

# News

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Internet address: <http://www.bls.gov/lpc>  
Historical, technical  
information: (202) 691-5606  
Current data: (202) 691-5200  
Media contact: (202) 691-5902

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## PRODUCTIVITY AND COSTS Fourth Quarter and Annual Averages, 2002

The Bureau of Labor Statistics of the U.S. Department of Labor today reported revised fourth-quarter seasonally-adjusted annual rates of productivity change—as measured by output per hour of all persons—and revised annual changes for the full year 2002. Percent changes in business and nonfarm business productivity were:

	Fourth quarter	Annual averages 2001-2002
Business sector.....	0.3	4.8
Nonfarm business sector.....	0.8	4.8

In both sectors, fourth-quarter productivity increased rather than declining as originally reported. Fourth-quarter productivity and related measures are summarized in table A and appear in detail in tables 1 through 5; the preliminary and revised fourth-quarter and annual data appear in table C.

In the manufacturing sector, increases in productivity were:

	Fourth quarter	Annual averages 2001-2002
Manufacturing.....	0.1	4.5
Durable goods manufacturing.....	2.9	5.6
Nondurable goods manufacturing.....	-3.4	2.8

Manufacturing productivity rose 0.1 percent (seasonally adjusted annual rate) in the fourth quarter. This increase was lower than originally reported, reflecting downward revisions to output per hour in both the durable and nondurable goods manufacturing subsectors. (Output and hours in manufacturing, which includes about 15 percent of U.S. business-sector employment, tend to vary more from quarter to quarter than data for the aggregate business and nonfarm business sectors.)

Table A. Productivity and costs: Revised fourth-quarter 2002 measures (Seasonally adjusted annual rates)						
Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Percent change from preceding quarter						
Business	0.3	1.8	1.5	4.2	2.2	3.9
Nonfarm business	0.8	1.7	0.9	4.6	2.5	3.8
Manufacturing	0.1	-3.2	-3.2	5.5	3.4	5.4
Durable	2.9	-2.3	-5.0	6.4	4.3	3.4
Nondurable	-3.4	-3.9	-0.5	4.4	2.3	8.1
Percent change from same quarter a year ago						
Business	4.0	3.4	-0.6	4.3	2.0	0.3
Nonfarm business	4.1	3.5	-0.6	4.2	1.9	0.1
Manufacturing	4.4	1.1	-3.1	5.0	2.7	0.6
Durable	6.6	2.1	-4.3	5.5	3.2	-1.1
Nondurable	1.5	0.1	-1.4	4.4	2.1	2.9

The data sources and methods used in the preparation of the manufacturing series differ from those used in preparing the business and nonfarm business series, and these measures are not directly comparable. Output data for business and nonfarm business are based on measures of gross domestic product prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce. Quarterly output measures for manufacturing reflect indexes of industrial production independently prepared by the Board of Governors of the Federal Reserve System. See Technical Notes for further information on data sources (page 8).

### THIRD-TO-FOURTH QUARTER 2002 CHANGES

#### Business

Labor productivity in the business sector rose at a 0.3 percent annual rate in the fourth quarter of 2002, as output increased 1.8 percent and hours of all persons engaged in the sector increased 1.5 percent (table 1). The fourth-quarter increase in business sector hours followed six consecutive quarterly declines. During third quarter 2002, productivity had increased 5.8 percent as output grew 5.3 percent and hours declined 0.5 percent.

Hourly compensation grew at a 4.2-percent annual rate in the fourth quarter, compared with a 5.7-percent rise in the third quarter. This measure includes wages and salaries, supplements, employer contributions to employee-benefit plans, and taxes. Real hourly

compensation, which takes into account changes in consumer prices, rose 2.2 percent in the fourth quarter of 2002 after increasing 3.5 percent one quarter earlier.

Unit labor costs, which reflect changes in both hourly compensation and productivity, increased 3.9 percent during the fourth quarter of 2002, after being unchanged in the third quarter. The implicit price deflator for business output, which reflects changes in unit labor costs and unit nonlabor payments, increased 1.3 percent in the fourth quarter and 0.5 percent in the third quarter.

### **Nonfarm business**

In the nonfarm business sector, productivity rose at an annual rate of 0.8 percent in the fourth quarter of 2002, as output grew 1.7 percent and hours of all persons—employees, proprietors, and unpaid family workers—rose 0.9 percent (seasonally adjusted annual rates). During the third quarter, productivity had increased 5.5 percent, output had increased 5.2 percent, and hours had declined 0.2 percent (table 2).

Hourly compensation rose 4.6 percent in the fourth quarter, after rising 5.4 percent in the third quarter. When the increase in consumer prices was taken into account, real hourly compensation rose 2.5 percent in the fourth quarter and 3.1 percent in the third quarter.

Unit labor costs grew 3.8 percent in the fourth quarter, after edging down 0.1 percent in the third quarter. The implicit price deflator for nonfarm business increased 1.2 percent in the fourth quarter, as a 2.8 percent decline in unit nonlabor payments offset much of the increase in unit labor costs.

