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## PRODUCTIVITY AND COSTS Third Quarter 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 third quarter of 1999. The preliminary seasonally-adjusted annual rates of productivity growth in the third quarter were:

- 4.0 percent in the business sector, and
- 4.2 percent in the nonfarm business sector.

In both the business and the nonfarm business sectors, productivity increases in the third quarter were larger than those recorded in the second quarter of 1999 (as revised).

In manufacturing, productivity increases in the third quarter were:

- 3.4 percent in manufacturing,
- 3.6 percent in durable goods manufacturing, and
- 4.1 percent in nondurable goods manufacturing.

The 3.4 percent rise in manufacturing productivity matches the increase in output; hours of all persons working in the sector were unchanged. 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. Third-quarter measures are summarized in table A and appear in detail in tables 1 through 5.

NOTE: This release of Productivity and Costs incorporates the comprehensive, historical revision of the national income and product accounts for 1959 through second-quarter 1999, produced by the Bureau of Economic Analysis, U.S. Department of Commerce. The BLS also has incorporated the Consumer Price Index research series using current methods (CPI-U-RS) into its measure of real hourly compensation.

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Table A. Productivity and costs: Preliminary third-quarter 1999 measures

(Seasonally adjusted annual rates)

Sector	Produc- tivity	Output	Hours	Hourly compen- sation	-	labor
	Perce	nt change	from pred	ceding qua	rter	
Business	4.0	5.4	1.4	4.7	2.0	0.7
Nonfarm business	4.2	5.7	1.5	4.8	2.2	0.6
Manufacturing	3.4	3.4	0.0	6.2	3.5	2.7
Durable	3.6	7.2	3.5	5.7	3.0	2.1
Nondurable	4.1	-1.2	-5.1	6.3	3.6	2.1
	Perce	nt change	from same	e quarter	a year ago	
Business	3.0	4.6	1.6	4.9	2.6	1.9
Nonfarm business	2.9	4.7	1.8	4.6	2.3	1.7
Manufacturing	4.9	3.4	-1.4	4.8	2.5	-0.1
Durable	7.3	6.2	-1.0	4.7	2.4	-2.4
Nondurable	2.0	-0.1	-2.1	4.9	2.6	2.8

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.

#### Business

From the second quarter to the third quarter of 1999, business sector productivity increased at a 4.0 percent annual rate. Output rose 5.4 percent, while hours of all persons engaged in the sector went up 1.4 percent (seasonally adjusted annual rates). After revisions, second-quarter productivity in the business sector rose 0.8 percent, as output increased 1.9 percent and hours rose 1.0 percent (tables B and 1).

Hourly compensation increased at an annual rate of 4.7 percent during the third quarter of 1999, increasing at this rate or greater for nine consecutive quarters. This measure includes wages and salaries, supplements, employer contributions to employee benefit plans, and taxes. Real hourly compensation, which takes into account changes in consumer prices, increased 2.0 percent in the third quarter, after rising 1.5 percent in the second quarter of 1999.

Unit labor costs, which reflect changes in both hourly compensation and productivity, increased at a 0.7 percent annual rate during the third quarter. During the previous quarter, these costs had risen 4.2 percent. The implicit price deflator for the business sector increased at a 0.5 percent annual rate in the third quarter and at a 1.1 percent rate in the second quarter of 1999.

## Nonfarm business

Productivity rose 4.2 percent in the nonfarm business sector during the third quarter of 1999. The increase in labor productivity in the third quarter occurred as output rose 5.7 percent and hours of all persons grew by 1.5 percent. In the previous quarter, productivity had risen 0.6 percent, as output grew 1.8 percent and hours increased 1.3 percent (table 2).

Hourly compensation increased at a 4.8 percent annual rate in both the second and third quarters of 1999. When the rise in consumer prices is taken into account, real hourly compensation rose at a 2.2 percent annual rate during the July-September period. During the second quarter of 1999, real hourly compensation had risen 1.2 percent.

Unit labor costs increased 0.6 percent during the third quarter of 1999. In the second quarter, unit labor costs in the nonfarm business sector rose 4.2 percent. The implicit price deflator for nonfarm business output rose 0.7 percent in the third quarter.

