

# News

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## PRODUCTIVITY AND COSTS First Quarter 2003

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 2003. The seasonally adjusted annual rates of productivity change in the first quarter were:

2.2 percent in the business sector and  
1.6 percent in the nonfarm business sector.

These productivity increases occurred as modest output increases were combined with modest declines in the hours worked. In the business sector, output grew 1.7 percent and hours of all persons fell 0.5 percent. In nonfarm businesses, output rose 1.4 percent and hours dropped 0.1 percent. First-quarter measures are summarized in table A and appear in detail in tables 1 through 5.

In manufacturing, productivity changes in the first quarter were:

2.1 percent in manufacturing,  
2.4 percent in durable goods manufacturing, and  
1.7 percent in nondurable goods manufacturing.

Productivity growth in manufacturing in the first quarter of 2003 reflected decreases in both output and hours; output declined 0.6 percent and hours of all persons fell 2.6 percent (seasonally adjusted annual rates). 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.

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 measures 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).

Table A. Productivity and costs: Preliminary first-quarter 2003 measures (Seasonally adjusted annual rates)						
Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Percent change from preceding quarter						
Business	2.2	1.7	-0.5	3.9	0.1	1.7
Nonfarm business	1.6	1.4	-0.1	3.5	-0.3	1.9
Manufacturing	2.1	-0.6	-2.6	4.8	1.0	2.7
Durable	2.4	0.3	-2.0	4.5	0.7	2.1
Nondurable	1.7	-1.7	-3.3	5.2	1.3	3.4
Percent change from same quarter a year ago						
Business	2.5	2.3	-0.2	3.5	0.6	1.0
Nonfarm business	2.3	2.3	0.0	3.3	0.4	0.9
Manufacturing	2.8	0.5	-2.2	4.1	1.2	1.3
Durable	4.5	1.5	-2.9	4.7	1.7	0.2
Nondurable	0.7	-0.6	-1.2	3.4	0.5	2.7

### Business

Productivity in the business sector increased 2.2 percent between the fourth quarter 2002 and the first quarter 2003, as output grew 1.7 percent and hours of all persons engaged in the sector dropped 0.5 percent (seasonally adjusted annual rates). Revised data for the fourth quarter of 2002 show that output per hour increased 0.3 percent, reflecting a 1.7-percent rise in output and a 1.5-percent increase in hours at work. (See table 1.)

Hourly compensation increased 3.9 percent during the first quarter of 2003. This measure includes wages and salaries, supplements, employer contributions to employee benefit plans, and taxes. Hourly compensation had risen 3.6 percent in the previous quarter. Real hourly compensation, which takes into account changes in consumer prices, increased 0.1 percent in the first quarter of 2003, less than the 1.6-percent increase in the fourth quarter of 2002.

Unit labor costs rose 1.7 percent in the first quarter of 2003, down from the 3.3-percent increase in the fourth quarter. Unit labor costs grew noticeably slower in the first quarter than in the fourth quarter because the higher growth in productivity was more than enough to offset the larger increase in hourly compensation. Growth in unit labor costs is roughly equivalent to the change in hourly compensation less the change in output per hour.

The implicit price deflator for the business sector, which reflects changes in both unit labor costs and unit nonlabor payments, rose 1.8 percent in the first quarter. The implicit price deflator rose 1.5 percent in the final quarter of 2002.

## **Nonfarm business**

Productivity rose 1.6 percent in the nonfarm business sector in first-quarter 2003, as output increased 1.4 percent and hours of all persons decreased 0.1 percent (seasonally adjusted annual rates). In the fourth quarter of 2002, productivity had increased 0.7 percent, as output rose 1.7 percent and hours increased by 0.9 percent. (See table 2.)

Hourly compensation increased at a 3.5 percent annual rate in the first quarter of 2003, down from the 3.9-percent increase in the fourth quarter. When the rise in consumer prices was taken into account, real hourly compensation fell 0.3 percent in the first quarter; it had increased 1.9 percent in the fourth quarter of 2002.