### **Manufacturing**

Manufacturing productivity rose 0.1 percent in the fourth quarter of 2002, as both output and hours dropped by 3.2 percent (seasonally adjusted annual rates). In durable goods industries, productivity increased 2.9 percent when output fell 2.3 percent but hours fell faster, 5.0 percent. In nondurable goods industries, output per hour fell 3.4 percent, reflecting declines in output and hours of 3.9 percent and 0.5 percent, respectively. During the third quarter, productivity had increased 5.5 percent in total manufacturing, 7.9 percent in durable goods manufacturing, and 2.4 percent in nondurable goods manufacturing (tables 3, 4, and 5).

Hourly compensation of all manufacturing workers increased 5.5 percent during the fourth quarter, rising in both of the manufacturing subsectors—6.4 percent in durable goods and 4.4 percent in nondurable goods. When the increase in consumer prices was taken into account, real hourly compensation for all manufacturing workers rose 3.4 percent in the fourth quarter.

Unit labor costs in manufacturing grew 5.4 percent in the fourth quarter of 2002, the largest increase in this measure since the third quarter of 2000 (7.8 percent). Unit labor costs rose 3.4 percent in durable goods manufacturing and 8.1 percent in nondurable goods industries. Manufacturing unit labor costs had increased only 0.1 percent in the third quarter.

## ANNUAL AVERAGE CHANGES, 2001-2002

### Business

Business sector productivity increased 4.8 percent when the annual index for 2002 was compared with the annual index for 2001 (table B). This was the largest annual productivity gain since 1950, when business sector output per hour increased 8.5 percent. The 2001-2002 increase reflected a 2.7-percent increase in output combined with a 2.0-percent decline in hours. In 2001, output per hour had increased 1.1 percent, when output declined 0.2 percent and hours worked fell 1.3 percent.

Table B. Productivity and costs: Revised 2002 annual averages (Seasonally adjusted annual rates)						
Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Percent change from previous year						
Business	4.8	2.7	-2.0	2.9	1.3	-1.7
Nonfarm business	4.8	2.7	-2.0	2.8	1.2	-1.9
Manufacturing	4.5	-1.1	-5.4	3.8	2.1	-0.7
Durable	5.6	-1.4	-6.7	4.1	2.5	-1.4
Nondurable	2.8	-0.7	-3.4	3.5	1.8	0.7

Hourly compensation in the business sector increased 2.9 percent in both 2001 and 2002. Real hourly compensation increased more in 2002, 1.3 percent, than it had in 2001, 0.2 percent, because consumer prices rose less in 2002 than they had in 2001.

Business sector unit labor costs decreased 1.7 percent in 2002. This was the largest annual decrease to date in this measure, which begins with data for 1948. Unit labor costs rose 1.8 percent in 2001. The implicit price deflator rose 0.4 percent in 2002, compared with a 2.0-percent increase in 2001.

### Nonfarm business

Productivity increased 4.8 percent in the nonfarm business sector during 2002, more than in any year since 1950, when output per hour grew 6.9 percent. Output grew 2.7 percent and hours of all persons fell 2.0 percent in 2002. The decline in hours was the largest since they fell 2.4 percent in 1991. Nonfarm business productivity had increased 1.1 percent in 2001, when output edged down 0.1 percent and hours fell 1.2 percent.

Hourly compensation grew 2.8 percent in 2002, about the same as the 2.7-percent increase in 2001. Real hourly compensation increased 1.2 percent in 2002, following a 0.1-percent decline in the previous year.

Unit labor costs in the nonfarm business sector dropped 1.9 percent in 2002, the largest annual decline in this measure ever recorded. These costs had increased 1.6 percent during 2001. The implicit price deflator, which reflects nonlabor payments as well as labor costs, rose 0.5 percent in 2002, following a 1.9-percent rise in 2001.

## **Manufacturing**

Manufacturing productivity grew 4.5 percent in 2002, rebounding from a small increase in 2001 of 0.8 percent. Output fell 1.1 percent in 2002, and hours of all persons working in the sector dropped 5.4 percent. Labor productivity increased 5.6 percent in durable goods manufacturing, reflecting declines of 1.4 percent in output and 6.7 percent in hours. In nondurable goods manufacturing, productivity rose 2.8 percent in 2002, output fell 0.7 percent, and hours declined 3.4 percent (tables B, 3, 4, and 5).

Hourly compensation of manufacturing workers increased 3.8 percent in 2002, compared to a 1.5 percent increase one year earlier. Real hourly compensation rose 2.1 percent in 2002, after having declined 1.2 percent in 2001. Hourly compensation increased 4.1 percent in durable goods industries and 3.5 percent in nondurable goods industries in 2002.

Unit labor costs declined 0.7 percent in manufacturing. In durable manufacturing, unit labor costs fell 1.4 percent in 2002. By contrast, unit labor costs in nondurable manufacturing rose last year, by 0.7 percent.

## **REVISED MEASURES**

Productivity and cost data for the fourth quarter and full year 2002 for business, nonfarm business, and manufacturing were revised to incorporate the most recent information (table C). Quarterly measures of real hourly compensation in the business, nonfarm business, nonfinancial corporate, and manufacturing sectors for 2002 were revised to incorporate the annual recalculation of seasonal factors for the Consumer Price Index.

