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PRODUCTIVITY AND COSTS
Fourth Quarter and Annual Averages, 1999

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 1999. Percent changes in business and nonfarm business productivity were:

	Fourth quarter	Annual averages 1998-1999
Business sector	6.1	3.1
Nonfarm business sector	6.4	3.0

In both sectors, the fourth-quarter productivity increases were the largest since the fourth quarter of 1992. 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 1998-1999
Manufacturing	10.3	6.4
Durable goods manufacturing	10.8	9.6
Nondurable goods manufacturing	10.0	2.4

Manufacturing productivity rose at a 10.3 percent annual rate in the fourth quarter. This was the largest increase since the second quarter of 1982, when output per hour of all persons rose 12.3 percent. On an annual basis, manufacturing productivity rose 6.4 percent in 1999, marking 20 consecutive years of labor productivity increases in this sector. (Output and hours in manufacturing, which includes about 17 percent of U.S. business sector employment, tend to vary more from quarter to quarter than data for the more aggregate business and nonfarm business sectors.)

Table A. Productivity and costs: Revised fourth-quarter 1999 measures
(Seasonally adjusted annual rates)

Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Percent change from preceding quarter						
Business	6.1	8.2	1.9	3.3	0.4	-2.7
Nonfarm business	6.4	8.0	1.6	3.7	0.8	-2.5
Manufacturing	10.3	6.6	-3.3	4.2	1.3	-5.5
Durable	10.8	6.6	-3.7	4.9	1.9	-5.3
Nondurable	10.0	7.1	-2.7	3.2	0.3	-6.2
Percent change from same quarter a year ago						
Business	3.6	5.1	1.4	4.5	1.9	0.8
Nonfarm business	3.6	5.1	1.4	4.3	1.7	0.7
Manufacturing	6.9	4.7	-2.1	5.1	2.5	-1.6
Durable	9.0	6.9	-1.9	5.4	2.8	-3.3
Nondurable	4.2	1.9	-2.2	4.6	2.0	0.4

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.

THIRD-TO-FOURTH QUARTER CHANGES, 1999

Business

Business sector productivity rose at a 6.1-percent annual rate in the fourth quarter of 1999, as output increased 8.2 percent and hours of all persons engaged in the sector increased 1.9 percent (table 1). The fourth-quarter increases in both labor productivity and output were the largest since the fourth quarter of 1992, when productivity rose 7.0 percent and output increased by 9.1 percent (seasonally adjusted annual rates).

Hourly compensation grew at a 3.3-percent annual rate in the fourth quarter of 1999, compared with a 4.5-percent rise in the third quarter. This measure includes wages and salaries, supplements, employer contributions to employee-benefit plans, and taxes. Unit labor costs, which reflect changes in both hourly compensation and productivity, decreased at a 2.7-percent annual rate during the fourth quarter. This decrease was the largest since a 3.2-percent decline in the fourth quarter of 1993.

Real hourly compensation, which takes into account changes in consumer prices, rose just 0.4 percent for persons in the business sector. This was the smallest increase since the fourth quarter of 1996, when real hourly compensation increased 0.2 percent.

The implicit price deflator for business output, which reflects changes in unit labor costs and unit nonlabor payments, increased at an annual rate of 1.8 percent in the fourth quarter. This measure rose 0.6 percent during the third quarter of 1999.

Nonfarm business

In the nonfarm business sector, productivity rose at an annual rate of 6.4 percent in the fourth quarter of 1999, as output grew 8.0 percent and hours of all persons--employees, proprietors, and unpaid family workers--rose 1.6 percent (table 2). During the third quarter, productivity had increased 5.0 percent, as output grew 6.8 percent and hours rose 1.7 percent (seasonally adjusted annual rates).

Hourly compensation rose 3.7 percent in the fourth quarter, less rapidly than it had in the previous nine quarters. When the increase in consumer prices was taken into account, real hourly compensation in the fourth quarter of 1999 rose 0.8 percent.

Unit labor costs fell 2.5 percent in the fourth quarter and had declined 0.3 percent in the third quarter of 1999. The implicit price deflator for nonfarm business rose more in the fourth quarter, 2.0 percent, than it had one quarter earlier, when it increased 0.7 percent.