Unit labor costs grew 1.9 percent in the first quarter of 2003 and 3.2 percent in the fourth quarter of 2002. The implicit price deflator for nonfarm business output rose 1.7 percent in the first quarter and 1.4 percent one quarter earlier.

## **Manufacturing**

Productivity increased 2.1 percent in manufacturing in the first quarter of 2003, as output decreased 0.6 percent and hours of all persons declined 2.6 percent (seasonally adjusted annual rates). Both output and hours also had fallen in fourth-quarter 2002—by 3.7 and 3.2 percent, respectively—and productivity declined 0.5 percent. In the first quarter of 2003, productivity grew 2.4 percent in durable goods manufacturing, where output increased 0.3 percent and hours fell 2.0 percent. Nondurable goods manufacturing productivity rose 1.7 percent, reflecting a 1.7 percent drop in output and a 3.3 percent decline in hours of all persons.

Hourly compensation of all manufacturing workers rose 4.8 percent during the first quarter, and real hourly compensation increased 1.0 percent. The hourly compensation of workers in durable goods manufacturing rose 4.5 percent, while that of employees in nondurable goods manufacturing grew 5.2 percent.

Unit labor costs in manufacturing rose 2.7 percent in the first quarter of 2003, as unit labor costs of durable goods producers increased 2.1 percent and those of nondurable goods producers increased more, 3.4 percent.

## **Fourth-quarter and annual measures for nonfinancial corporations**

Fourth-quarter and annual 2002 measures of productivity and costs also were announced today for the nonfinancial corporate sector (tables B, C, and 6). Output per all-employee hour grew 5.0 percent from the third to the fourth quarter of 2002, as output grew 4.5 percent and employee hours fell 0.5 percent. The nonfinancial corporate sector includes all corporations doing business in the United States, except those classified as depository institutions, nondepository institutions, security and commodity brokers, insurance carriers, regulated investment offices, small business investment offices, and real estate investment trusts.

Period	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs	Unit profits	Implicit price deflator
Percent change from preceding quarter								
2002 IV	5.0	4.5	-0.5	4.9	2.8	-0.1	20.8	0.9
Percent change from same quarter a year ago								
2002 IV	4.7	3.7	-1.0	3.9	1.6	-0.8	1.9	-0.2

Hourly compensation increased 4.9 percent in the fourth quarter, and real hourly compensation rose 2.8 percent. Unit labor costs fell 0.1 percent in the fourth quarter of 2002—the seventh consecutive drop in these costs. In the fourth quarter, unit profits increased at a 20.8 percent annual rate after falling 11.2 percent in the previous quarter. The implicit price deflator for nonfinancial corporate output grew 0.9 percent during the fourth quarter of 2002, compared with a 0.5 percent decrease in the third quarter.

Productivity grew 5.5 percent in calendar year 2002 for nonfinancial corporations, following an increase of 1.4 percent in the previous year. (See table C.) Nonfinancial corporate output grew 3.2 percent in 2002, and employee hours decreased 2.2 percent. This was the second consecutive decrease in employee hours.

Measure	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Productivity.....	0.7	2.4	1.0	3.2	0.9	3.0	2.7	3.5	1.4	5.5
Output .....	3.0	6.4	4.2	5.0	5.9	5.8	5.2	5.0	-0.1	3.2
Hours.....	2.3	3.9	3.1	1.8	5.0	2.6	2.4	1.5	-1.5	-2.2
Hourly compensation .....	2.0	2.1	1.9	2.7	1.3	5.1	4.4	6.7	2.5	3.3
Real hourly compensation.....	-0.4	0.0	-0.5	0.0	-0.9	3.6	2.3	3.2	-0.3	1.7
Unit labor costs .....	1.3	-0.3	0.8	-0.5	0.4	2.0	1.7	3.1	1.0	-2.1
Unit nonlabor costs .....	0.2	1.0	0.9	-1.5	0.3	1.2	1.2	3.3	6.5	0.9
Total unit cost .....	1.0	0.1	0.8	-0.8	0.4	1.8	1.5	3.1	2.5	-1.3
Unit profits .....	13.2	16.3	5.5	9.5	3.1	-9.7	-7.2	-15.2	-11.7	9.0
Implicit price deflator.....	2.1	1.6	1.4	0.4	0.7	0.3	0.6	1.2	1.2	-0.5

