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PRODUCTIVITY AND COSTS
Preliminary Fourth-Quarter Measures
and Annual Averages, 1999

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 fourth quarter and for the full year 1999. In the fourth quarter, productivity advanced 4.8 percent in the business sector as output grew 6.7 percent and hours worked rose 1.9 percent (seasonally adjusted annual rates). In the nonfarm business sector, productivity rose 5.0 percent as output increased 6.6 percent and hours grew 1.5 percent.

	Fourth quarter	Annual averages 1998-1999
Business sector	4.8	3.0
Nonfarm business sector	5.0	2.9

For the year 1999, the increases in productivity in business and nonfarm business, 3.0 and 2.9 percent, respectively, were slightly higher than the increases reported in the previous year. Fourth-quarter productivity and related measures are summarized in table A and annual data in table B. Detailed information is presented in tables 1 through 5.

In the manufacturing sector, increases in productivity were:

	Fourth quarter	Annual averages 1998-1999
Manufacturing sector	10.7	6.4
Durable goods manufacturing	10.7	9.6
Nondurable goods manufacturing	10.5	2.5

Manufacturing productivity grew at a 10.7 percent annual rate in the fourth quarter, reflecting a 7.3-percent rise in output and a drop of 3.0 percent in hours of all persons working in the sector. On an annual basis, manufacturing productivity increased 6.4 percent in 1999--the largest increase since a 6.9-percent rise in 1971. (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: Preliminary 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	4.8	6.7	1.9	3.6	0.6	-1.2
Nonfarm business	5.0	6.6	1.5	4.0	1.1	-1.0
Manufacturing	10.7	7.3	-3.0	4.3	1.3	-5.8
Durable	10.7	6.9	-3.4	4.8	1.8	-5.3
Nondurable	10.5	7.8	-2.4	3.6	0.7	-6.2
	Percent change from same quarter a year ago					
Business	3.3	4.7	1.4	4.5	1.9	1.2
Nonfarm business	3.3	4.8	1.4	4.4	1.8	1.1
Manufacturing	6.9	4.8	-2.0	5.1	2.5	-1.7
Durable	9.0	7.0	-1.8	5.4	2.7	-3.3
Nondurable	4.3	2.0	-2.2	4.7	2.1	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 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.

THIRD-TO-FOURTH QUARTER CHANGES, 1999

Business

Productivity in the business sector grew 4.8 percent in the fourth quarter of 1999, reflecting an increase of 6.7 percent in output combined with a 1.9 percent rise in the hours of all persons engaged in the sector. In the third quarter of 1999, productivity rose 4.7 percent (as revised) as output grew 6.5 percent and hours rose 1.7 percent (seasonally adjusted annual rates).

Hourly compensation increased at a 3.6 percent annual rate in the fourth quarter of 1999, following an increase of 4.5 percent in the previous 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 1.2 percent annual rate during the fourth quarter. This was the largest drop in this measure since the first quarter of 1996, when unit labor costs fell 1.6 percent. During the third quarter of 1999, unit labor costs declined 0.2 percent.

Real hourly compensation, which takes into account changes in consumer prices, rose at a 0.6 percent annual rate for persons in the business sector. This measure rose 1.9 percent during the third quarter.

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

Nonfarm business

In the nonfarm business sector, productivity increased 5.0 percent in both the third and fourth quarters of 1999 (seasonally adjusted annual rates). These productivity gains were the largest in the nonfarm business sector since the fourth quarter of 1992, when output per hour increased 7.4 percent. In the fourth quarter of 1999, output rose 6.6 percent and hours of all persons--employees, proprietors, and unpaid family workers--rose 1.5 percent. These changes also were similar to those reported in the third quarter of 1999, when output and hours increased 6.8 percent and 1.7 percent, respectively (table 2).

Hourly compensation in the nonfarm business sector rose 4.0 percent in the fourth quarter, and real hourly compensation increased 1.1 percent when the increase in consumer prices was taken into account. During the third quarter, hourly compensation had increased by 4.7 percent, and real hourly compensation had risen 2.0 percent.