Manufacturing

Manufacturing productivity rose at a 10.3-percent seasonally adjusted annual rate in the fourth quarter of 1999, as output increased 6.6 percent and hours of all persons dropped 3.3 percent (table 3). Double-digit productivity growth rates occurred in both of the manufacturing subsectors last quarter. In durable goods, productivity increased 10.8 percent in the fourth quarter, as output grew 6.6 percent and hours of all persons fell 3.7 percent. In nondurable goods, productivity grew 10.0 percent, reflecting a 7.1-percent rise in output and a 2.7-percent decline in hours (tables 4 and 5).

Hourly compensation of all manufacturing workers rose 4.2 percent during the fourth quarter. The hourly compensation of workers in durable goods industries rose 4.9 percent and that of workers in nondurable goods industries increased 3.2 percent. When the increase in consumer prices was taken into account, real hourly compensation for all manufacturing workers rose 1.3 percent in the fourth quarter.

Since labor productivity gains outstripped the gains in hourly compensation, unit labor costs in the manufacturing sector fell--they dropped 5.5 percent in the fourth quarter of 1999. Unit labor costs fell 5.3 percent in durable goods industries and 6.2 percent in nondurable goods industries.

ANNUAL AVERAGE CHANGES, 1998-1999

Business

In calendar year 1999, business productivity increased 3.1 percent, after having increased 2.8 percent in the previous year (table 1). Output grew 4.7 percent in 1999 and 5.1 percent in 1998. Hours of all persons in the business sector rose less in 1999, 1.5 percent, than in 1998, 2.2 percent.

Table B. Productivity and costs: Revised 1999 annual averages
(Seasonally adjusted annual rates)

Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Percent change from previous year						
Business	3.1	4.7	1.5	5.0	2.8	1.8
Nonfarm business	3.0	4.7	1.7	4.7	2.6	1.7
Manufacturing	6.4	4.2	-2.1	5.0	2.8	-1.4
Durable	9.6	7.3	-2.1	5.0	2.9	-4.2
Nondurable	2.4	0.3	-2.1	4.8	2.7	2.3

Hourly compensation increased 5.0 percent in 1999, after having increased 5.3 percent in 1998. Real hourly compensation also increased in both years--2.8 percent in 1999 and 3.9 percent in 1998. 1999 was the fourth consecutive year of growth in this series, following three years of declining real hourly compensation (1993-95).

Unit labor costs increased 1.8 percent in 1999, less than the 2.4 percent increase in the previous year. The implicit price deflator rose 0.9 percent in 1999, compared with a 0.7-percent increase in 1998.

Nonfarm business

Productivity increased 3.0 percent in the nonfarm business sector during 1999, as output rose 4.7 percent and hours of all persons increased 1.7 percent. In 1998, productivity rose 2.8 percent, output rose 5.2 percent, and hours of all persons grew 2.4 percent.

Hourly compensation grew 4.7 percent in 1999, slightly less than the 5.2-percent increase in 1998. The increase in real hourly compensation in 1999, 2.6 percent, also was smaller than during the previous year, when it had increased 3.8 percent.

Unit labor costs in the nonfarm business sector grew 1.7 percent in 1999, compared with the 2.4-percent increase posted in 1998. The implicit price deflator, which reflects nonlabor payments as well as labor costs, rose 0.9 percent in 1999, similar to the 0.8-percent rise in 1998.

Manufacturing

Manufacturing productivity grew 6.4 percent in 1999, continuing a trend of annual increases that began in 1980. Output in the manufacturing sector increased 4.2 percent in 1999, and hours of all persons fell 2.1 percent. Trends in the durable and nondurable sectors differed. In 1999, labor productivity increased 9.6 percent in durable goods manufacturing, reflecting a 7.3-percent output increase and a decline of 2.1 percent in hours. In nondurable goods manufacturing, productivity rose 2.4 percent in 1999, as output edged up 0.3 percent and hours of all persons declined 2.1 percent (tables B, 3, 4, and 5).

Hourly compensation of manufacturing workers increased 5.0 percent in 1999, about the same as the 5.3-percent increase of 1998. Hourly compensation in durable goods rose 5.0 percent in 1999. In nondurable goods industries, hourly compensation rose 4.8 percent. Real hourly compensation of all manufacturing workers rose 2.8 percent in 1999.