Hourly compensation grew 3.3 percent in 2002, and real hourly compensation increased 1.7 percent. Total unit costs fell 1.3 percent, reflecting a 2.1 decrease in unit labor costs and a 0.9 percent rise in unit nonlabor costs. Unit profits rose 9.0 percent in 2002, the first annual increase since a 3.1-percent rise in 1997. The implicit price deflator, which reflects both the unit costs and unit profits measures, dropped 0.5 percent in 2002.

### Revised measures

Current and previous measures for the third and fourth quarters of 2002 for the business, nonfarm business, and manufacturing sectors are compared in table D. Some of the quarterly movements differ from those reported on March 6. Hourly compensation, real hourly compensation, and unit labor costs in the business and nonfarm business sectors were revised down. In manufacturing, fourth quarter output and productivity were revised down while unit labor costs were revised up.

Table D. Previous and revised productivity and related measures						
Quarterly percent change at seasonally adjusted annual rate						
Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Fourth quarter 2002						
Business:						
Previous.....	0.3	1.8	1.5	4.2	2.2	3.9
Current .....	0.3	1.7	1.5	3.6	1.6	3.3
Nonfarm business:						
Previous.....	0.8	1.7	0.9	4.6	2.5	3.8
Current .....	0.7	1.7	0.9	3.9	1.9	3.2
Manufacturing:						
Previous.....	0.1	-3.2	-3.2	5.5	3.4	5.4
Current .....	-0.5	-3.7	-3.2	5.4	3.4	5.9
Third quarter 2002						
Business:						
Previous.....	5.8	5.3	-0.5	5.7	3.5	0.0
Current .....	5.8	5.3	-0.5	2.2	0.1	-3.4
Nonfarm business:						
Previous.....	5.5	5.2	-0.2	5.4	3.1	-0.1
Current .....	5.5	5.2	-0.2	1.8	-0.3	-3.4
Manufacturing:						
Previous.....	5.5	3.0	-2.4	5.6	3.4	0.1
Current .....	5.5	3.0	-2.4	1.4	-0.8	-3.9

For third-quarter 2002, hourly compensation was revised down sharply in the business, nonfarm business, and manufacturing sectors; unit labor costs were revised down accordingly. Unit labor costs in the business and nonfarm business sectors now show declines of 3.4 percent in the third quarter. In the manufacturing sector, unit labor costs dropped 3.9 percent in the third quarter compared to the 0.1-percent increase reported on March 6.

The Consumer Price Index Research Series has been updated. This affected indexes of real hourly compensation for all years.

### Revised measures: Nonfinancial Corporations

Productivity and cost measures for nonfinancial corporations for the third quarter of 2002 also were revised to incorporate more recent information than was available on March 6. Productivity and output in this sector were revised down for the third quarter of 2002. Productivity grew at an annual rate of 3.4 percent, compared with the increase of 5.5 percent published March 6. Hourly compensation was revised down more than output per hour, so unit labor costs fell 0.5 percent, rather than increasing. (See tables E and 6.)