Unit labor costs fell 1.0 percent in the fourth quarter, after declining 0.3 percent in the third quarter. The implicit price deflator for nonfarm business output rose 2.1 percent in the fourth quarter of 1999, reflecting both the drop in unit labor costs and a large increase in unit nonlabor payments (7.5 percent).

Manufacturing

Manufacturing productivity grew at a 10.7 percent seasonally adjusted annual rate in the fourth quarter of 1999 as output rose 7.3 percent and hours fell 3.0 percent (table 3). Productivity also rose 10.7 percent in durable goods manufacturing, where output rose 6.9 percent and hours dropped 3.4 percent (table 4). Among nondurable goods manufacturers, productivity rose 10.5 percent in the fourth quarter as output grew 7.8 percent and hours declined 2.4 percent (table 5). In the third quarter, total manufacturing productivity increased 4.4 percent (as revised), reflecting a 4.6-percent rise in output and a 0.2 percent growth in hours of all persons.

The average hourly compensation of manufacturing workers increased 4.3 percent in the fourth quarter. This increase reflected a rise of 4.8 percent in durable goods manufacturing and 3.6 percent in nondurable goods manufacturing. When the increase in consumer prices was taken into account, real hourly compensation in total manufacturing rose 1.3 percent.

Since the fourth-quarter increase in manufacturing productivity outpaced the increase in hourly compensation, unit labor costs for the manufacturing sector fell 5.8 percent. This was the sharpest one-quarter decline in the measure since a 6.9-percent drop in the second quarter of 1961. Unit labor costs in the fourth quarter of 1999 fell 5.3 percent in durable goods manufacturing and 6.2 percent in nondurable goods manufacturing.

AVERAGE ANNUAL CHANGES, 1998-1999

Business

Business sector productivity increased 3.0 percent when the annual average for 1999 is compared with the annual average for 1998 (table B). This was the largest annual productivity increase since 1992, when output per hour grew 4.3 percent. Output rose 4.6 percent in 1999, and hours of all persons engaged in the sector grew 1.5 percent. The 1999 productivity increase was only slightly larger than the 2.8-percent rise posted in 1998, when output increased 5.1 percent and hours rose 2.2 percent.

Table B. Annual changes in productivity and related measures, 1990-1999

Measure	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Business:										
Productivity	1.3	1.5	4.3	0.1	1.3	0.7	2.9	2.2	2.8	3.0
Output	1.5	-0.9	4.0	2.7	4.8	3.2	4.5	5.4	5.1	4.6
Hours	0.2	-2.3	-0.3	2.6	3.5	2.4	1.5	3.1	2.2	1.5
Hourly compensation	5.7	4.8	5.3	2.4	2.0	2.1	3.2	3.7	5.3	5.0
Real hourly compensation	0.6	1.0	2.7	-0.1	-0.2	-0.6	0.5	1.5	3.9	2.9
Unit labor costs	4.3	3.2	1.0	2.3	0.7	1.4	0.3	1.5	2.4	1.9
Nonfarm Business:										
Productivity	1.1	1.6	4.1	0.1	1.3	1.0	2.7	2.0	2.8	2.9
Output	1.4	-0.9	3.9	3.0	4.7	3.4	4.4	5.3	5.2	4.7
Hours	0.3	-2.4	-0.2	2.9	3.3	2.4	1.7	3.3	2.4	1.7
Hourly compensation	5.5	4.9	5.3	2.1	2.1	2.1	3.1	3.6	5.2	4.8
Real hourly compensation	0.5	1.1	2.7	-0.4	-0.1	-0.6	0.4	1.4	3.8	2.6
Unit labor costs	4.3	3.3	1.2	2.1	0.8	1.1	0.4	1.6	2.4	1.8
Manufacturing:										
Productivity	2.5	2.3	5.1	2.2	3.1	3.9	4.1	5.0	4.8	6.4
Output	0.4	-2.0	4.7	3.6	5.3	4.3	3.7	6.9	4.9	4.2
Hours	-2.1	-4.2	-0.4	1.4	2.2	0.4	-0.4	1.8	0.1	-2.1
Hourly compensation	4.8	5.3	4.6	2.7	2.8	2.1	1.3	3.7	5.3	5.0
Real hourly compensation	-0.2	1.5	2.0	0.2	0.6	-0.5	-1.3	1.5	3.9	2.8
Unit labor costs	2.2	2.9	-0.4	0.5	-0.2	-1.7	-2.6	-1.3	0.5	-1.4

Hourly compensation in the business sector rose 5.0 percent in 1999, about the same as the 5.3 percent rise in 1998. Real hourly compensation grew 2.9 percent in 1999, following an increase of 3.9 percent in 1998. Unit labor costs rose 1.9 percent in 1999, compared with a 2.4 percent increase in the previous year. The implicit price deflator rose 0.9 percent in 1999 and 0.7 percent in 1998.