## Manufacturing

Productivity increased 3.4 percent in manufacturing in the third quarter of 1999, as output also rose 3.4 percent and hours of all persons were unchanged (seasonally adjusted annual rates). This marked the first time that hours in manufacturing did not decline since the first quarter of 1998. In the durable goods sector, third-quarter productivity rose by 3.6 percent, as output increased 7.2 percent and hours of all persons rose 3.5 percent. In the nondurable goods sector, labor productivity rose by 4.1 percent, as hours fell faster than output. Output dropped 1.2 percent, and hours of all persons decreased 5.1 percent (tables 3, 4, and 5).

Hourly compensation of manufacturing workers increased an average of 6.2 percent during the third quarter, after rising 5.8 percent in the previous quarter (seasonally adjusted annual rates). In the third quarter, hourly compensation grew 5.7 percent in durable goods and 6.3 percent in nondurable goods. When the increase in consumer prices is taken into account, real hourly compensation in total manufacturing rose 3.5 percent in the third quarter.

Unit labor costs increased 2.7 percent in the third quarter of 1999. The rise in unit labor costs in the second quarter was 1.2 percent.

#### Revised Measures

Current and previous measures for the second quarter of 1999 for the business, nonfarm business, and manufacturing sectors are compared in table B. In the business and nonfarm business sectors, the quarterly movements in output per hour and output are unchanged. Hourly compensation and unit labor costs are slightly lower than reported on Sept. 2, based on information then available. Productivity and output movements in the manufacturing sector were revised slightly downward based on newer information from the Federal Reserve Board's Indexes of Industrial Production. Hourly compensation and unit labor costs in manufacturing also were revised downward based on the most recent information available.

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

Sector	Produc- tivity	Output	Hours	Hourly compensation	Real hourly compen- sation	Unit labor costs
		Second	quarter	1999		
Business:			-			
Previous	0.8	1.9	1.0	5.4	1.8	4.5
Current	0.8	1.9	1.0	5.1	1.5	4.2
Nonfarm business:						
Previous	0.6	1.8	1.2	5.1	1.5	4.5
Current	0.6	1.8	1.3	4.8	1.2	4.2
Manufacturing:						
Previous	4.8	4.2	-0.6	6.1	2.5	1.3
Current	4.5	4.0	-0.5	5.8	2.2	1.2

Second-quarter 1999 productivity and cost measures for nonfinancial corporations also were revised to incorporate more recent information than was available on Sept. 2. Productivity and output were revised up, unit labor costs were revised down, and hours growth was unchanged. Productivity grew at an annual rate of 3.2 percent, compared with the previously published growth of 2.7 percent. Unit profits showed less of a decline than originally reported (tables C and 6).

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Quarterly percent changes at seasonally adjusted annual rates

	Produc- tivity	Output	Hours	Hourly compensation	Real hourly compen- sation	labor		Implicit price deflator
			Second	quarter 1	.999			
Previous	2.7	3.7	1.0	5.1	1.5	2.3	-5.9	1.0
Current	3.2	4.2	1.0	4.8	1.3	1.6	-2.6	1.1

#### Historical revisions

The comprehensive revisions made to the National Income and Product Accounts (NIPAs) for 1959 through second-quarter 1999 by the Bureau of Economic Analysis, U.S. Department of Commerce on Oct. 28 are reflected in the data in this news release. As a result of these comprehensive revisions, the productivity and cost measures included in this release incorporate new information on current dollar output levels, prices, employee compensation, and employment trends. Appendix tables 1, 2, and 6 show revised annual productivity and related indexes from 1959 forward for the business, nonfarm business, and nonfinancial corporate sectors. Currently, there is no projected date for the availability of productivity and costs measures for the 1947-58 period. Appendix tables 3-5 show annual indexes for productivity and related measures for the manufacturing sectors. The annual productivity measures for manufacturing are unaffected by the BEA revisions; appendix tables 3-5 reflect historical revisions in hourly compensation measures and unit labor costs.

The long-term rates of productivity change for business, nonfarm business, and nonfinancial corporations have been affected by the above revisions. The compound annual rate of growth of business output per hour for 1979-98 is 1.7 percent (compared with 1.3 percent prior to the revision). For the same period, output per hour grew at a 1.6 percent rate for nonfarm business (up from 1.1 percent) and at a 2.3 percent rate for nonfinancial corporations (up from 1.9 percent).