Unit labor costs in the manufacturing sector fell 1.4 percent in 1999. These costs have fallen in six of the last eight years. Unit labor costs in durable goods industries fell 4.2 percent and rose 2.3 percent in nondurable goods. In durable goods, unit labor costs have fallen every year since 1991 (when they rose 4.0 percent).

REVISED MEASURES

Productivity and cost data for the fourth quarter and full year 1999 for business, nonfarm business, and manufacturing were revised to incorporate the most recent information (table C). In the business and nonfarm business sectors, productivity and output measures for the fourth quarter are higher and drops in unit labor costs are deeper than those reported on Feb. 8 based on information available at that time. Fourth-quarter measures of manufacturing productivity and output were revised down from those reported last month; unit labor costs declined somewhat less than originally reported. Annual measures of productivity and costs are similar to those reported on Feb. 8. Quarterly series of real hourly compensation in the business, nonfarm business, and manufacturing sectors for 1999 were revised to incorporate the annual recalculation of seasonal factors for the Consumer Price Index.

Table C. Previous and revised productivity and related measures:
Fourth-quarter and annual averages, 1999
(Seasonally adjusted annual rates)

Sector	Produc- tivity	Output	Hours	Hourly compen- sation	Real hourly compen- sation	Unit labor costs

Percent change, third to fourth quarter 1999						
Business:						
Previous	4.8	6.7	1.9	3.6	0.6	-1.2
Current	6.1	8.2	1.9	3.3	0.4	-2.7
Nonfarm business:						
Previous	5.0	6.6	1.5	4.0	1.1	-1.0
Current	6.4	8.0	1.6	3.7	0.8	-2.5
Manufacturing:						
Previous	10.7	7.3	-3.0	4.3	1.3	-5.8
Current	10.3	6.6	-3.3	4.2	1.3	-5.5

Percent change, 1998 - 1999						
Business:						
Previous	3.0	4.6	1.5	5.0	2.9	1.9
Current	3.1	4.7	1.5	5.0	2.8	1.8
Nonfarm business:						
Previous	2.9	4.7	1.7	4.8	2.6	1.8
Current	3.0	4.7	1.7	4.7	2.6	1.7
Manufacturing:						
Previous	6.4	4.2	-2.1	5.0	2.8	-1.4
Current	6.4	4.2	-2.1	5.0	2.8	-1.4

Next release date

The next release of Productivity and Costs is scheduled for 8:30 AM EDT, Thursday, May 4, 2000, 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.

TECHNICAL NOTES

Labor Hours: Hours data for the labor productivity and costs 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. Average weekly paid hours of nonproduction and supervisory workers are estimated by the Office of Productivity and Technology. 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 constructed by excluding from GDP the following outputs: 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 54 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: 202-606-STAT; TDD phone: 202-606-5897; TDD message referral phone number: 1-800-326-2577.