Nonfarm business

Productivity increased 2.9 percent in the nonfarm business sector during 1999, about the same as the 2.8 percent rise in 1998. During 1999, output rose 4.7 percent, and hours of all persons increased 1.7 percent. The increase in labor productivity in 1998 resulted from faster growth in both output and hours, 5.2 and 2.4 percent, respectively.

In 1999, hourly compensation rose 4.8 percent, compared with a 5.2 percent increase in 1998. Real hourly compensation increased 2.6 percent in 1999. Unit labor costs in the nonfarm business sector grew 1.8 percent in 1999, slightly less than the 2.4-percent increase in 1998. The implicit price deflator for nonfarm business rose 0.9 percent in 1999, similar to the 0.8 percent rise one year earlier.

Manufacturing

Manufacturing productivity grew 6.4 percent in 1999 as output rose 4.2 percent and hours of all persons fell 2.1 percent (table B). In durable goods manufacturing, productivity increased 9.6 percent in 1999, reflecting an output increase of 7.3 percent and a drop in hours of all persons of 2.1 percent. A much smaller increase in labor productivity in nondurable goods manufacturing in 1999, 2.5 percent, was the result of a 0.3 percent rise in output coupled with a 2.1-percent decline in hours of all persons.

Hourly compensation of manufacturing workers increased 5.0 percent in 1999, down somewhat from the 5.3-percent increase in 1998. Taking into account the rise in consumer prices, real hourly compensation in manufacturing rose 2.8 percent in 1999. This increase was smaller than the 3.9-percent growth recorded in the previous year.

Unit labor costs in manufacturing fell 1.4 percent in 1999; these costs have now dropped in six of the past eight years. Unit labor costs in durable goods manufacturing fell 4.2 percent in 1999--the eighth consecutive drop in unit labor costs in this sector. In contrast, unit labor costs in nondurable goods rose 2.3 percent in 1999. This increase was smaller than the 3.8-percent rise recorded in the previous year.

Revised Measures

Current and previous measures for the third quarter of 1999 for the business, nonfarm business, and manufacturing sectors are compared in table C. Results for the business and nonfarm business sectors are similar to those published on Dec. 7, based on the information then available. In the manufacturing sector, productivity and output growth is higher, and hourly compensation and unit labor costs lower, than the figures published on Dec. 7.

Table C. Previous and revised productivity and related measures
Quarterly percent change at seasonally adjusted annual rate

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

Third quarter 1999						
Business:						
Previous	4.7	6.3	1.6	4.6	1.9	-0.1
Current	4.7	6.5	1.7	4.5	1.9	-0.2
Nonfarm business:						
Previous	4.9	6.6	1.6	4.7	2.1	-0.2
Current	5.0	6.8	1.7	4.7	2.0	-0.3
Manufacturing:						
Previous	3.9	4.2	0.3	6.3	3.6	2.3
Current	4.4	4.6	0.2	6.0	3.3	1.5

Revised measures: Nonfinancial Corporations

Revised productivity and output for the third quarter for nonfinancial corporations were lower than those reported on Dec. 7 (table D). Unit labor costs grew at an annual rate of 0.4 percent in the third quarter, compared with the 0.1 percent decline reported on Dec. 7. Small upward revisions to the output measures for the first and second quarters of 1999 also were incorporated.

Table D. Nonfinancial corporations: Previous and revised productivity and cost measures.
Quarterly percent changes at seasonally adjusted annual rates

	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs	Unit profits	Implicit price deflator

Next release date

The next release of Productivity and Costs is scheduled for 8:30 A.M. EST, Tuesday, March 7, 2000. Revised fourth-quarter and annual measures for business, nonfarm business, and manufacturing will be released at that time.