This release also incorporates the Consumer Price Index research series using current methods (CPI-U-RS) into its measure of real hourly compensation. Information on this series is available in "CPI research series using current methods, 1978-98," Monthly Labor Review, June 1999. As a result of this change and the historical revisions to the compensation data, growth trends in real hourly compensation in all sectors have increased. The compound annual rate of growth in real hourly compensation for the business and nonfarm business sectors for 1979-98 is 0.8 percent (compared with a rise of 0.4 percent in both sectors prior to the revisions). In nonfinancial corporations, real hourly compensation grew 0.5 percent for the 1979-98 period (up from 0.1 percent). The trend for manufacturing for the 1979-98 period is 0.7 percent (up from 0.4 percent); durable goods manufacturing grew 0.6 percent (up from 0.2 percent), and nondurable goods manufacturing grew 0.9 percent (up from 0.7 percent).

# Next release date

The next release of Productivity and Costs is scheduled for 8:30 AM EST, Tuesday, Dec. 7, 1999. Third-quarter measures for nonfinancial corporations and revised third-quarter measures for business, nonfarm business, and manufacturing will be released at that time.

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 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

an	ar	Output per hour of all persons		Hours of all persons	tion per	tion per	labor	Unit non- labor pay- ments (3)	price
				Inde	xes 1992=100				
1997	I	r106.3	r120.0	112.9	r112.5	r100.1	r105.9	r114.5	r109.1
	II	r107.1	r121.8	113.7	r113.2	r100.4	r105.7	r115.9	r109.5
	III	r108.1	r123.2	114.0	r114.6	r101.2	r106.0	r116.0	r109.7
	IV	r108.4	r124.4	114.7	r116.4	r102.4	r107.4	r114.1	r109.9
	ANNUAL	r107.5	r122.3	113.8	r114.2	r101.1	r106.2	r115.1	r109.5
1998	I	r109.7	r126.9	115.7	r117.8	r103.4	r107.5	r114.2	r110.0
	II		r127.5	116.1	r119.4	r104.4	r108.8	r112.6	r110.2
	III	r110.7	r128.9	116.4	r121.2	r105.6	r109.5	r112.1	r110.4
	IV	r111.9	r131.2	117.2	r122.7	r106.5	r109.6	r112.1	r110.5
	ANNUAL	r110.5	r128.6	r116.4	r120.3	r105.1	r108.8	r112.7	r110.3
1999	I	r112.7	r132.5	117.5	r124.2	r107.4	r110.2	r112.1	r110.9
1000	II		r133.1				r111.3	r110.9	r111.2
	III	114.1	134.9	118.2	127.2	108.4	111.5	111.0	111.3
		Perce			ious quarter				
		10100	one change	TIOM PICV	roup quarter	ac amiaai i	-ucc (5)		
1997	I		r5.8	4.4	r3.4	1.0	r2.1	r2.4	r2.2
	II	r3.4	r6.2	2.7	r2.6	r1.5	r-0.7	r4.9	1.4
	III	r3.6	r4.8	1.1	r4.8	r3.0	r1.1	r0.2	r0.8
	IV	r1.2	r3.9	r2.7	r6.7	r4.8	r5.4	r-6.2	r0.7
	ANNUAL	r2.2	r5.4	3.1	r3.7	r1.5	r1.5	r1.4	r1.5
1998	I	r4.6	r8.1	r3.4	r4.9	r4.2	r0.3	r0.4	r0.4
	II	r0.6	r2.2	1.6	r5.5	r3.9	r4.9	r-5.6	r0.8
	III	r3.4	r4.4	0.9	r6.1	r4.7	r2.6	r-1.9	r0.9
	IV	4.3	r7.2	r2.8	r4.9	r3.3	r0.6	r-0.1	r0.4
	ANNUAL	r2.8	r5.1	2.2	r5.3	r3.9	r2.4	r-2.1	r0.7
1999	I	r3.0	r3.9	0.9	r4.9	3.6	r1.9	r0.2	r1.3
2000	II	0.8	1.9	1.0	r5.1	r1.5	r4.2	r-4.1	r1.1
	III	4.0	5.4	1.4	4.7	2.0	0.7	0.3	0.5
		Percer			sponding qua				
1997	I	r2.1	r5.5	3.4	r3.6	r0.8	r1.5	r1.7	r1.6
1001	II	r1.7	r5.1	3.3	3.2	r1.0	r1.4	r1.7	r1.5
	III		r5.7	3.0		r1.4	r0.9		r1.4
	IV		r5.2	2.7		r2.6	r1.9		r1.3
	ANNUAL	r2.2	r5.4	3.1	r3.7	r1.5	r1.5	r1.4	r1.5
1998	I	r3.2	7E 0	r2.5	r/ 7	r3.4	1.5	r 0 2	r0.8
エラブロ			r5.8						
	II		r4.7 r4.6	r2.2 2.1	r5.5 r5.8	r4.0 r4.4	r2.9 r3.3		r0.7 r0.7
	IV		r5.5		r5.8 r5.4		r3.3 r2.1		r0.7
	ANNUAL	r2.8	r5.1	2.2	r5.3	r3.9	r2.4	r-2.1	r0.7
1999	I		r4.4		r5.4			r-1.9	
	II		r4.3		r5.3	r3.2	r2.3		r0.9
	III	3.0		1.6		2.6			0.8
	III 	3.0		1.6	4.9 	2.6	1.9	-0.9	