In the business and nonfarm business sectors, changes in productivity and output are greater—and increases in unit labor costs are smaller—than those reported on Feb. 6, based on information available at that time. Fourth-quarter measures of manufacturing productivity were revised down from those reported on Feb. 6, reflecting a larger decline in output than originally reported. As a result, unit labor costs in manufacturing showed a larger increase than previously reported. Annual measures of productivity and costs are similar to those reported on Feb. 6.

Table C. Previous and revised productivity and related measures:  
Fourth-quarter and annual averages 2002  
(Seasonally adjusted annual rates)

Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Percent change, third to fourth quarter 2002						
Business:						
Previous.....	-0.7	0.9	1.5	4.3	1.8	5.0
Current .....	0.3	1.8	1.5	4.2	2.2	3.9
Nonfarm business:						
Previous.....	-0.2	0.8	1.0	4.6	2.2	4.8
Current .....	0.8	1.7	0.9	4.6	2.5	3.8
Manufacturing:						
Previous.....	0.7	-2.4	-3.0	5.3	2.9	4.6
Current .....	0.1	-3.2	-3.2	5.5	3.4	5.4
Percent change, 2001 - 2002						
Business:						
Previous.....	4.7	2.6	-2.0	2.9	1.3	-1.7
Current .....	4.8	2.7	-2.0	2.9	1.3	-1.7
Nonfarm business:						
Previous.....	4.7	2.7	-2.0	2.8	1.2	-1.8
Current .....	4.8	2.7	-2.0	2.8	1.2	-1.9
Manufacturing:						
Previous.....	4.6	-1.0	-5.4	3.8	2.1	-0.7
Current .....	4.5	-1.1	-5.4	3.8	2.1	-0.7

### Next release date

The next release of **Productivity and Costs** is scheduled for **8:30 AM EDT, Thursday, May 1, 2003**, and will present preliminary first-quarter measures for business, nonfarm business, and manufacturing. Fourth-quarter and annual data for nonfinancial corporations will be released at that time.

### Upcoming change to productivity and cost data

The Bureau of Labor Statistics discontinued the Hours at Work Survey (HWS), used to adjust the paid hours of wage and salary employees to their hours at the workplace, following the 2000 survey. The survey will be replaced with a comparable set of measures derived from information on scheduled hours of work and paid leave collected from employers participating in the National Compensation Survey.

The new ratios of hours worked to hours paid will be incorporated into the measures of employee hours beginning with the release of the second quarter 2003 data on Aug. 7. These ratios will be adjusted to levels from the HWS and will cover the period following 2000.

## TECHNICAL NOTES

**Labor Hours:** Hours data for the labor productivity and cost measures include hours for all persons working in the sector—wage and salary workers, the self-employed, and unpaid family workers. The primary source of hours and employment data is the BLS Current Employment Statistics (CES) program, which provides monthly survey data on the number of jobs held by wage and salary workers in nonfarm establishments. The CES also provides average weekly paid hours of production and nonsupervisory workers in these establishments. The Office of Productivity and Technology estimates average weekly paid hours of nonproduction and supervisory workers. Weekly paid hours are adjusted to hours at work 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 (BEA) 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 an annual-weighted index constructed after excluding from gross domestic product (GDP) the following outputs: General government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Corresponding exclusions also are made in labor inputs. Business output accounted for about 77 percent of the value of GDP in 1996. Nonfarm business, which also excludes farming, accounted for about 76 percent of GDP in 1996.

Annual indexes for manufacturing and its durable and nondurable goods components are constructed by deflating current-dollar industry value of production data from the U.S. Bureau of the Census with deflators from the BEA. These deflators are based on data from the BLS producer price program and other sources. The industry shipments are aggregated using annual weights, and intrasector transactions are removed. Quarterly manufacturing output measures are based on the index of industrial production prepared monthly by the Board of Governors of the Federal Reserve System adjusted to be consistent with annual indexes of manufacturing sector output prepared by BLS. Durables include the following 2-digit SIC

industries: Primary metal industries; fabricated metal products; nonelectrical machinery; industrial and commercial machinery and computer equipment; electronic and other electrical equipment; transportation equipment; instruments; lumber and lumber products; furniture and fixtures; stone, clay, and glass and concrete products; and miscellaneous manufactures. Nondurables include: Food and kindred products, tobacco products, textile mill products, apparel products, paper and allied products, printing and publishing, chemicals and chemical products, petroleum refining and related industries, rubber and plastic products, and leather and leather products.

Nonfinancial corporate output is an annual-weighted index calculated on the basis of the costs incurred and the incomes earned from production. The output measure excludes the following outputs from GDP: general government; nonprofit institutions; employees of private households; the rental value of owner-occupied dwellings; unincorporated business; and those corporations which are depository institutions, nondepository institutions, security and commodity brokers, insurance carriers, regulated investment offices, small business investment offices, and real estate investment trusts. Nonfinancial corporations accounted for about 53 percent of the value of GDP in 1996.

**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.

Information in this release will be made available to sensory-impaired individuals upon request. Voice phone: 202-691-5200; Federal Relay Service number: 1-800-877-8339.