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								
1997	I	106.3	120.0	112.9	112.5	100.1	105.9	114.5
	II	107.1	121.8	113.7	113.2	100.4	105.7	115.9
	III	108.1	123.2	114.0	114.6	101.2	106.0	116.0
	IV	108.4	124.4	114.7	116.4	102.4	107.4	114.1
	ANNUAL	107.5	122.3	113.8	114.2	101.1	106.2	115.1
1998	I	109.7	126.9	115.7	117.8	103.4	107.5	114.2
	II	109.8	127.5	116.1	119.4	104.4	108.8	112.6
	III	110.7	128.9	116.4	121.2	105.6	109.5	112.1
	IV	111.9	131.2	117.2	122.7	106.5	109.6	112.1
	ANNUAL	110.5	128.6	116.4	120.3	105.1	108.8	112.7
1999	I	112.7	132.5	117.5	124.2	r107.3	110.2	112.1
	II	113.0	133.1	117.8	125.7	107.8	111.3	110.9
	III	114.3	135.2	118.3	127.1	108.3	111.3	111.5
	IV	r116.0	r137.9	118.9	r128.2	108.5	r110.5	r114.1
	ANNUAL	r114.0	r134.7	118.1	126.3	108.1	r110.8	r112.2
Percent change from previous quarter at annual rate(5)								
1997	I	1.3	5.8	4.4	3.4	1.0	2.1	2.4
	II	3.4	6.2	2.7	2.6	1.5	-0.7	4.9
	III	3.6	4.8	1.1	4.8	3.0	1.1	0.2
	IV	1.2	3.9	2.7	6.7	4.8	5.4	-6.2
	ANNUAL	2.2	5.4	3.1	3.7	1.5	1.5	1.4
1998	I	4.6	8.1	3.4	4.9	4.2	0.3	0.4
	II	0.6	2.2	1.6	5.5	3.9	4.9	-5.6
	III	3.4	4.4	0.9	6.1	4.7	2.6	-1.9
	IV	4.3	7.2	2.8	4.9	3.3	0.6	-0.1
	ANNUAL	2.8	5.1	2.2	5.3	3.9	2.4	-2.1
1999	I	3.0	3.9	0.9	4.9	r3.3	1.9	0.2
	II	0.8	1.9	1.0	5.1	r1.8	4.2	-4.1
	III	4.7	6.5	1.7	4.5	r2.0	-0.2	2.1
	IV	r6.1	r8.2	1.9	r3.3	r0.4	r-2.7	r9.8
	ANNUAL	r3.1	r4.7	1.5	5.0	r2.8	r1.8	r-0.5
Percent change from corresponding quarter of previous year								
1997	I	2.1	5.5	3.4	3.6	0.8	1.5	1.7
	II	1.7	5.1	3.3	3.2	1.0	1.4	1.7
	III	2.6	5.7	3.0	3.5	1.4	0.9	2.1
	IV	2.4	5.2	2.7	4.4	2.6	1.9	0.2
	ANNUAL	2.2	5.4	3.1	3.7	1.5	1.5	1.4
1998	I	3.2	5.8	2.5	4.7	3.4	1.5	-0.3
	II	2.5	4.7	2.2	5.5	4.0	2.9	-2.8
	III	2.4	4.6	2.1	5.8	4.4	3.3	-3.4
	IV	3.2	5.5	2.2	5.4	4.0	2.1	-1.8
	ANNUAL	2.8	5.1	2.2	5.3	3.9	2.4	-2.1
1999	I	2.8	4.4	1.6	5.4	3.8	2.5	-1.9
	II	2.9	4.3	1.4	5.3	3.2	2.3	-1.5
	III	3.2	4.9	1.6	4.9	2.6	1.6	-0.5
	IV	r3.6	r5.1	1.4	4.5	1.9	r0.8	r1.9
	ANNUAL	r3.1	r4.7	1.5	5.0	r2.8	r1.8	r-0.5