r=revised

November 12, 1999

Table 2. Nonfarm business sector: Productivity, hourly compensation, unit labor costs, and prices, seasonally adjusted

-						Real			
Ye	ar	Output per		Hours	Compensa-			Unit non-	
an	.d	hour of		of all	tion per	tion per	labor	labor pay-	
qu	arter	all persons	Output	persons		hour (2)		ments (3)	deflator (4)
				Inde	xes 1992=100				
1997	I	r106.1	r120.2	113.3	r112.2	r99.8	r105.7	r115.0	r109.1
	II		r122.0	114.1		r100.1	r105.6	r116.6	r109.6
	III	r107.8	r123 4	r114.5	r114.1	r100.8	r105.8		
	IV			115.3		r101.9	r107.2	r115.3	
	Τ ۷	1100.1	1124.0	113.3	1113.9	1101.5	1107.2	1115.5	1110.1
	ANNUAL	r107.2	r122.5	114.3	r113.8	r100.7	r106.1	r115.9	r109.7
	_								
1998	I			116.3	r117.2	r102.9	r107.3	r115.8	
	II			r116.8		r103.9	r108.5	r114.1	r110.5
	III		r129.3	117.1 118.0	r120.6	r105.1	r109.3	r113.1	r110.7
	IV	r111.5	r131.6	118.0	r122.0	r105.9	r109.4	r112.7	r110.6
	7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	110 0	100 0	117 1	110 5	104 5	100 6	112 0	110 5
	ANNUAL	r110.2	r129.0	r117.1	r119.7	r104.5	r108.6	r113.9	r110.5
1999	I	r112.2	r132.9	r118.4	r123.3	r106.6	r109.8	r113.1	r111.0
	II						r111.0	r112.2	
	III	113.6	135.3	119.2	r124.7 126.2	107.5	111.1	112.4	111.6
		Perce	ent change	from prev	ious quarter	at annual r	rate(5)		
1997	I	r0.9	r5.5	4.5	r3.6	1.2	r2.7	r2.2	r2.5
	II	r3.3	r6.2	2.8	r2.6	r1.5	r-0.6	r5.7	r1.7
	III	r3.3	r4.6	r1.3		r2.6	r1.0	r1.3	r1.1
	IV		r4.1		r6.4		r5.1	r-5.7	r0.8
	ANNUAL	r2.0	r5.3	r3.3	r3.6	r1.4	r1.6	r1.9	r1.7
1998	I	r4.4	r8.3	3.7	r4.8	r4.1	r0.4	r1.8	r0.9
	II	r0.9	r2.4	1.4	r5.6	r3.9	r4.6	r-5.8	
	III	r3.1	r4.4	1.2	r6.2	r4.7	r3.0	r-3.2	r0.6
	IV	4.1	r7.3	3.1	r4.6	r2.9	r0.5	r-1.6	
	Τ.	4.1	17.5	3.1	14.0	12.5	10.5	1 1.0	1 0.5
	ANNUAL	r2.8	r5.2	2.4	r5.2	r3.8	r2.4	r-1.8	r0.8
1999	I	r2.7	r4.0	1.3	r4.2	r2.8	r1.4	r1.5	r1.5
	II	0.6	1.8	r1.3	r4.8	r1.2	r4.2	r-3.1	r1.4
	III	4.2	5.7	1.5	4.8	2.2	0.6	0.9	0.7
		Percer			sponding qua				
		101001	change		oponarny qua	Tool or biev	-Jub year		
1997	I	r1.8	r5.4	3.6	r3.5	r0.7	r1.7	r1.8	r1.7
	II	r1.5	r5.1	r3.5	r3.1	r1.0	r1.6	r2.2	r1.8
	III	r2.3	r5.5	3.1	r3.5	r1.4	r1.1	r2.9	r1.8
		r2.2	r5.1	r2.9	r4.2	r2.4	r2.0	r0.8	r1.5
	ANNUAL	r2.0	r5 3	r3 3	r3.6	r1.4	r1.6	r1.9	r1.7
1998						r3.2	1.5	r0.7	
	II	r2.4	r4.8	2.3	r5.3	r3.8 r4.3	r2.8	r-2.2	r0.9
	III	r2.4	r4.8	2.3	r5.7	r4.3	r3.3	r-3.3	r0.7
	IV				r5.3		r2.1		
	ANNUAL	r2.8	r5.2	2.4	r5.2	r3.8	r2.4	r-1.8	r0.8
1999	I	2.7	4.5	1.7	r5.1	r3.6	r2.4	r-2.3	0.6
	II	2.7 r2.6	r4.4	1.7	r4.9	r2.9	r2.3	r-1.6	r0.8
	III		4.7		4.6	2.3	1.7		