Table 1. Business sector: Productivity, hourly compensation, unit labor costs, 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 costs	Unit non-labor payments (3)	Implicit price deflator (4)
Indexes 1992=100								
2000	I	115.3	138.4	120.1	131.4	110.5	114.0	110.7
	II	117.2	140.3	119.7	132.4	110.5	113.0	114.1
	III	117.3	140.4	119.7	135.0	111.7	115.1	111.2
	IV	117.9	140.7	119.4	136.3	111.9	115.6	112.0
	ANNUAL	116.9	140.0	119.7	133.8	111.2	114.4	112.0
2001	I	117.5	140.4	119.5	137.3	111.8	116.9	112.3
	II	117.4	139.4	118.7	137.5	111.0	117.1	113.6
	III	117.9	139.1	117.9	137.8	111.1	116.8	115.5
	IV	120.1	140.3	116.8	138.3	111.6	115.1	117.2
	ANNUAL	118.2	139.8	118.2	137.7	111.4	116.5	114.7
2002	I	122.5	142.3	116.1	139.3	112.0	113.7	119.9
	II	123.1	142.5	115.8	140.8	r112.3	114.4	119.3
	III	124.8	144.4	115.6	142.7	r113.2	114.3	119.7
	IV	r124.9	r145.0	116.1	144.2	113.8	r115.4	r118.9
	ANNUAL	123.8	143.5	115.9	141.8	112.8	114.5	r119.5
Percent change from previous quarter at annual rate(5)								
2000	I	0.3	2.2	1.9	14.7	10.3	14.4	-15.1
	II	6.7	5.4	-1.2	3.0	0.1	-3.5	12.9
	III	0.4	0.4	0.0	8.3	4.6	7.8	-9.6
	IV	2.1	0.9	-1.2	3.7	0.7	1.6	2.6
	ANNUAL	3.0	4.1	1.0	6.8	3.4	3.7	-1.7
2001	I	-1.5	-1.0	0.4	3.1	-0.6	4.7	1.1
	II	-0.2	-2.8	-2.6	0.5	-2.6	0.7	4.9
	III	1.8	-0.9	-2.6	0.9	0.2	-0.9	6.8
	IV	7.6	3.5	-3.8	1.4	1.7	-5.8	6.1
	ANNUAL	1.1	-0.2	-1.3	2.9	0.2	1.8	2.4
2002	I	8.3	5.9	-2.2	3.0	r1.7	-4.9	9.5
	II	1.8	0.6	-1.2	4.3	0.8	2.4	-2.1
	III	5.8	5.3	-0.5	5.7	r3.5	0.0	1.3
	IV	r0.3	r1.8	1.5	r4.2	r2.2	r3.9	r-2.8
	ANNUAL	r4.8	r2.7	-2.0	2.9	1.3	-1.7	r4.2
Percent change from corresponding quarter of previous year								
2000	I	2.3	4.6	2.3	5.9	2.5	3.5	-2.0
	II	4.1	5.4	1.3	6.5	3.1	2.3	0.8
	III	3.3	4.1	0.7	7.7	4.1	4.3	-2.5
	IV	2.4	2.2	-0.1	7.3	3.8	4.9	-2.9
	ANNUAL	3.0	4.1	1.0	6.8	3.4	3.7	-1.7
2001	I	1.9	1.4	-0.5	4.5	1.2	2.6	1.4
	II	0.2	-0.7	-0.9	3.9	0.5	3.6	-0.4
	III	0.5	-1.0	-1.5	2.0	-0.6	1.5	3.8
	IV	1.9	-0.3	-2.2	1.5	-0.3	-0.4	4.7
	ANNUAL	1.1	-0.2	-1.3	2.9	0.2	1.8	2.4
2002	I	4.3	1.4	-2.8	1.4	0.2	-2.8	6.8
	II	4.8	2.3	-2.5	2.4	1.1	-2.3	5.0
	III	5.9	3.8	-1.9	3.6	r1.9	-2.1	3.6
	IV	r4.0	r3.4	-0.6	4.3	2.0	r0.3	r1.4
	ANNUAL	r4.8	r2.7	-2.0	2.9	1.3	-1.7	r4.2

See footnotes following Table 6.  
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Source: Bureau of Labor Statistics

