.1	100.2	92.6
	III	133.4	146.1	109.5	123.6	100.1	92.6
	IV	133.3	147.1	110.3	125.0	100.2	93.8
	ANNUAL	132.1	144.6	109.4	122.9	100.2	93.0
1989	I	133.3	147.1	110.4	126.7	100.3	95.1
	II	133.7	147.1	110.0	127.1	99.1	95.0
	III	132.9	146.0	109.9	128.2	99.2	96.4
	IV	133.5	145.3	108.8	128.9	98.8	96.6
	ANNUAL	133.3	146.4	109.8	127.7	99.4	95.8
Percent change from previous quarter at annual rate(5)							
1987	I	4.6	4.8	0.2	2.1	-3.1	-2.3
	II	8.6	8.7	0.1	-1.0	-5.3	-8.8
	III	4.3	8.7	4.2	2.0	-2.0	-2.2
	IV	3.8	9.6	5.6	3.7	0.0	0.0
	ANNUAL	5.3	6.1	0.7	2.3	-1.3	-2.8
1988	I	5.2	7.6	2.3	4.1	0.9	-1.1
	II	5.0	7.5	2.4	3.2	-1.4	-1.7
	III	4.8	6.3	1.5	4.8	-0.3	0.0
	IV	-0.2	2.8	2.9	4.9	0.6	5.1
	ANNUAL	4.5	7.7	3.0	3.3	-0.8	-1.1
1989	I	-0.3	0.1	0.3	5.2	0.3	5.6
	II	1.5	0.1	-1.4	1.3	-4.6	-0.2
	III	-2.5	-2.9	-0.4	3.6	0.4	6.2
	IV	1.8	-2.0	-3.7	2.4	-1.6	0.6
	ANNUAL	0.9	1.3	0.3	3.9	-0.9	3.0
Percent change from corresponding quarter of previous year							
1987	I	4.3	3.6	-0.7	3.4	1.2	-0.9
	II	5.8	5.7	-0.1	2.4	-1.4	-3.2
	III	5.8	7.1	1.3	1.9	-2.3	-3.7
	IV	5.3	7.9	2.5	1.7	-2.6	-3.4
	ANNUAL	5.3	6.1	0.7	2.3	-1.3	-2.8
1988	I	5.5	8.6	3.0	2.2	-1.7	-3.1
	II	4.6	8.3	3.6	3.3	-0.6	-1.3
	III	4.7	7.7	2.9	4.0	-0.2	-0.7
	IV	3.7	6.0	2.3	4.3	-0.1	0.6
	ANNUAL	4.5	7.7	3.0	3.3	-0.8	-1.1
1989	I	2.3	4.1	1.8	4.6	-0.2	2.2
	II	1.4	2.3	0.8	4.1	-1.0	2.6
	III	-0.4	0.0	0.4	3.7	-0.9	4.1
	IV	0.1	-1.2	-1.3	3.1	-1.4	3.0
	ANNUAL	0.9	1.3	0.3	3.9	-0.9	3.0

See footnotes following table 6.

May 8, 1991  
Source: Bureau of Labor Statistics



Appendix table 2.  
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							
1987	I	129.6	137.0	105.7	118.5	102.2	91.4
	II	133.2	140.2	105.3	117.9	100.5	88.5
	III	134.5	143.2	106.5	118.2	99.8	87.9
	IV	136.9	148.4	108.4	119.1	99.6	86.9
	ANNUAL	133.6	142.2	106.5	118.4	100.6	88.7
1988	I	139.6	152.1	108.9	120.5	100.0	86.3
	II	141.9	156.4	110.2	120.5	98.8	84.9
	III	143.8	159.6	111.0	121.7	98.6	84.7
	IV	144.4	161.7	112.0	123.4	98.9	85.5
	ANNUAL	142.3	157.5	110.6	121.4	99.0	85.3
1989	I	144.4	161.7	112.0	125.3	99.2	86.8
	II	146.2	162.2	110.9	125.7	98.1	86.0
	III	145.7	161.0	110.5	127.0	98.3	87.2
	IV	145.5	159.1	109.3	127.6	97.8	87.7
	ANNUAL	145.5	161.0	110.7	126.4	98.4	86.9
Percent change from previous quarter at annual rate(5)							
1987	I	6.7	5.9	-0.7	2.6	-2.7	-3.8
	II	11.4	9.6	-1.6	-2.0	-6.4	-12.1
	III	4.0	8.9	4.7	1.0	-2.9	-2.8
	IV	7.6	15.3	7.2	2.9	-0.9	-4.4
	ANNUAL	7.0	6.8	-0.2	2.2	-1.4	-4.5
1988	I	8.0	10.3	2.1	4.8	1.6	-3.0
	II	6.7	11.9	4.8	-0.1	-4.5	-6.3
	III	5.4	8.3	2.8	4.2	-0.9	-1.1
	IV	1.9	5.5	3.5	5.8	1.4	3.8
	ANNUAL	6.5	10.7	3.9	2.5	-1.6	-3.8
1989	I	-0.1	0.0	0.1	6.2	1.2	6.3
	II	5.1	1.1	-3.8	1.2	-4.6	-3.7
	III	-1.3	-2.8	-1.5	4.3	1.1	5.7
	IV	-0.5	-4.7	-4.1	1.8	-2.1	2.4
	ANNUAL	2.2	2.3	0.0	4.1	-0.7	1.9
Percent change from corresponding quarter of previous year							
1987	I	5.5	3.3	-2.1	3.6	1.4	-1.8
	II	7.9	6.3	-1.4	2.6	-1.2	-4.9
	III	7.3	7.6	0.4	1.8	-2.3	-5.1
	IV	7.4	9.9	2.3	1.1	-3.2	-5.8
	ANNUAL	7.0	6.8	-0.2	2.2	-1.4	-4.5
1988	I	7.7	11.0	3.1	1.6	-2.2	-5.6
	II	6.5	11.6	4.7	2.1	-1.7	-4.1
	III	6.9	11.4	4.2	2.9	-1.2	-3.7
	IV	5.5	9.0	3.3	3.7	-0.6	-1.7
	ANNUAL	6.5	10.7	3.9	2.5	-1.6	-3.8
1989	I	3.4	6.3	2.8	4.0	-0.7	0.6
	II	3.0	3.7	0.6	4.4	-0.8	1.3
	III	1.4	0.9	-0.4	4.4	-0.3	3.0
	IV	0.8	-1.6	-2.3	3.4	-1.1	2.6
	ANNUAL	2.2	2.3	0.0	4.1	-0.7	1.9