r=revised

See footnotes following Table 6. November 12, 1999

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	Compensa- tion per hour (1)	Real compensa- tion per hour (2)	Unit labor costs
			In	ndexes 1992=1	00		
1997	I II	116.7 118.0	122.5 124.5	105.0 105.5	r111.8 r112.6	r99.5 99.9	r95.8 r95.4
	III	120.4 121.6	126.8 129.1	105.3 106.2	r113.6 r115.5	r100.3 r101.5	r94.4 r95.0
	ANNUAL	119.2	125.7	105.5	r113.4	r100.4	r95.1
1998	I II III IV	122.1 123.2 124.6 126.2	129.9 130.7 130.8 132.4	106.4 106.1 105.0 104.9	r117.0 r118.6 r120.6 121.4	r102.7 r103.7 r105.1 r105.4	r95.9 r96.3 r96.8 96.2
	ANNUAL	124.0	130.9	105.6	r119.4	r104.3	r96.3
1999	III I	128.2 r129.6 130.7	132.9 134.2 135.3	103.7 103.5 103.5	r122.8 r124.5 126.4	r106.2 r106.8 107.7	r95.8 r96.1 96.7
		Percent cha	ange from pr		er at annual ra	te(5)	
1997	I II 	4.1 4.7 8.4	7.2 6.6 7.7	3.0 1.8 -0.6	r5.5 r2.9 r3.6	r3.0 r1.8 r1.8	r1.3 r-1.7 r-4.4
	IV	4.1	7.5	3.3	r6.8	r4.9	r2.6
1998	I II IV	1.5 3.7 4.8 5.3	2.4 2.5 0.4 4.8	0.9 -1.2 -4.1 -0.5	r5.4 r5.4 r6.9 r2.9	r4.7 r3.8 r5.4 r1.2	r3.9 r1.7 r2.0 r-2.3
	ANNUAL	4.0	4.2	0.1	r5.3	r3.9	r1.2
1999	III I	6.3 r4.5 3.4	1.6 r4.0 3.4	-4.5 r-0.5 0.0	r4.5 r5.8 6.2	r3.1 r2.2 3.5	r-1.8 r1.2 2.7
		Percent change			ter of previous	year	
1997	I II IV	4.2 4.2 5.0 5.3	6.7 5.9 6.3 7.3	2.4 1.6 1.2 1.9	r3.1 r3.3 r3.7 r4.7	r0.3 r1.2 1.6 r2.9	r-1.1 r-0.9 r-1.3 r-0.6
	ANNUAL	4.7	6.5	1.8	r3.7	r1.5	r-0.9
1998	I II III	4.6 4.4 3.5	6.0 5.0 3.2	1.4 0.6 -0.3	r4.7 r5.3 r6.1	r3.3 r3.8 r4.7	r0.0 r0.9 r2.5
	IV	3.8	2.5	-1.2	r5.1	r3.8	r1.3
1000	ANNUAL	4.0	4.2	0.1	r5.3	r3.9	r1.2
1999	III III	5.0 r5.2 4.9	2.3 2.7 3.4	-2.6 -2.4 -1.4	r4.9 r5.0 4.8	r3.4 r3.0 2.5	r-0.1 r-0.2 -0.1

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Table 4. Durable manufacturing sector: Productivity, hourly compensation, and unit labor costs, seasonally adjusted