Table 2. Nonfarm business sector: Productivity, hourly compensation, unit labor costs, 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 costs	Unit non-labor payments (3)	Implicit price deflator (4)
Indexes 1992=100								
2000	I	114.7	138.7	120.9	130.8	110.0	114.0	112.3
	II	116.4	140.5	120.7	131.5	109.8	113.0	115.6
	III	116.6	140.6	120.6	134.3	111.1	115.2	112.8
	IV	117.1	141.0	120.4	135.3	111.2	115.6	113.4
	ANNUAL	116.2	140.2	120.6	133.0	110.6	114.4	113.5
2001	I	116.7	140.7	120.6	136.3	110.9	116.8	113.8
	II	116.6	139.7	119.8	136.3	110.1	116.9	115.3
	III	117.2	139.4	118.9	136.7	110.2	116.6	117.2
	IV	119.3	140.4	117.7	137.2	110.7	115.0	119.2
	ANNUAL	117.5	140.1	119.2	136.6	110.5	116.3	116.4
2002	I	121.8	142.5	117.0	138.1	111.1	113.4	121.7
	II	122.3	142.9	116.8	139.5	111.2	114.1	121.7
	III	123.9	144.7	116.8	141.3	112.1	114.0	121.8
	IV	124.2	145.3	117.0	142.9	112.8	115.1	121.0
	ANNUAL	123.1	143.9	116.9	140.5	111.8	114.1	121.6
Percent change from previous quarter at annual rate(5)								
2000	I	0.2	1.9	1.7	15.2	10.7	14.9	-15.3
	II	6.0	5.4	-0.6	2.2	-0.7	-3.6	12.2
	III	0.6	0.2	-0.4	8.7	4.9	8.0	-9.1
	IV	1.7	1.1	-0.6	3.1	0.2	1.4	2.1
	ANNUAL	2.9	4.0	1.0	7.0	3.5	3.9	-1.7
2001	I	-1.4	-0.9	0.5	2.8	-0.9	4.3	1.5
	II	-0.1	-2.7	-2.6	0.1	-2.9	0.3	5.1
	III	2.1	-0.8	-2.9	1.0	0.3	-1.1	6.8
	IV	7.2	2.9	-4.0	1.5	1.8	-5.4	6.9
	ANNUAL	1.1	-0.1	-1.2	2.7	-0.1	1.6	2.5
2002	I	8.6	6.2	-2.3	2.9	1.6	-5.3	8.8
	II	1.7	0.9	-0.7	4.0	0.4	2.3	0.1
	III	5.5	5.2	-0.2	5.4	3.1	-0.1	0.4
	IV	0.8	1.7	0.9	4.6	2.5	3.8	-2.8
	ANNUAL	4.8	2.7	-2.0	2.8	1.2	-1.9	4.5
Percent change from corresponding quarter of previous year								
2000	I	2.3	4.5	2.1	6.2	2.8	3.7	-1.8
	II	4.0	5.4	1.3	6.6	3.2	2.5	0.7
	III	3.3	3.9	0.7	7.9	4.3	4.5	-2.6
	IV	2.1	2.2	0.0	7.2	3.7	4.9	-3.1
	ANNUAL	2.9	4.0	1.0	7.0	3.5	3.9	-1.7
2001	I	1.7	1.4	-0.3	4.2	0.9	2.4	1.4
	II	0.2	-0.6	-0.8	3.7	0.3	3.5	-0.3
	III	0.6	-0.8	-1.4	1.8	-0.8	1.2	3.8
	IV	1.9	-0.4	-2.3	1.4	-0.4	-0.5	5.1
	ANNUAL	1.1	-0.1	-1.2	2.7	-0.1	1.6	2.5
2002	I	4.4	1.3	-2.9	1.4	0.2	-2.9	6.9
	II	4.9	2.3	-2.5	2.3	1.0	-2.4	5.6
	III	5.7	3.8	-1.8	3.4	1.7	-2.2	4.0
	IV	4.1	3.5	-0.6	4.2	1.9	0.1	1.5
	ANNUAL	4.8	2.7	-2.0	2.8	1.2	-1.9	4.5

See footnotes following Table 6.  
r=revised

March 6, 2003  
Source: Bureau of Labor Statistics

Table 3. Manufacturing sector: Productivity, hourly compensation, and unit labor costs, 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 costs
Indexes 1992=100						
2000 I	133.6	138.3	103.5	131.4	110.5	98.4
II	134.9	139.8	103.6	129.3	107.9	95.9
III	135.4	139.3	102.9	132.2	109.4	97.7
IV	135.9	137.6	101.3	131.5	108.0	96.7
ANNUAL	134.9	138.7	102.8	131.1	109.0	97.2
2001 I	135.2	134.9	99.8	132.0	107.4	97.6
II	135.2	132.8	98.2	133.0	107.4	98.4
III	136.2	131.1	96.3	133.3	107.5	97.9
IV	137.5	129.1	93.9	134.3	108.3	97.7
ANNUAL	136.0	132.0	97.1	133.1	107.7	97.9
2002 I	140.1	129.5	92.4	135.6	109.0	96.8
II	141.5	130.6	92.3	137.2	109.4	96.9
III	143.4	131.6	91.7	139.1	110.3	97.0
IV	r143.5	r130.5	91.0	140.9	111.2	r98.2
ANNUAL	r142.1	r130.5	r91.8	138.2	110.0	97.2
Percent change from previous quarter at annual rate(5)						
2000 I	4.5	2.7	-1.7	25.3	20.5	19.9
II	3.8	4.4	0.5	-6.3	-9.0	-9.7
III	1.6	-1.3	-2.8	9.5	5.8	7.8
IV	1.6	-4.8	-6.3	-2.3	-5.1	-3.8
ANNUAL	4.1	2.5	-1.5	7.4	3.9	3.2
2001 I	-2.1	-7.6	-5.6	1.6	-2.1	3.7
II	0.0	-6.2	-6.2	3.1	-0.1	3.1
III	3.0	-4.9	-7.6	1.0	0.3	-1.9
IV	3.9	-6.1	-9.7	2.9	3.2	-1.0
ANNUAL	0.8	-4.9	-5.6	1.5	-1.2	0.8
2002 I	7.8	1.2	-6.1	3.8	r2.5	-3.7
II	4.2	3.5	-0.7	5.0	r1.4	0.7
III	5.5	3.0	-2.4	5.6	r3.4	0.1
IV	r0.1	r-3.2	r-3.2	r5.5	r3.4	r5.4
ANNUAL	r4.5	r-1.1	-5.4	3.8	2.1	-0.7
Percent change from corresponding quarter of previous year						
2000 I	4.4	3.6	-0.8	8.9	5.5	4.3
II	4.7	3.8	-0.8	6.9	3.5	2.1
III	4.3	2.6	-1.7	7.9	4.3	3.4
IV	2.9	0.2	-2.6	5.9	2.4	2.9
ANNUAL	4.1	2.5	-1.5	7.4	3.9	3.2
2001 I	1.2	-2.4	-3.6	0.5	-2.7	-0.7
II	0.2	-5.0	-5.2	2.9	-0.5	2.6
III	0.6	-5.9	-6.4	0.8	-1.8	0.2
IV	1.2	-6.2	-7.3	2.1	0.3	1.0
ANNUAL	0.8	-4.9	-5.6	1.5	-1.2	0.8
2002 I	3.6	-4.0	-7.4	2.7	r1.5	-0.9
II	4.7	-1.7	-6.1	3.2	r1.9	-1.5
III	5.3	0.3	-4.8	4.3	r2.6	-1.0
IV	r4.4	r1.1	-3.1	r5.0	r2.7	r0.6
ANNUAL	r4.5	r-1.1	-5.4	3.8	2.1	-0.7