See footnotes following table 6.

May 8, 1991  
Source: Bureau of Labor Statistics

Appendix table 3.  
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							
1987	I	115.3	120.7	104.7	118.4	102.1	102.7
	II	116.6	122.9	105.4	118.8	101.3	101.9
	III	118.0	125.4	106.3	119.9	101.2	101.6
	IV	117.4	125.8	107.1	121.3	101.4	103.3
	ANNUAL	116.9	123.7	105.9	119.6	101.6	102.4
1988	I	117.7	126.8	107.8	122.1	101.3	103.8
	II	118.2	127.1	107.5	124.6	102.2	105.4
	III	119.3	128.1	107.4	126.3	102.3	105.9
	IV	118.2	127.6	107.9	127.4	102.1	107.8
	ANNUAL	118.3	127.4	107.7	125.0	102.0	105.7
1989	I	118.0	127.6	108.1	128.5	101.8	108.9
	II	116.9	127.1	108.7	129.1	100.7	110.5
	III	115.6	126.1	109.0	130.0	100.6	112.4
	IV	117.3	126.9	108.1	131.1	100.5	111.7
	ANNUAL	116.9	126.9	108.5	129.6	100.9	110.8
Percent change from previous quarter at annual rate (5)							
1987	I	1.5	3.1	1.6	1.6	-3.6	0.1
	II	4.6	7.3	2.6	1.3	-3.1	-3.1
	III	4.8	8.4	3.4	3.5	-0.6	-1.3
	IV	-2.0	1.2	3.3	4.8	1.0	6.9
	ANNUAL	2.9	5.0	2.1	2.8	-0.9	-0.1
1988	I	0.9	3.4	2.5	2.8	-0.4	1.9
	II	2.0	0.8	-1.2	8.5	3.7	6.4
	III	3.6	3.2	-0.4	5.6	0.4	1.9
	IV	-3.6	-1.6	2.1	3.3	-1.0	7.2
	ANNUAL	1.2	3.0	1.8	4.5	0.4	3.3
1989	I	-0.6	0.1	0.7	3.6	-1.3	4.2
	II	-3.8	-1.6	2.3	1.9	-4.0	5.9
	III	-4.2	-3.2	1.1	2.6	-0.6	7.1
	IV	5.9	2.5	-3.2	3.4	-0.5	-2.3
	ANNUAL	-1.1	-0.4	0.8	3.7	-1.1	4.9
Percent change from corresponding quarter of previous year							
1987	I	2.7	4.0	1.3	3.4	1.2	0.7
	II	2.9	4.9	1.9	2.5	-1.3	-0.4
	III	3.6	6.3	2.7	2.2	-1.9	-1.3
	IV	2.2	5.0	2.7	2.8	-1.6	0.6
	ANNUAL	2.9	5.0	2.1	2.8	-0.9	-0.1
1988	I	2.0	5.0	2.9	3.1	-0.8	1.0
	II	1.4	3.4	2.0	4.9	0.9	3.4
	III	1.1	2.1	1.0	5.4	1.2	4.3
	IV	0.7	1.4	0.7	5.0	0.7	4.3
	ANNUAL	1.2	3.0	1.8	4.5	0.4	3.3
1989	I	0.3	0.6	0.3	5.2	0.4	4.9
	II	-1.1	0.0	1.2	3.6	-1.5	4.8
	III	-3.1	-1.6	1.5	2.9	-1.7	6.1
	IV	-0.8	-0.6	0.2	2.9	-1.6	3.7
	ANNUAL	-1.1	-0.4	0.8	3.7	-1.1	4.9

See footnotes following table 6.

May 8, 1991

Source: Bureau of Labor Statistics