Productivity and Costs is now available through an e-mail subscription service. Please see the subscription link on the BLS internet site (<http://stats.bls.gov/newsrels.htm>).

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	107.4	110.2	112.1
	II	113.0	133.1	117.8	125.7	107.8	111.3	110.9
	III	114.3	r135.2	118.3	127.1	108.3	111.3	111.5
	IV	115.6	137.4	118.9	128.3	108.5	110.9	113.5
	ANNUAL	113.9	134.5	118.1	126.3	108.1	110.9	112.0
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	3.6	1.9	0.2
	II	0.8	1.9	1.0	5.1	1.5	4.2	-4.1
	III	4.7	r6.5	r1.7	r4.5	1.9	r-0.2	r2.1
	IV	4.8	6.7	1.9	3.6	0.6	-1.2	7.2
	ANNUAL	3.0	4.6	1.5	5.0	2.9	1.9	-0.6
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	r4.9	1.6	4.9	2.6	r1.6	-0.5
	IV	3.3	4.7	1.4	4.5	1.9	1.2	1.3
	ANNUAL	3.0	4.6	1.5	5.0	2.9	1.9	-0.6

See footnotes following Table 6.
r=revised

February 8, 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	109.1
	II	106.9	122.0	114.1	112.9	100.1	105.6	116.6	109.6
	III	107.8	123.4	114.5	114.1	100.8	105.8	117.0	109.9
	IV	108.1	124.6	115.3	115.9	101.9	107.2	115.3	110.1
	ANNUAL	107.2	122.5	114.3	113.8	100.7	106.1	115.9	109.7
1998	I	109.3	127.1	116.3	117.2	102.9	107.3	115.8	110.4
	II	109.5	127.9	116.8	118.8	103.9	108.5	114.1	110.5
	III	110.4	129.3	117.1	120.6	105.1	109.3	113.1	110.7
	IV	111.5	131.6	118.0	122.0	105.9	109.4	112.7	110.6
	ANNUAL	110.2	129.0	117.1	119.7	104.5	108.6	113.9	110.5
1999	I	112.2	132.9	118.4	123.3	106.6	109.8	113.1	111.0
	II	112.4	133.5	118.7	124.7	106.9	111.0	112.2	111.4
	III	113.8	r135.7	r119.3	r126.1	107.5	110.9	r112.9	111.6
	IV	115.2	137.9	119.7	127.4	107.8	110.6	114.9	112.2
	ANNUAL	113.4	135.0	119.0	125.4	107.3	110.6	113.3	111.6
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	2.5
	II	3.3	6.2	2.8	2.6	1.5	-0.6	5.7	1.7
	III	3.3	4.6	1.3	4.4	2.6	1.0	1.3	1.1
	IV	1.2	4.1	2.9	6.4	4.5	5.1	-5.7	0.8
	ANNUAL	2.0	5.3	3.3	3.6	1.4	1.6	1.9	1.7
1998	I	4.4	8.3	3.7	4.8	4.1	0.4	1.8	0.9
	II	0.9	2.4	1.4	5.6	3.9	4.6	-5.8	0.5
	III	3.1	4.4	1.2	6.2	4.7	3.0	-3.2	0.6
	IV	4.1	7.3	3.1	4.6	2.9	0.5	-1.6	-0.3
	ANNUAL	2.8	5.2	2.4	5.2	3.8	2.4	-1.8	0.8
1999	I	2.7	4.0	1.3	4.2	2.8	1.4	1.5	1.5
	II	0.6	1.8	1.3	4.8	1.2	4.2	-3.1	1.4
	III	r5.0	r6.8	r1.7	4.7	r2.0	r-0.3	r2.5	0.7
	IV	5.0	6.6	1.5	4.0	1.1	-1.0	7.5	2.1
	ANNUAL	2.9	4.7	1.7	4.8	2.6	1.8	-0.5	0.9
Percent change from corresponding quarter of previous year									
1997	I	1.8	5.4	3.6	3.5	0.7	1.7	1.8	1.7
	II	1.5	5.1	3.5	3.1	1.0	1.6	2.2	1.8
	III	2.3	5.5	3.1	3.5	1.4	1.1	2.9	1.8
	IV	2.2	5.1	2.9	4.2	2.4	2.0	0.8	1.5
	ANNUAL	2.0	5.3	3.3	3.6	1.4	1.6	1.9	1.7
1998	I	3.0	5.8	2.7	4.5	3.2	1.5	0.7	1.2
	II	2.4	4.8	2.3	5.3	3.8	2.8	-2.2	0.9
	III	2.4	4.8	2.3	5.7	4.3	3.3	-3.3	0.7
	IV	3.1	5.6	2.4	5.3	3.9	2.1	-2.3	0.5
	ANNUAL	2.8	5.2	2.4	5.2	3.8	2.4	-1.8	0.8
1999	I	2.7	4.5	1.7	5.1	3.6	2.4	-2.3	0.6
	II	2.6	4.4	1.7	4.9	2.9	2.3	-1.6	0.8
	III	3.1	r5.0	1.8	4.6	r2.2	r1.4	r-0.2	0.8
	IV	3.3	4.8	1.4	4.4	1.8	1.1	2.0	1.4
	ANNUAL	2.9	4.7	1.7	4.8	2.6	1.8	-0.5	0.9