See footnotes following Table 6.  
r=revised

March 6, 2003  
Source: Bureau of Labor Statistics

Table 4. Durable manufacturing sector: Productivity, hourly compensation, and unit labor costs, 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 costs
-----							
Indexes 1992=100							
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2000	I	148.6	162.9	109.7	130.8	109.9	88.0
	II	150.0	165.2	110.2	127.5	106.4	85.0
	III	150.3	164.6	109.5	130.6	108.0	86.9
	IV	150.1	162.0	107.9	128.4	105.5	85.5
	ANNUAL	149.7	163.7	109.3	129.3	107.5	86.4
2001	I	149.3	158.3	106.0	129.4	105.3	86.7
	II	148.8	154.9	104.1	130.5	105.4	87.7
	III	149.6	151.8	101.4	130.2	105.0	87.0
	IV	151.0	148.6	98.5	131.8	106.3	87.3
	ANNUAL	149.6	153.4	102.5	130.4	105.5	87.2
2002	I	154.7	149.4	96.5	132.7	106.7	85.8
	II	156.8	151.2	96.4	134.8	107.5	86.0
	III	159.8	152.6	95.5	136.9	108.6	85.6
	IV	r161.0	r151.7	r94.2	r139.0	r109.7	r86.3
	ANNUAL	158.1	r151.2	95.7	135.8	108.1	85.9
-----							
Percent change from previous quarter at annual rate(5)							
-----							
2000	I	7.6	6.3	-1.2	29.7	24.6	20.5
	II	3.9	5.8	1.8	-9.6	-12.1	-13.0
	III	0.8	-1.6	-2.3	9.9	6.1	9.1
	IV	-0.6	-6.2	-5.7	-6.5	-9.2	-6.0
	ANNUAL	4.4	3.6	-0.7	7.7	4.2	3.2
2001	I	-2.1	-8.9	-6.9	3.1	-0.6	5.3
	II	-1.4	-8.2	-6.9	3.6	0.4	5.1
	III	2.4	-7.9	-10.0	-1.0	-1.7	-3.3
	IV	3.5	-8.0	-11.2	5.0	5.4	1.5
	ANNUAL	-0.1	-6.3	-6.2	0.9	-1.9	0.9
2002	I	10.4	2.1	-7.5	2.8	r1.5	-6.9
	II	5.5	4.9	-0.5	6.7	3.1	1.1
	III	7.9	3.8	-3.8	6.1	r3.9	-1.7
	IV	r2.9	r-2.3	r-5.0	r6.4	r4.3	r3.4
	ANNUAL	r5.6	-1.4	r-6.7	4.1	2.5	r-1.4
-----							
Percent change from corresponding quarter of previous year							
-----							
2000	I	5.2	5.1	-0.1	10.5	7.0	5.0
	II	5.1	5.3	0.2	7.4	4.0	2.2
	III	4.3	3.2	-1.1	8.1	4.5	3.6
	IV	2.9	1.0	-1.9	4.8	1.4	1.8
	ANNUAL	4.4	3.6	-0.7	7.7	4.2	3.2
2001	I	0.5	-2.9	-3.3	-1.1	-4.2	-1.6
	II	-0.8	-6.3	-5.5	2.3	-1.0	3.2
	III	-0.4	-7.8	-7.4	-0.3	-2.8	0.1
	IV	0.6	-8.2	-8.8	2.6	0.8	2.1
	ANNUAL	-0.1	-6.3	-6.2	0.9	-1.9	0.9
2002	I	3.6	-5.6	-8.9	2.6	r1.4	-1.0
	II	5.4	-2.4	-7.4	3.3	2.0	-2.0
	III	6.8	0.5	-5.9	5.1	r3.4	-1.6
	IV	r6.6	r2.1	r-4.3	r5.5	r3.2	r-1.1
	ANNUAL	r5.6	-1.4	r-6.7	4.1	2.5	r-1.4
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See footnotes following Table 6.  
r=revised