Table E. Nonfinancial corporations: Previous and revised productivity and cost measures Quarterly percent changes at seasonally adjusted annual rates								
	Produc- tivity	Output	Hours	Hourly compen- sation	Real hourly compen- sation	Unit labor costs	Unit profits	Implicit price deflator
Third quarter 2002								
Previous.....	5.5	3.8	-1.6	6.1	3.9	0.6	-13.0	-0.5
Current .....	3.4	1.7	-1.6	2.9	0.7	-0.5	-11.2	-0.5

### Next release date

The next release of **Productivity and Costs** is scheduled for **8:30 AM EDT, Wednesday, June 4, 2003**. First-quarter measures for nonfinancial corporations and revised measures for business, nonfarm business, and manufacturing will be released at that time.

## **Current and upcoming changes to productivity and cost data**

Measures of employment and hours for self-employed persons and unpaid family workers in nonfarm establishments, hours of employees in government enterprises, and employment and hours of all persons working on farms incorporate data from the Current Population Survey (CPS). Data from this survey were revised to incorporate population controls from the 2000 population census and new industry and occupational classification systems. For the productivity and costs measures, historical measures of employment and hours through the fourth quarter of 2002 have not yet been revised to incorporate these changes to the household survey. First quarter measures were constructed by calculating the change in the first quarter 2003 data to revised fourth quarter 2002 data and applying the movements to unrevised fourth-quarter levels. The BLS intends to incorporate historical revisions to the employment and hours measures constructed from the CPS in its Aug. 7 release.

At that time, BLS also will incorporate historical revisions to employment and hours data for the business and nonfarm business sectors based on data from the nonfarm payroll series. These revisions will include conversion to the 2002 North American Industry Classification System (NAICS) from the 1987 Standard Industrial Classification (SIC), the annual benchmark to levels from the Unemployment Insurance program, and new information on seasonal patterns.

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								
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	r111.0	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	r112.1	113.7	119.9
	II	123.1	142.5	115.8	140.8	112.3	114.4	119.3
	III	124.8	144.4	115.6	r141.5	r112.3	r113.4	r121.4
	IV	124.9	145.0	116.1	r142.8	r112.7	r114.3	r120.9
	ANNUAL	123.8	143.5	115.9	r141.1	r112.3	r113.9	r120.4
2003	I	125.6	145.6	115.9	144.2	112.7	114.8	121.5
Percent change from previous quarter at annual rate(5)								
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	r-2.7	0.7	4.9
	III	1.8	-0.9	-2.6	0.9	r0.0	-0.9	6.8
	IV	7.6	3.5	-3.8	1.4	r1.9	-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	r1.8	-4.9	9.5
	II	1.8	0.6	-1.2	4.3	r0.7	2.4	-2.1
	III	5.8	5.3	-0.5	r2.2	r0.1	r-3.4	r7.0
	IV	0.3	r1.7	1.5	r3.6	r1.6	r3.3	r-1.4
	ANNUAL	4.8	2.7	-2.0	r2.5	r0.9	r-2.2	r5.0
2003	I	2.2	1.7	-0.5	3.9	0.1	1.7	1.9
Percent change from corresponding quarter of previous year								
2001	I	1.9	1.4	-0.5	4.5	r1.1	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	r2.7	r1.1	r-3.0	r5.1
	IV	4.0	3.4	-0.6	r3.3	r1.0	r-0.7	r3.2
	ANNUAL	4.8	2.7	-2.0	r2.5	r0.9	r-2.2	r5.0
2003	I	2.5	2.3	-0.2	3.5	0.6	1.0	1.3