See footnotes following Table 6.
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February 8, 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	106.2	94.1
	II	132.2	136.8	103.5	124.5	106.8	94.2
	III	r133.6	r138.4	103.6	r126.3	r107.6	r94.5
	IV	137.1	140.9	102.8	127.7	108.0	93.1
	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	3.1	-2.7
	II	5.5	4.9	-0.5	5.8	2.2	0.3
	III	r4.4	r4.6	r0.2	r6.0	r3.3	r1.5
	IV	10.7	7.3	-3.0	4.3	1.3	-5.8
	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	3.4	-1.3
	II	6.7	4.1	-2.4	5.0	3.0	-1.6
	III	r5.8	r4.4	r-1.4	r4.8	2.5	r-1.0
	IV	6.9	4.8	-2.0	5.1	2.5	-1.7
	ANNUAL	6.4	4.2	-2.1	5.0	2.8	-1.4

See footnotes following Table 6.
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February 8, 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	104.0	80.7
	II	152.9	165.7	108.4	122.1	104.7	79.9
	III	r154.8	r169.1	r109.3	r123.8	r105.5	r80.0
	IV	158.8	172.0	108.3	125.3	106.0	78.9
	ANNUAL	153.9	167.2	108.7	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	3.2	-4.7
	II	10.5	9.3	-1.1	6.5	2.8	-3.7
	III	r5.1	r8.7	r3.4	r5.7	r3.0	r0.5
	IV	10.7	6.9	-3.4	4.8	1.8	-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	r8.7	7.6	r-1.0	r4.7	r2.4	r-3.7
	IV	9.0	7.0	-1.8	5.4	2.7	-3.3
	ANNUAL	9.6	7.3	-2.1	5.0	2.9	-4.2

See footnotes following Table 6.
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February 8, 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	r114.5	r109.9	r96.0	r129.0	r109.9	r112.7
	IV	117.4	112.0	95.4	130.2	110.1	110.9
	ANNUAL	114.7	110.6	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	3.2	0.6
	II	-1.0	-0.8	0.3	4.9	1.3	5.9
	III	r4.2	r-0.5	r-4.4	r5.9	r3.2	r1.6
	IV	10.5	7.8	-2.4	3.6	0.7	-6.2
	ANNUAL	2.5	0.3	-2.1	4.9	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	3.5	3.2
	II	1.6	-0.4	-2.0	4.9	2.9	3.3
	III	r2.2	r0.3	r-1.9	r4.8	r2.5	r2.5
	IV	4.3	2.0	-2.2	4.7	2.1	0.4
	ANNUAL	2.5	0.3	-2.1	4.9	2.7	2.3