See footnotes following Table 6.
r=revised

March 7, 2000
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								
1997	I	106.1	120.2	113.3	112.2	99.8	105.7	115.0
	II	106.9	122.0	114.1	112.9	100.1	105.6	116.6
	III	107.8	123.4	114.5	114.1	100.8	105.8	117.0
	IV	108.1	124.6	115.3	115.9	101.9	107.2	115.3
	ANNUAL	107.2	122.5	114.3	113.8	100.7	106.1	115.9
1998	I	109.3	127.1	116.3	117.2	102.9	107.3	115.8
	II	109.5	127.9	116.8	118.8	103.9	108.5	114.1
	III	110.4	129.3	117.1	120.6	105.1	109.3	113.1
	IV	111.5	131.6	118.0	122.0	105.9	109.4	112.7
	ANNUAL	110.2	129.0	117.1	119.7	104.5	108.6	113.9
1999	I	112.2	132.9	118.4	123.3	106.6	109.8	113.1
	II	112.4	133.5	118.7	124.7	106.9	111.0	112.2
	III	113.8	135.7	119.3	126.1	107.5	110.9	112.9
	IV	r115.5	r138.3	119.7	r127.3	r107.7	r110.2	r115.6
	ANNUAL	r113.5	r135.1	119.0	125.4	r107.2	r110.5	r113.4
Percent change from previous quarter at annual rate(5)								
1997	I	0.9	5.5	4.5	3.6	1.2	2.7	2.2
	II	3.3	6.2	2.8	2.6	1.5	-0.6	5.7
	III	3.3	4.6	1.3	4.4	2.6	1.0	1.3
	IV	1.2	4.1	2.9	6.4	4.5	5.1	-5.7
	ANNUAL	2.0	5.3	3.3	3.6	1.4	1.6	1.9
1998	I	4.4	8.3	3.7	4.8	4.1	0.4	1.8
	II	0.9	2.4	1.4	5.6	3.9	4.6	-5.8
	III	3.1	4.4	1.2	6.2	4.7	3.0	-3.2
	IV	4.1	7.3	3.1	4.6	2.9	0.5	-1.6
	ANNUAL	2.8	5.2	2.4	5.2	3.8	2.4	-1.8
1999	I	2.7	4.0	1.3	4.2	r2.6	1.4	1.5
	II	0.6	1.8	1.3	4.8	r1.4	4.2	-3.1
	III	5.0	6.8	1.7	4.7	r2.1	-0.3	2.5
	IV	r6.4	r8.0	r1.6	r3.7	r0.8	r-2.5	r9.9
	ANNUAL	r3.0	4.7	1.7	r4.7	2.6	r1.7	r-0.4
Percent change from corresponding quarter of previous year								
1997	I	1.8	5.4	3.6	3.5	0.7	1.7	1.8
	II	1.5	5.1	3.5	3.1	1.0	1.6	2.2
	III	2.3	5.5	3.1	3.5	1.4	1.1	2.9
	IV	2.2	5.1	2.9	4.2	2.4	2.0	0.8
	ANNUAL	2.0	5.3	3.3	3.6	1.4	1.6	1.9
1998	I	3.0	5.8	2.7	4.5	3.2	1.5	0.7
	II	2.4	4.8	2.3	5.3	3.8	2.8	-2.2
	III	2.4	4.8	2.3	5.7	4.3	3.3	-3.3
	IV	3.1	5.6	2.4	5.3	3.9	2.1	-2.3
	ANNUAL	2.8	5.2	2.4	5.2	3.8	2.4	-1.8
1999	I	2.7	4.5	1.7	5.1	3.6	2.4	-2.3
	II	2.6	4.4	1.7	4.9	2.9	2.3	-1.6
	III	3.1	5.0	1.8	4.6	r2.3	1.4	-0.2
	IV	r3.6	r5.1	1.4	r4.3	r1.7	r0.7	r2.6
	ANNUAL	r3.0	4.7	1.7	r4.7	2.6	r1.7	r-0.4

See footnotes following Table 6.
r=revised

March 7, 2000
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							
1997	I	116.9	122.7	105.0	111.8	99.5	95.7
	II	118.4	124.9	105.5	112.6	99.9	95.1
	III	120.9	127.3	105.3	113.6	100.3	94.0
	IV	122.0	129.6	106.2	115.5	101.5	94.6
	ANNUAL	119.6	126.1	105.5	113.4	100.4	94.8
1998	I	122.7	130.6	106.4	117.0	102.7	95.3
	II	123.9	131.5	106.1	118.6	103.7	95.7
	III	126.3	132.6	105.0	120.6	105.1	95.5
	IV	128.2	134.4	104.9	121.4	105.4	94.7
	ANNUAL	125.3	132.3	105.6	119.4	104.3	95.3
1999	I	130.4	135.2	103.7	122.8	r106.1	94.1
	II	132.2	136.8	103.5	124.5	106.8	94.2
	III	133.6	138.4	103.6	126.3	r107.7	94.5
	IV	r136.9	r140.6	r102.7	r127.6	108.0	r93.2
	ANNUAL	133.3	137.8	103.4	125.3	107.2	94.0

Percent change from previous quarter at annual rate(5)							
1997	I	4.0	7.1	3.0	5.5	3.0	1.4
	II	5.5	7.4	1.8	2.9	1.8	-2.4
	III	8.4	7.8	-0.6	3.6	1.8	-4.5
	IV	3.9	7.4	3.3	6.8	4.9	2.7
	ANNUAL	5.0	6.9	1.8	3.7	1.5	-1.3
1998	I	2.4	3.3	0.9	5.4	4.7	3.0
	II	3.9	2.6	-1.2	5.4	3.8	1.5
	III	7.8	3.4	-4.1	6.9	5.4	-0.9
	IV	6.1	5.6	-0.5	2.9	1.2	-3.1
	ANNUAL	4.8	4.9	0.1	5.3	3.9	0.5
1999	I	7.3	2.5	-4.5	4.5	r2.8	-2.7
	II	5.5	4.9	-0.5	5.8	r2.5	0.3
	III	4.4	4.6	0.2	6.0	r3.4	1.5
	IV	r10.3	r6.6	r-3.3	r4.2	1.3	r-5.5
	ANNUAL	6.4	4.2	-2.1	5.0	2.8	-1.4