See footnotes following Table 6.  
r=revised

May 1, 2003  
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									
2001	I	116.7	140.7	120.6	136.3	110.9	116.8	113.8	115.7
	II	116.6	139.7	119.8	136.3	110.1	116.9	115.3	116.3
	III	117.2	139.4	118.9	136.7	r110.1	116.6	117.2	116.8
	IV	119.3	140.4	117.7	137.2	110.7	115.0	119.2	116.5
	ANNUAL	117.5	140.1	119.2	136.6	110.5	116.3	116.4	116.3
2002	I	121.8	142.5	117.0	138.1	111.1	113.4	121.7	116.4
	II	122.3	142.9	116.8	139.5	r111.3	114.1	121.7	116.8
	III	123.9	144.7	116.8	r140.1	r111.2	r113.1	r123.5	116.9
	IV	124.2	145.3	117.0	r141.5	r111.7	r113.9	r123.1	r117.3
	ANNUAL	123.1	143.9	116.9	r139.8	r111.3	r113.6	r122.5	r116.9
2003	I	124.7	145.8	117.0	142.7	111.6	114.5	123.5	117.8
Percent change from previous quarter at annual rate(5)									
2001	I	-1.4	-0.9	0.5	2.8	-0.9	4.3	1.5	3.3
	II	-0.1	-2.7	-2.6	0.1	r-3.0	0.3	5.1	2.0
	III	2.1	-0.8	-2.9	1.0	r0.1	-1.1	6.8	1.7
	IV	7.2	2.9	-4.0	1.5	r2.1	-5.4	6.9	-1.0
	ANNUAL	1.1	-0.1	-1.2	2.7	-0.1	1.6	2.5	1.9
2002	I	8.6	6.2	-2.3	2.9	1.6	-5.3	8.8	-0.2
	II	1.7	0.9	-0.7	4.0	0.4	2.3	0.1	1.4
	III	5.5	5.2	-0.2	r1.8	r-0.3	r-3.4	r6.1	0.1
	IV	r0.7	1.7	0.9	r3.9	r1.9	r3.2	r-1.4	r1.4
	ANNUAL	4.8	2.7	-2.0	r2.4	r0.8	r-2.3	r5.3	0.5
2003	I	1.6	1.4	-0.1	3.5	-0.3	1.9	1.3	1.7
Percent change from corresponding quarter of previous year									
2001	I	1.7	1.4	-0.3	4.2	r0.8	2.4	1.4	2.1
	II	0.2	-0.6	-0.8	3.7	0.3	3.5	-0.3	2.1
	III	0.6	-0.8	-1.4	1.8	r-0.9	1.2	3.8	2.2
	IV	1.9	-0.4	-2.3	1.4	-0.4	-0.5	5.1	1.5
	ANNUAL	1.1	-0.1	-1.2	2.7	-0.1	1.6	2.5	1.9
2002	I	4.4	1.3	-2.9	1.4	0.2	-2.9	6.9	0.6
	II	4.9	2.3	-2.5	2.3	1.0	-2.4	5.6	0.5
	III	5.7	3.8	-1.8	r2.5	r0.9	r-3.0	r5.4	0.1
	IV	4.1	3.5	-0.6	r3.2	r0.9	r-0.9	r3.3	r0.7
	ANNUAL	4.8	2.7	-2.0	r2.4	r0.8	r-2.3	r5.3	0.5
2003	I	2.3	2.3	0.0	3.3	0.4	0.9	1.5	1.2