March 6, 2003  
Source: Bureau of Labor Statistics

Table 5. Nondurable manufacturing sector: Productivity, hourly compensation, and unit labor costs, 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 costs
Indexes 1992=100							
2000	I	120.6	114.9	95.3	130.6	109.8	108.3
	II	121.8	115.6	95.0	130.4	108.9	107.1
	III	122.6	115.4	94.1	133.2	110.2	108.7
	IV	123.9	114.5	92.4	135.0	110.9	108.9
	ANNUAL	122.2	115.1	94.2	132.3	110.0	108.3
2001	I	123.1	112.7	91.6	134.7	109.7	109.4
	II	123.6	111.7	90.4	135.5	109.4	109.7
	III	124.3	111.3	89.5	137.2	110.6	110.3
	IV	125.5	110.1	87.8	137.1	110.6	109.2
	ANNUAL	124.1	111.5	89.8	136.1	110.1	109.7
2002	I	126.8	110.2	86.9	139.1	r111.9	109.7
	II	127.7	110.8	86.7	139.8	111.5	109.5
	III	128.4	111.4	86.7	141.5	112.3	110.2
	IV	r127.3	r110.3	86.6	r143.1	r112.9	r112.4
	ANNUAL	127.6	110.7	r86.7	r140.9	112.1	r110.4
Percent change from previous quarter at annual rate(5)							
2000	I	0.8	-1.8	-2.5	17.8	13.3	17.0
	II	3.8	2.4	-1.4	-0.5	-3.4	-4.2
	III	2.6	-0.9	-3.5	8.7	4.9	5.9
	IV	4.6	-3.0	-7.2	5.6	2.5	0.9
	ANNUAL	3.8	1.1	-2.6	6.7	3.3	2.9
2001	I	-2.5	-6.0	-3.6	-0.8	-4.4	1.8
	II	1.3	-3.8	-5.0	2.3	-0.8	0.9
	III	2.6	-1.4	-3.8	5.1	4.4	2.4
	IV	3.6	-4.0	-7.4	-0.3	0.0	-3.8
	ANNUAL	1.6	-3.2	-4.7	2.9	0.1	1.3
2002	I	4.3	0.3	-3.9	6.0	r4.6	1.6
	II	2.9	1.9	-0.9	2.2	r-1.3	-0.7
	III	2.4	2.3	-0.1	5.0	r2.8	2.6
	IV	r-3.4	r-3.9	r-0.5	r4.4	r2.3	r8.1
	ANNUAL	2.8	r-0.7	-3.4	3.5	1.8	r0.7
Percent change from corresponding quarter of previous year							
2000	I	3.4	1.6	-1.8	6.1	2.8	2.6
	II	4.4	1.8	-2.5	5.8	2.5	1.4
	III	4.4	1.7	-2.5	7.4	3.8	2.9
	IV	2.9	-0.8	-3.7	7.7	4.2	4.6
	ANNUAL	3.8	1.1	-2.6	6.7	3.3	2.9
2001	I	2.1	-1.9	-3.9	3.1	-0.1	1.0
	II	1.5	-3.4	-4.8	3.9	0.5	2.4
	III	1.5	-3.5	-4.9	3.0	0.4	1.5
	IV	1.2	-3.8	-5.0	1.5	-0.3	0.3
	ANNUAL	1.6	-3.2	-4.7	2.9	0.1	1.3
2002	I	3.0	-2.2	-5.0	3.2	2.0	0.2
	II	3.4	-0.8	-4.0	3.2	1.9	-0.2
	III	3.3	0.1	-3.1	3.2	r1.5	-0.1
	IV	r1.5	r0.1	r-1.4	4.4	r2.1	r2.9
	ANNUAL	2.8	r-0.7	-3.4	3.5	1.8	r0.7