Percent change from corresponding quarter of previous year							
1997	I	4.4	6.9	2.4	3.1	0.3	-1.2
	II	4.8	6.5	1.6	3.3	1.2	-1.4
	III	5.4	6.7	1.2	3.7	1.6	-1.6
	IV	5.5	7.4	1.9	4.7	2.9	-0.7
	ANNUAL	5.0	6.9	1.8	3.7	1.5	-1.3
1998	I	5.0	6.5	1.4	4.7	3.3	-0.4
	II	4.6	5.3	0.6	5.3	3.8	0.6
	III	4.5	4.2	-0.3	6.1	4.7	1.6
	IV	5.0	3.7	-1.2	5.1	3.8	0.1
	ANNUAL	4.8	4.9	0.1	5.3	3.9	0.5
1999	I	6.3	3.5	-2.6	4.9	r3.3	-1.3
	II	6.7	4.1	-2.4	5.0	3.0	-1.6
	III	5.8	4.4	-1.4	4.8	2.5	-1.0
	IV	6.9	r4.7	r-2.1	5.1	2.5	r-1.6
	ANNUAL	6.4	4.2	-2.1	5.0	2.8	-1.4

See footnotes following Table 6.
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March 7, 2000
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							
1997	I	125.6	137.5	109.5	109.4	97.3	87.1
	II	128.6	141.7	110.2	110.2	97.7	85.7
	III	131.9	145.6	110.4	110.9	98.0	84.1
	IV	134.3	149.3	111.2	113.2	99.5	84.3
	ANNUAL	130.1	143.5	110.3	110.9	98.2	85.3
1998	I	135.7	151.7	111.8	114.7	100.7	84.5
	II	138.0	153.8	111.4	116.2	101.6	84.2
	III	142.4	157.1	110.4	118.3	103.0	83.1
	IV	145.7	160.8	110.4	118.9	103.2	81.6
	ANNUAL	140.4	155.9	111.0	117.0	102.2	83.3
1999	I	149.1	162.0	108.7	120.3	r103.9	80.7
	II	152.9	165.7	108.4	122.1	104.7	79.9
	III	154.8	169.1	109.3	123.8	105.5	80.0
	IV	158.8	r171.9	r108.2	125.3	106.0	78.9
	ANNUAL	153.9	167.2	r108.6	122.9	105.1	79.9

Percent change from previous quarter at annual rate(5)							
1997	I	4.8	10.9	5.8	5.6	3.1	0.7
	II	9.9	12.8	2.6	2.8	1.6	-6.5
	III	10.7	11.4	0.6	2.8	1.1	-7.2
	IV	7.4	10.6	3.0	8.3	6.3	0.8
	ANNUAL	7.1	10.2	2.9	3.3	1.1	-3.5
1998	I	4.3	6.5	2.2	5.5	4.8	1.2
	II	7.1	5.7	-1.4	5.5	3.8	-1.5
	III	13.2	9.0	-3.7	7.2	5.7	-5.3
	IV	9.6	9.6	0.0	2.2	0.6	-6.8
	ANNUAL	7.9	8.6	0.6	5.5	4.1	-2.3
1999	I	9.7	3.1	-6.0	4.6	r3.0	-4.7
	II	10.5	9.3	-1.1	6.5	r3.1	-3.7
	III	5.1	8.7	3.4	5.7	r3.1	0.5
	IV	r10.8	r6.6	r-3.7	r4.9	r1.9	-5.3
	ANNUAL	9.6	7.3	-2.1	5.0	2.9	-4.2