						Real	
	Year	Output per		Hours	Compensa-	compensa-	
	and	hour of		of all	tion per	tion per	labor
	quarter	all persons	Output 	persons	hour (1)	hour (2)	costs
			In	ndexes 1992=1	00		
1997	I	125.0	136.9	109.5	r109.4	r97.3	r87.5
	II	127.3	140.3	110.2	r110.2	97.7	r86.5
	III	131.0	144.6	110.4	r110.9	r98.0	r84.7
	IV	133.4	148.3	111.2	r113.2	r99.5	r84.8
	ANNUAL	129.2	142.5	110.3	r110.9	r98.2	r85.8
1998	I	133.8	149.6	111.8	r114.7	r100.7	r85.7
	II	135.8	151.3	111.4	r116.2	r101.6	85.6
	III	138.7	153.1	110.4	r118.3	r103.0	r85.3
	IV	141.6	156.3	110.4	r118.9	r103.2	r84.0
	ANNUAL	137.5	152.6	111.0	r117.0	r102.2	r85.1
1999	I	144.6	157.1	108.7	r120.3	r104.0	r83.2
	II	r147.5	159.8	r108.4	r122.1	r104.7	r82.8
	III	148.8	162.6	109.3	123.9	105.5	83.2
					er at annual ra		
1997	I	4.4	10.4	5.8	r5.6	r3.1	r1.1
	II	7.6	10.4	2.6	r2.8	r1.6	r-4.5
	III	12.1	12.8	0.6	r2.8	r1.1	r-8.3
	IV	7.4	10.7	3.0	r8.3	r6.3	r0.8
	ANNUAL	6.3	9.4	2.9	r3.3	r1.1	r-2.8
1998	I	1.3	3.5	2.2	r5.5	r4.8	r4.2
	II	6.1	4.6	-1.4	r5.5	r3.8	r-0.6
	III	8.8	4.8	-3.7	r7.2	r5.7	r-1.4
	IV	8.6	8.6	0.0	r2.2	r0.6	r-5.9
	ANNUAL	6.4	7.0	0.6	r5.5	r4.1	r-0.8
1999	I	8.6	2.1	-6.0	r4.6	r3.2	r-3.7
	II	r8.4	r7.2	-1.1	r6.5	r2.8	r-1.8
	III	3.6	7.2	3.5	5.7	3.0	2.1
					ter of previous	year	
1997	I	5.3	9.3	3.8	r2.3	r-0.4	r-2.8
	II	5.3	8.1	2.6	r2.9	r0.7	r-2.3
	III	6.8	9.3	2.3	r3.2	r1.1	r-3.4
	IV	7.8	11.1	3.0	r4.8	r3.0	r-2.8
	ANNUAL	6.3	9.4	2.9	r3.3	r1.1	r-2.8
1998	I	7.0	9.3	2.1	4.8	r3.4	r-2.1
	II	6.6	7.8	1.1	r5.5	r4.0	r-1.1
	III	5.9	5.9		r6.6	r5.2	r0.7
	IV	6.1	5.4	-0.7	r5.1	r3.7	r-1.0
	ANNUAL	6.4	7.0	0.6	r5.5	r4.1	r-0.8
			F 0		4 0	2 2	~ O
1999	I	8.0	5.0	-2.8	r4.8	r3.3	r-2.9
1999	I II	8.0 8.6	5.0	-2.8 -2.7	r4.8 r5.1	r3.3 r3.1	r-3.2

See footnotes following Table 6. r=revised

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Table 5. Nondurable manufacturing sector: Productivity, hourly compensation, and unit labor costs, seasonally adjusted