See footnotes following Table 6.  
r=revised

March 6, 2003  
Source: Bureau of Labor Statistics

Table 6. Nonfinancial corporations: Productivity, hourly compensation, unit labor costs, 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 costs	Unit non-labor costs (6)	Total unit costs (7)	Unit profits (8)	Implicit price deflator (4)
Indexes 1992=100										
2000	I	117.7	147.3	125.1	126.9	106.7	107.8	104.5	106.9	119.5
	II	118.3	147.9	125.0	127.8	106.6	108.0	106.3	107.5	118.8
	III	119.5	149.4	125.0	130.4	107.9	109.1	107.1	108.6	109.5
	IV	119.5	149.2	124.8	131.7	108.2	110.2	108.9	109.8	98.6
	ANNUAL	118.8	148.4	125.0	129.2	107.4	108.8	106.7	108.2	111.6
2001	I	118.8	147.9	124.6	131.3	106.9	110.6	111.6	110.8	93.1
	II	119.4	147.8	123.7	131.9	106.5	110.4	113.5	111.3	95.4
	III	120.4	147.7	122.7	132.7	107.0	110.3	115.5	111.7	97.9
	IV	123.5	149.6	121.2	133.6	107.8	108.2	114.1	109.8	107.6
	ANNUAL	120.5	148.2	123.0	132.4	107.0	109.9	113.7	110.9	98.5
2002	I	124.9	150.8	120.8	134.7	r108.4	107.9	114.0	109.5	107.6
	II	126.7	152.8	120.6	136.2	108.6	107.5	114.5	109.4	107.8
	III	128.4	154.2	120.1	138.2	r109.6	107.7	114.8	109.6	104.1
Percent change from previous quarter at annual rate(5)										
2000	I	7.1	9.5	2.3	14.2	9.8	6.7	-0.4	4.7	-19.0
	II	2.0	1.6	-0.4	2.8	-0.1	0.8	7.0	2.4	-2.2
	III	4.0	4.0	0.0	8.5	4.7	4.2	3.0	3.9	-27.8
	IV	0.1	-0.4	-0.5	4.1	1.1	4.0	6.9	4.8	-34.5
	ANNUAL	3.5	5.0	1.5	6.7	3.2	3.1	3.3	3.1	-15.2
2001	I	-2.6	-3.3	-0.7	-1.2	-4.8	1.4	10.1	3.7	-20.2
	II	2.2	-0.5	-2.7	1.8	-1.3	-0.4	7.1	1.6	10.0
	III	3.2	-0.3	-3.4	2.5	1.9	-0.6	7.2	1.5	10.8
	IV	10.7	5.4	-4.8	2.6	2.9	-7.3	-4.9	-6.7	46.1
	ANNUAL	1.4	-0.1	-1.5	2.5	-0.3	1.0	6.5	2.5	-11.7
2002	I	4.7	3.3	-1.3	3.5	r2.2	-1.2	-0.2	-0.9	-0.2
	II	5.8	5.3	-0.5	4.5	r0.9	-1.3	1.7	-0.5	0.9
	III	5.5	3.8	-1.6	6.1	r3.9	0.6	1.0	0.7	-13.0
Percent change from corresponding quarter of previous year										
2000	I	3.0	5.7	2.6	5.6	2.3	2.5	2.9	2.6	-12.9
	II	3.5	5.4	1.9	6.1	2.8	2.6	3.5	2.8	-12.4
	III	4.2	5.4	1.2	7.6	4.0	3.3	2.5	3.1	-14.2
	IV	3.3	3.6	0.3	7.3	3.8	3.9	4.1	4.0	-21.8
	ANNUAL	3.5	5.0	1.5	6.7	3.2	3.1	3.3	3.1	-15.2
2001	I	0.9	0.4	-0.4	3.5	0.2	2.6	6.7	3.7	-22.0
	II	0.9	-0.1	-1.0	3.2	-0.1	2.3	6.8	3.5	-19.7
	III	0.7	-1.1	-1.8	1.8	-0.8	1.1	7.8	2.9	-10.6
	IV	3.3	0.3	-2.9	1.4	-0.4	-1.8	4.7	0.0	9.2
	ANNUAL	1.4	-0.1	-1.5	2.5	-0.3	1.0	6.5	2.5	-11.7
2002	I	5.2	1.9	-3.0	2.6	1.4	-2.4	2.2	-1.2	15.5
	II	6.1	3.4	-2.5	3.3	r2.0	-2.6	0.9	-1.7	13.0
	III	6.7	4.4	-2.1	4.2	2.5	-2.3	-0.6	-1.9	6.4

See footnotes following Table 6.  
r=revised

March 6, 2003  
Source: Bureau of Labor Statistics

**SOURCES:** Output data are from the Bureau of Economic Analysis and the Census Bureau of the U.S. Department of Commerce; the Bureau of Labor Statistics, U.S. Department of Labor; and the Federal Reserve Board. Compensation and hours data are from the Bureau of Labor Statistics 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 within 40 days of the close of the reference period; revisions appear 30 days later, and second revisions after an additional 60 days. In the business sector, the third publication (second revision) of a quarterly index of output per hour of all persons has differed from the initial value by between  $-1.5$  and  $+1.7$  index points approximately 95 percent of the time. This interval is based on the performance of this measure between the fourth quarter of 1995 and the third quarter of 2002.

### 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) The change for recent quarters is based on the Consumer Price Index for all urban consumers (CPI-U). The trend from 1978-2001 is based on the Consumer Price Index research series (CPI-U-RS).
- (3) Unit nonlabor payments include profits, capital consumption allowances, interest, rental income of persons, and indirect taxes.
- (4) Current dollar output divided by the output index.
- (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) Unit nonlabor costs include capital consumption allowances, interest, rental income of persons, and indirect taxes. For nonfinancial corporations, rental income of persons is zero by definition.
- (7) Total unit costs are the sum of unit labor and nonlabor costs.
- (8) Unit profits include corporate profits with inventory valuation and capital consumption adjustments.