Percent change from corresponding quarter of previous year							
1997	I	5.9	9.9	3.8	2.3	-0.4	-3.3
	II	6.6	9.4	2.6	2.9	0.7	-3.5
	III	7.5	10.0	2.3	3.2	1.1	-4.0
	IV	8.2	11.4	3.0	4.8	3.0	-3.1
	ANNUAL	7.1	10.2	2.9	3.3	1.1	-3.5
1998	I	8.1	10.3	2.1	4.8	3.4	-3.0
	II	7.4	8.5	1.1	5.5	4.0	-1.7
	III	7.9	7.9	0.0	6.6	5.2	-1.2
	IV	8.5	7.7	-0.7	5.1	3.7	-3.2
	ANNUAL	7.9	8.6	0.6	5.5	4.1	-2.3
1999	I	9.9	6.8	-2.8	4.8	3.3	-4.6
	II	10.7	7.7	-2.7	5.1	3.1	-5.1
	III	8.7	7.6	-1.0	4.7	2.4	-3.7
	IV	9.0	r6.9	r-1.9	5.4	r2.8	-3.3
	ANNUAL	9.6	7.3	-2.1	5.0	2.9	-4.2

See footnotes following Table 6.
r=revised

March 7, 2000
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							
1997	I	109.8	108.8	99.0	114.8	102.1	104.5
	II	110.0	109.1	99.2	115.7	102.6	105.1
	III	111.7	110.1	98.6	117.0	103.3	104.8
	IV	111.6	111.0	99.5	118.2	104.0	105.9
	ANNUAL	110.8	109.8	99.1	116.4	103.0	105.1
1998	I	111.7	110.9	99.3	119.7	105.1	107.2
	II	111.6	110.6	99.1	121.3	106.1	108.7
	III	112.0	109.6	97.9	123.1	107.3	109.9
	IV	112.6	109.8	97.5	124.3	107.9	110.4
	ANNUAL	112.0	110.2	98.4	122.1	106.6	109.0
1999	I	113.7	110.3	97.0	125.7	108.7	110.6
	II	113.4	110.1	97.1	127.2	109.1	112.2
	III	114.5	109.9	96.0	129.0	110.0	112.7
	IV	117.3	111.8	95.3	130.1	110.1	110.9
	ANNUAL	114.7	110.5	96.4	128.0	109.5	111.6
Percent change from previous quarter at annual rate(5)							
1997	I	3.9	3.0	-0.9	4.8	2.3	0.8
	II	0.7	1.3	0.7	3.1	1.9	2.4
	III	6.1	3.5	-2.4	4.6	2.9	-1.4
	IV	-0.2	3.6	3.7	4.4	2.5	4.6
	ANNUAL	3.1	3.2	0.1	4.1	1.9	1.0
1998	I	0.3	-0.6	-0.9	5.0	4.3	4.7
	II	-0.3	-1.1	-0.9	5.4	3.8	5.7
	III	1.5	-3.3	-4.7	6.2	4.8	4.6
	IV	1.8	0.5	-1.3	3.9	2.2	2.0
	ANNUAL	1.1	0.4	-0.6	4.9	3.5	3.8
1999	I	4.0	1.8	-2.1	4.6	2.9	0.6
	II	-1.0	-0.8	0.3	4.9	1.5	5.9
	III	4.2	-0.5	-4.4	5.9	3.3	1.6
	IV	10.0	7.1	-2.7	3.2	0.3	-6.2
	ANNUAL	2.4	0.3	-2.1	4.8	2.7	2.3
Percent change from corresponding quarter of previous year							
1997	I	3.2	3.6	0.4	4.0	1.2	0.8
	II	3.1	3.3	0.2	3.9	1.7	0.7
	III	3.4	2.9	-0.5	4.2	2.1	0.8
	IV	2.6	2.9	0.2	4.2	2.4	1.6
	ANNUAL	3.1	3.2	0.1	4.1	1.9	1.0
1998	I	1.7	1.9	0.2	4.3	2.9	2.6
	II	1.5	1.3	-0.1	4.9	3.4	3.4
	III	0.3	-0.4	-0.7	5.3	3.9	4.9
	IV	0.8	-1.1	-2.0	5.1	3.8	4.3
	ANNUAL	1.1	0.4	-0.6	4.9	3.5	3.8
1999	I	1.8	-0.5	-2.3	5.0	3.4	3.2
	II	1.6	-0.4	-2.0	4.9	2.9	3.3
	III	2.2	0.3	-1.9	4.8	2.5	2.5
	IV	4.2	1.9	-2.2	4.6	2.0	0.4
	ANNUAL	2.4	0.3	-2.1	4.8	2.7	2.3