	Year and	Output per hour of		Hours of all	Compensa- tion per	Real compensa- tion per	Unit labor
	quarter 	all persons	Output	persons	hour (1)	hour (2)	costs
			Ir	ndexes 1992=1	00		
1997	I	109.8	108.8	99.0	r114.8	102.1	r104.5
	II	110.2	109.3	99.2	r115.7	r102.6	r105.0
	III	111.3	109.7	98.6	r117.0	r103.3	r105.1
	IV	111.3	110.7	99.5	r118.2	r104.0	r106.2
	ANNUAL	110.7	109.6	99.1	r116.4	r103.0	r105.2
1998	I	111.8	111.0	99.3	r119.7	r105.1	r107.0
	II	112.0	111.0	99.1	r121.3	r106.1	r108.3
	III	112.0	109.6	97.9	r123.1	r107.3	r109.9
	IV	112.5	109.7	97.5	r124.3	r107.9	r110.5
	ANNUAL	112.1	110.3	98.4	r122.1	r106.6	r108.9
1999	I	113.3	109.9	97.0	r125.7	r108.7	r111.0
	II	r113.2	r109.9	97.1	r127.2	r109.1	r112.4
	III	114.3	109.6	95.8	129.2	110.1	113.0
		Percent ch	ange from pr		er at annual ra	ite(5)	
1997	I	4.3	3.4	-0.9	r4.8	r2.3	r0.5
	II	1.3	1.9	0.7	r3.1	r1.9	r1.8
	III	4.2	1.7	-2.4	r4.6	r2.9	r0.4
	IV	-0.1	3.6	3.7	r4.4	r2.5	r4.5
	ANNUAL	3.0	3.1	0.1	r4.1	r1.9	r1.1
1998	I	2.0	1.1	-0.9	r5.0	r4.3	r3.0
	II	0.7	-0.2	-0.9	r5.4	r3.8	r4.8
	III	0.1	-4.7	-4.7	r6.2	r4.8	r6.2
	IV	1.5	0.2	-1.3	r3.9	r2.2	r2.3
	ANNUAL	1.3	0.6	-0.6	r4.9	r3.5	r3.6
1999	I	3.0	0.8	-2.1	r4.6	r3.2	r1.5
1333	II	r-0.4		r0.3	r4.9	r1.3	5.3
	III	4.1	r-0.1 -1.2	-5.1	6.3	3.6	2.1
		Percent change	from corres	sponding quar	ter of previous	year	
1997	I	3.3	3.7	0.4	r4.0	r1.2	r0.7
1001	II	3.2	3.4	0.2	r3.9	r1.7	r0.7
	III	3.1 2.4	2.6 2.6	-0.5 0.2	r4.2 r4.2	r2.1 r2.4	r1.1 r1.8
	ANNUAL	3.0	3.1	0.1	r4.1	r1.9	r1.1
1998	т	1 0	0 1	0 0	~4.3	~2 0	7-0 4
エフプ℧	I	1.8	2.1	0.2	r4.3	r2.9	r2.4
	II	1.7	1.5	-0.1	r4.9	r3.4	r3.2
	III	0.6 1.1	-0.1 -0.9	-0.7 -2.0	r5.3 5.1	r3.9 r3.8	r4.6 4.0
	ANNUAL	1.3	0.6	-0.6	r4.9	r3.5	r3.6
1000	<b>-</b>	1 2	1 0	2 2	7-5 0	7-2 F	0 [
1999	I	1.3	-1.0	-2.3	r5.0	r3.5	r3.7
	II	r1.0	r-1.0	-2.0	r4.9	2.9	3.8
	III	2.0	-0.1	-2.1	4.9	2.6	2.8

See footnotes following Table 6. r=revised

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Table 6. Nonfinancial corporations: Productivity, hourly compensation, unit labor costs, unit profits, and prices, seasonally adjusted