See footnotes following Table 6.  
r=revised

May 1, 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							
2001	I	135.2	134.9	99.8	132.0	r107.5	97.6
	II	135.2	132.8	98.2	133.0	107.4	98.4
	III	136.2	131.1	96.3	133.3	r107.4	97.9
	IV	137.5	129.1	93.9	134.3	r108.4	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	r109.1	96.8
	II	141.5	130.6	92.3	137.2	109.4	96.9
	III	143.4	131.6	91.7	r137.7	r109.2	r96.0
	IV	r143.3	r130.3	91.0	r139.5	r110.1	r97.4
	ANNUAL	142.1	130.5	91.8	r137.5	r109.4	r96.8
2003	I	144.0	130.1	90.4	141.2	110.4	98.0
Percent change from previous quarter at annual rate(5)							
2001	I	-2.1	-7.6	-5.6	1.6	-2.1	3.7
	II	0.0	-6.2	-6.2	3.1	r-0.2	3.1
	III	3.0	-4.9	-7.6	1.0	r0.1	-1.9
	IV	3.9	-6.1	-9.7	2.9	r3.5	-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	r2.6	-3.7
	II	4.2	3.5	-0.7	5.0	1.4	0.7
	III	5.5	3.0	-2.4	r1.4	r-0.8	r-3.9
	IV	r-0.5	r-3.7	-3.2	r5.4	3.4	r5.9
	ANNUAL	4.5	-1.1	-5.4	r3.3	r1.6	r-1.2
2003	I	2.1	-0.6	-2.6	4.8	1.0	2.7
Percent change from corresponding quarter of previous year							
2001	I	1.2	-2.4	-3.6	0.5	r-2.9	-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	1.5	-0.9
	II	4.7	-1.7	-6.1	3.2	1.9	-1.5
	III	5.3	0.3	-4.8	r3.3	r1.6	r-2.0
	IV	r4.2	r1.0	-3.1	r3.9	r1.6	r-0.3
	ANNUAL	4.5	-1.1	-5.4	r3.3	r1.6	r-1.2
2003	I	2.8	0.5	-2.2	4.1	1.2	1.3

See footnotes following Table 6.  
r=revised

May 1, 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						
2001	I	149.3	158.3	106.0	129.4	86.7
	II	148.8	154.9	104.1	130.5	87.7
	III	149.6	151.8	101.4	130.2	r104.9
	IV	151.0	148.6	98.5	131.8	r106.4
	ANNUAL	149.6	153.4	102.5	130.4	105.5
2002	I	154.7	149.4	96.5	132.7	85.8
	II	156.8	151.2	96.4	134.8	86.0
	III	159.8	152.6	95.5	r135.2	r84.6
	IV	r160.7	r151.5	94.2	r137.3	r108.4
	ANNUAL	r158.0	151.2	95.7	r135.0	r107.5
2003	I	161.7	151.6	93.7	138.9	85.9
Percent change from previous quarter at annual rate(5)						
2001	I	-2.1	-8.9	-6.9	3.1	-0.6
	II	-1.4	-8.2	-6.9	3.6	r0.3
	III	2.4	-7.9	-10.0	-1.0	r-1.9
	IV	3.5	-8.0	-11.2	5.0	r5.6
	ANNUAL	-0.1	-6.3	-6.2	0.9	-1.9
2002	I	10.4	2.1	-7.5	2.8	1.5
	II	5.5	4.9	-0.5	6.7	r3.0
	III	7.9	3.8	-3.8	r1.2	r-1.0
	IV	r2.3	r-2.9	r-5.1	r6.3	4.3
	ANNUAL	5.6	r-1.5	-6.7	r3.5	r1.9
2003	I	2.4	0.3	-2.0	4.5	0.7
Percent change from corresponding quarter of previous year						
2001	I	0.5	-2.9	-3.3	-1.1	r-4.3
	II	-0.8	-6.3	-5.5	2.3	-1.0
	III	-0.4	-7.8	-7.4	-0.3	r-2.9
	IV	0.6	-8.2	-8.8	2.6	0.8
	ANNUAL	-0.1	-6.3	-6.2	0.9	-1.9
2002	I	3.6	-5.6	-8.9	2.6	r1.3
	II	5.4	-2.4	-7.4	3.3	2.0
	III	6.8	0.5	-5.9	r3.9	r2.3
	IV	r6.5	r1.9	-4.3	r4.2	r1.9
	ANNUAL	5.6	r-1.5	-6.7	r3.5	r1.9
2003	I	4.5	1.5	-2.9	4.7	1.7