See footnotes following Table 6.
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February 8, 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	105.3
	II	110.7	127.5	115.1	112.0	99.3	101.1	99.9	100.8	156.2	105.4
	III	112.4	130.2	115.8	113.3	100.0	100.7	99.2	100.3	161.1	105.4
	IV	113.2	132.3	116.9	115.1	101.2	101.6	98.6	100.8	155.3	105.3
	ANNUAL	111.7	128.9	115.4	113.0	100.0	101.1	99.4	100.6	157.1	105.3
1998	I	114.2	134.6	117.8	116.4	102.2	101.9	98.0	100.8	153.7	105.2
	II	115.3	136.3	118.1	118.0	103.2	102.3	98.2	101.2	150.1	105.2
	III	117.0	138.7	118.6	119.8	104.4	102.4	98.0	101.2	152.6	105.5
	IV	117.9	140.6	119.3	121.3	105.3	102.9	99.2	101.8	145.3	105.5
	ANNUAL	116.2	137.5	118.4	119.0	103.9	102.4	98.4	101.3	150.4	105.3
1999	I	119.1	r142.7	119.7	122.7	106.1	103.0	r98.3	101.7	r149.4	105.7
	II	r120.1	r144.2	120.0	124.2	106.5	103.4	r98.7	102.1	r148.4	r105.9
	III	r121.3	r146.5	r120.8	r125.5	107.0	r103.5	r99.6	r102.4	r144.7	105.9
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	1.6
	II	2.3	6.4	4.0	2.7	1.5	0.3	0.5	0.4	1.6	0.5
	III	6.3	8.9	2.5	4.7	2.9	-1.5	-2.6	-1.8	13.0	-0.1
	IV	2.8	6.4	3.5	6.5	4.6	3.6	-2.5	1.9	-13.6	-0.2
	ANNUAL	3.0	6.6	3.5	3.6	1.4	0.6	-0.7	0.2	3.7	0.6
1998	I	3.7	7.1	3.3	4.8	4.1	1.1	-2.6	0.0	-4.1	-0.5
	II	3.9	5.1	1.2	5.7	4.1	1.7	0.9	1.5	-9.1	0.2
	III	5.9	7.5	1.5	6.3	4.8	0.4	-0.7	0.1	6.8	0.9
	IV	3.2	5.6	2.3	4.9	3.3	1.7	4.9	2.6	-17.8	-0.1
	ANNUAL	4.0	6.7	2.6	5.3	3.9	1.3	-1.0	0.6	-4.3	0.0
1999	I	r4.2	r5.9	1.6	4.7	3.3	r0.5	r-3.5	r-0.7	r11.9	r0.7
	II	r3.3	r4.3	1.0	4.8	1.3	r1.4	r1.6	r1.5	r-2.7	r1.0
	III	r4.1	r6.6	r2.4	r4.5	r1.9	r0.4	r3.5	r1.2	r-9.7	r-0.1
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	0.8
	II	2.5	6.2	3.5	3.1	0.9	0.6	-0.2	0.4	3.4	0.7
	III	3.6	7.2	3.5	3.5	1.4	-0.1	-0.6	-0.3	6.4	0.6
	IV	3.3	7.0	3.6	4.3	2.5	1.0	-1.2	0.4	0.9	0.5
	ANNUAL	3.0	6.6	3.5	3.6	1.4	0.6	-0.7	0.2	3.7	0.6
1998	I	3.8	7.2	3.3	4.6	3.3	0.8	-1.8	0.1	-1.2	-0.1
	II	4.1	6.9	2.6	5.4	3.9	1.2	-1.7	0.4	-3.9	-0.1
	III	4.0	6.5	2.4	5.8	4.4	1.7	-1.2	0.9	-5.3	0.1
	IV	4.1	6.3	2.1	5.4	4.1	1.2	0.6	1.1	-6.5	0.1
	ANNUAL	4.0	6.7	2.6	5.3	3.9	1.3	-1.0	0.6	-4.3	0.0
1999	I	4.3	6.0	1.7	5.4	3.9	1.1	0.4	0.9	-2.8	r0.4
	II	4.1	r5.8	1.6	5.2	3.2	r1.0	r0.5	0.9	-1.1	r0.6
	III	r3.7	r5.6	1.8	4.8	2.4	r1.0	r1.6	r1.2	r-5.2	0.4

See footnotes following Table 6.
r=revised

February 8, 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.