See footnotes following Table 6.
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March 7, 2000
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										
1997	I	110.1	125.5	114.0	111.2	98.9	101.0	99.8	100.7	155.6
	II	110.7	127.5	115.1	112.0	99.3	101.1	99.9	100.8	156.2
	III	112.4	130.2	115.8	113.3	100.0	100.7	99.2	100.3	161.1
	IV	113.2	132.3	116.9	115.1	101.2	101.6	98.6	100.8	155.3
	ANNUAL	111.7	128.9	115.4	113.0	100.0	101.1	99.4	100.6	157.1
1998	I	114.2	134.6	117.8	116.4	102.2	101.9	98.0	100.8	153.7
	II	115.3	136.3	118.1	118.0	103.2	102.3	98.2	101.2	150.1
	III	117.0	138.7	118.6	119.8	104.4	102.4	98.0	101.2	152.6
	IV	117.9	140.6	119.3	121.3	105.3	102.9	99.2	101.8	145.3
	ANNUAL	116.2	137.5	118.4	119.0	103.9	102.4	98.4	101.3	150.4
1999	I	119.1	142.7	119.7	122.7	106.1	103.0	98.3	101.7	149.4
	II	120.1	144.2	120.0	124.2	106.5	103.4	98.7	102.1	148.4
	III	121.3	146.5	120.8	125.5	107.0	103.5	99.6	102.4	144.7
Percent change from previous quarter at annual rate (5)										
1997	I	1.8	6.1	4.3	3.6	1.2	1.8	-0.3	1.2	4.6
	II	2.3	6.4	4.0	2.7	1.5	0.3	0.5	0.4	1.6
	III	6.3	8.9	2.5	4.7	2.9	-1.5	-2.6	-1.8	13.0
	IV	2.8	6.4	3.5	6.5	4.6	3.6	-2.5	1.9	-13.6
	ANNUAL	3.0	6.6	3.5	3.6	1.4	0.6	-0.7	0.2	3.7
1998	I	3.7	7.1	3.3	4.8	4.1	1.1	-2.6	0.0	-4.1
	II	3.9	5.1	1.2	5.7	4.1	1.7	0.9	1.5	-9.1
	III	5.9	7.5	1.5	6.3	4.8	0.4	-0.7	0.1	6.8
	IV	3.2	5.6	2.3	4.9	3.3	1.7	4.9	2.6	-17.8
	ANNUAL	4.0	6.7	2.6	5.3	3.9	1.3	-1.0	0.6	-4.3
1999	I	4.2	5.9	1.6	4.7	r3.1	0.5	-3.5	-0.7	11.9
	II	3.3	4.3	1.0	4.8	r1.5	1.4	1.6	1.5	-2.7
	III	4.1	6.6	2.4	4.5	r2.0	0.4	3.5	1.2	-9.7
Percent change from corresponding quarter of previous year										
1997	I	2.6	6.2	3.5	3.5	0.7	0.8	-0.6	0.4	4.0
	II	2.5	6.2	3.5	3.1	0.9	0.6	-0.2	0.4	3.4
	III	3.6	7.2	3.5	3.5	1.4	-0.1	-0.6	-0.3	6.4
	IV	3.3	7.0	3.6	4.3	2.5	1.0	-1.2	0.4	0.9
	ANNUAL	3.0	6.6	3.5	3.6	1.4	0.6	-0.7	0.2	3.7
1998	I	3.8	7.2	3.3	4.6	3.3	0.8	-1.8	0.1	-1.2
	II	4.1	6.9	2.6	5.4	3.9	1.2	-1.7	0.4	-3.9
	III	4.0	6.5	2.4	5.8	4.4	1.7	-1.2	0.9	-5.3
	IV	4.1	6.3	2.1	5.4	4.1	1.2	0.6	1.1	-6.5
	ANNUAL	4.0	6.7	2.6	5.3	3.9	1.3	-1.0	0.6	-4.3
1999	I	4.3	6.0	1.7	5.4	r3.8	1.1	0.4	0.9	-2.8
	II	4.1	5.8	1.6	5.2	3.2	1.0	0.5	0.9	-1.1
	III	3.7	5.6	1.8	4.8	r2.5	1.0	1.6	1.2	-5.2

See footnotes following Table 6.
r=revised

March 7, 2000
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 -1.9 and +2.5 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 1999.

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 1978-1998 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.