See footnotes following Table 6.  
r=revised

May 1, 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						
2001	I	123.1	112.7	91.6	134.7	109.7
	II	123.6	111.7	90.4	135.5	109.4
	III	124.3	111.3	89.5	137.2	r110.5
	IV	125.5	110.1	87.8	137.1	110.6
	ANNUAL	124.1	111.5	89.8	136.1	110.1
2002	I	126.8	110.2	86.9	139.1	111.9
	II	127.7	110.8	86.7	139.8	111.5
	III	128.4	111.4	86.7	r140.5	r111.4
	IV	r127.1	r110.1	86.6	r142.0	r112.1
	ANNUAL	r127.5	r110.6	86.7	r140.3	r111.7
2003	I	127.6	109.6	85.9	143.8	112.4
Percent change from previous quarter at annual rate(5)						
2001	I	-2.5	-6.0	-3.6	-0.8	-4.4
	II	1.3	-3.8	-5.0	2.3	r-0.9
	III	2.6	-1.4	-3.8	5.1	r4.1
	IV	3.6	-4.0	-7.4	-0.3	r0.2
	ANNUAL	1.6	-3.2	-4.7	2.9	0.1
2002	I	4.3	0.3	-3.9	6.0	r4.7
	II	2.9	1.9	-0.9	2.2	-1.3
	III	2.4	2.3	-0.1	r1.9	r-0.2
	IV	r-4.1	r-4.6	-0.5	r4.3	2.3
	ANNUAL	r2.7	r-0.8	-3.4	r3.1	r1.5
2003	I	1.7	-1.7	-3.3	5.2	1.3
Percent change from corresponding quarter of previous year						
2001	I	2.1	-1.9	-3.9	3.1	r-0.3
	II	1.5	-3.4	-4.8	3.9	0.5
	III	1.5	-3.5	-4.9	3.0	r0.3
	IV	1.2	-3.8	-5.0	1.5	-0.3
	ANNUAL	1.6	-3.2	-4.7	2.9	0.1
2002	I	3.0	-2.2	-5.0	3.2	2.0
	II	3.4	-0.8	-4.0	3.2	1.9
	III	3.3	0.1	-3.1	r2.4	r0.8
	IV	r1.3	r-0.1	-1.4	r3.6	r1.3
	ANNUAL	r2.7	r-0.8	-3.4	r3.1	r1.5
2003	I	0.7	-0.6	-1.2	3.4	0.5

See footnotes following Table 6.  
r=revised

May 1, 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)	
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Indexes 1992=100											
2000	I	117.7	147.3	125.1	126.9	r106.8	107.8	104.5	106.9	119.5	108.0
	II	118.3	147.9	125.0	127.8	r106.7	108.0	106.3	107.5	118.8	108.5
	III	119.5	149.4	125.0	130.4	107.9	109.1	107.1	108.6	109.5	108.6
	IV	119.5	149.2	124.8	131.7	108.2	110.2	108.9	109.8	98.6	108.9
	ANNUAL	118.8	148.4	125.0	129.2	107.4	108.8	106.7	108.2	111.6	108.5
2001	I	118.8	147.9	124.6	131.3	106.9	110.6	111.6	110.8	93.1	109.3
	II	119.4	147.8	123.7	131.9	106.5	110.4	113.5	111.3	95.4	109.9
	III	120.4	147.7	122.7	132.7	r106.9	110.3	115.5	111.7	97.9	110.5
	IV	123.5	149.6	121.2	133.6	107.8	108.2	114.1	109.8	107.6	109.6
	ANNUAL	120.5	148.2	123.0	132.4	107.0	109.9	113.7	110.9	98.5	109.8
2002	I	124.9	150.8	120.8	134.7	108.4	107.9	114.0	109.5	107.6	109.4
	II	126.7	152.8	120.6	136.2	108.6	107.5	114.5	109.4	107.8	109.3
	III	r127.7	r153.4	120.1	r137.2	r108.8	r107.4	r115.4	109.6	r104.6	109.1
	IV	129.3	155.1	120.0	138.8	109.6	107.4	114.7	109.3	109.7	109.4
	ANNUAL	127.1	153.0	120.4	136.7	108.8	107.5	114.6	109.5	107.4	109.3
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Percent change from previous quarter at annual rate(5)											
2000	I	7.1	9.5	2.3	14.2	r10.1	6.7	-0.4	4.7	-19.0	2.2
	II	2.0	1.6	-0.4	2.8	r-0.5	0.8	7.0	2.4	-2.2	2.0
	III	4.0	4.0	0.0	8.5	4.7	4.2	3.0	3.9	-27.8	0.6
	IV	0.1	-0.4	-0.5	4.1	r1.2	4.0	6.9	4.8	-34.5	0.8
	ANNUAL	3.5	5.0	1.5	6.7	3.2	3.1	3.3	3.1	-15.2	1.2
2001	I	-2.6	-3.3	-0.7	-1.2	-4.8	1.4	10.1	3.7	-20.2	1.7
	II	2.2	-0.5	-2.7	1.8	r-1.4	-0.4	7.1	1.6	10.0	2.2
	III	3.2	-0.3	-3.4	2.5	r1.6	-0.6	7.2	1.5	10.8	2.2
	IV	10.7	5.4	-4.8	2.6	r3.2	-7.3	-4.9	-6.7	46.1	-3.3
	ANNUAL	1.4	-0.1	-1.5	2.5	-0.3	1.0	6.5	2.5	-11.7	1.2
2002	I	4.7	3.3	-1.3	3.5	2.2	-1.2	-0.2	-0.9	-0.2	-0.8
	II	5.8	5.3	-0.5	4.5	0.9	-1.3	1.7	-0.5	0.9	-0.3
	III	r3.4	r1.7	-1.6	r2.9	r0.7	r-0.5	r3.1	r0.5	r-11.2	-0.5
	IV	5.0	4.5	-0.5	4.9	2.8	-0.1	-2.3	-0.7	20.8	0.9
	ANNUAL	5.5	3.2	-2.2	3.3	1.7	-2.1	0.9	-1.3	9.0	-0.5
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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	0.9
	II	3.5	5.4	1.9	6.1	2.8	2.6	3.5	2.8	-12.4	1.2
	III	4.2	5.4	1.2	7.6	4.0	3.3	2.5	3.1	-14.2	1.3
	IV	3.3	3.6	0.3	7.3	3.8	3.9	4.1	4.0	-21.8	1.4
	ANNUAL	3.5	5.0	1.5	6.7	3.2	3.1	3.3	3.1	-15.2	1.2
2001	I	0.9	0.4	-0.4	3.5	r0.1	2.6	6.7	3.7	-22.0	1.3
	II	0.9	-0.1	-1.0	3.2	r-0.2	2.3	6.8	3.5	-19.7	1.3
	III	0.7	-1.1	-1.8	1.8	r-0.9	1.1	7.8	2.9	-10.6	1.7
	IV	3.3	0.3	-2.9	1.4	-0.4	-1.8	4.7	0.0	9.2	0.7
	ANNUAL	1.4	-0.1	-1.5	2.5	-0.3	1.0	6.5	2.5	-11.7	1.2
2002	I	5.2	1.9	-3.0	2.6	1.4	-2.4	2.2	-1.2	15.5	0.0
	II	6.1	3.4	-2.5	3.3	2.0	-2.6	0.9	-1.7	13.0	-0.6
	III	r6.1	r3.9	-2.1	r3.3	r1.7	r-2.6	r-0.1	-1.9	r6.9	-1.3
	IV	4.7	3.7	-1.0	3.9	1.6	-0.8	0.6	-0.4	1.9	-0.2
	ANNUAL	5.5	3.2	-2.2	3.3	1.7	-2.1	0.9	-1.3	9.0	-0.5

See footnotes following Table 6.  
r=revisedMay 1, 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  $+1.6$  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 fourth 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 1978-2002 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.