a	ear nd uarter	Output per all- employee hour	Output	Employee hours	Hourly compensation (1)		Unit labor costs	Unit non- labor costs(6)	Total unit costs (7)	Unit pro- fits (8)	Implicit price deflator (4)
					Indexes	1992=100					
1997	II III IV	r110.1 r110.7 r112.4 r113.2	r125.5 r127.5 r130.2 r132.3	r114.0 r115.1 r115.8 116.9	r111.2 r112.0 r113.3 115.1	r98.9 r99.3 r100.0 r101.2	r101.0 r101.1 r100.7 r101.6	r99.8 r99.9 r99.2 r98.6	r100.7 r100.8 r100.3 r100.8	r155.6 r156.2 r161.1 r155.3	r105.4 r105.4
	ANNUAL	r111.7	r128.9	115.4	r113.0	r100.0	r101.1	r99.4	r100.6	r157.1	r105.3
1998	I II III IV	r114.2 r115.3 r117.0 r117.9	r134.6 r136.3 r138.7 r140.6	117.8 118.1 118.6 119.3	r116.4 r118.0 r119.8 r121.3	r102.2 r103.2 r104.4 r105.3	r101.9 r102.3 r102.4 r102.9	r98.0 r98.2 r98.0 r99.2	r100.8 r101.2 r101.2 r101.8	r153.7 r150.1 r152.6 r145.3	r105.2 r105.5 r105.5
1999	I	r119.1 r120.0	r142.6 r144.1	119.7	r122.7 r124.2	r106.1 r106.5	r103.0 r103.4		r101.7		r105.7
				ent change	from pre	vious quarte		 ual rate(5	)		
1007	т.	w1 0			_	_				70.4 C	1 6
1997	I II	r1.8 r2.3	r6.1 r6.4	4.3	r3.6 r2.7	r1.2 r1.5	r1.8 r0.3	r-0.3 r0.5	r1.2 r0.4	r4.6 r1.6	1.6 r0.5
	III	r6.3	r8.9	2.5	r4.7	r2.9	r-1.5	r-2.6	-1.8	r13.0	r-0.1
	VI	r2.8	r6.4	3.5	r6.5	r4.6	r3.6	r-2.5	r1.9	r-13.6	r-0.2
	ANNUAL	r3.0	r6.6	r3.5	r3.6	r1.4	r0.6	r-0.7	r0.2	r3.7	0.6
1998	I II IV	r3.7 r3.9 r5.9 r3.2	r7.1 r5.1 r7.5 r5.6	r3.3 r1.2 1.5 2.3	r4.8 r5.7 r6.3 r4.9	r4.1 r4.1 r4.8 r3.3	r1.1 r1.7 r0.4 r1.7	r-2.6 r0.9 r-0.7 r4.9	r0.0 r1.5 r0.1 r2.6	r-4.1 r-9.1 r6.8 r-17.8	r0.2 r0.9
	ANNUAL	r4.0	r6.7	2.6	r5.3	r3.9	r1.3	-1.0	0.6	r-4.3	
1999	I	r4.1 r3.2	r5.7 r4.2	1.6 1.0	r4.7 r4.8	r3.3 r1.3	r0.6 r1.6	r-3.4 r1.8	r-0.5 r1.6	r12.0 r-2.6	r0.8 r1.1
			Percent	change fr	om corres	ponding quar	rter of p	revious ye	ar		
1997	I	r2.6	r6.2	3.5	r3.5	r0.7	r0.8	r-0.6	r0.4	r4.0	0.8
	II	r2.5	r6.2	r3.5	3.1	r0.9	r0.6	r-0.2	r0.4	r3.4	0.7
	III	r3.6	r7.2	3.5	r3.5	r1.4	r-0.1	r-0.6	r-0.3	r6.4	r0.6
	IV	r3.3	r7.0	3.6	r4.3	r2.5	r1.0	r-1.2	r0.4	r0.9	r0.5
	ANNUAL	r3.0	r6.6	r3.5	r3.6	r1.4	r0.6	r-0.7	r0.2	r3.7	0.6
1998	I	r3.8	r7.2	3.3	r4.6	r3.3	r0.8	r-1.8	r0.1	r-1.2	-0.1
	II			2.6	r5.4	r3.9	1.2	-1.7	r0.4	r-3.9	-0.1
	III	r4.0	r6.5	r2.4	r5.8	r4.4	r1.7	r-1.2	r0.9	r-5.3	r0.1
	IV	r4.1	r6.3	r2.1	r5.4	r4.1	r1.2	r0.6	r1.1	r-6.5	r0.1
	ANNUAL	r4.0	r6.7	2.6	r5.3	r3.9	r1.3	-1.0	0.6	r-4.3	r0.0
1999	I	r4.3	r6.0	r1.7	r5.4	r3.9	r1.1	r0.4	r0.9	r-2.8	r0.5
	II		r5.7	1.6	r5.2	r3.2	r1.1	r0.6	r0.9	r-1.1	r0.7

See footnotes following Table 6. r=revised

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Appendix table 1. Business sector: Productivity, hourly compensation, unit labor costs, and prices 1992=100

					Real			
	Output per		Hours	Compensa-	compensa-	Unit	Unit non-	Implicit
	hour of		of all	tion per	tion per	labor	labor pay-	price
Year	all persons	Output	persons	hour (1)	hour (2)	costs	ments (3)	deflator (4)
1959	47.2	31.5	66.7	13.1	58.5	27.7	25.8	27.0
1960	48.0	32.1	66.7	13.6	59.9	28.4	25.5	27.3
1961	49.8	32.7	65.7	14.2	61.7	28.5	25.9	27.5
1962	52.1	34.8	66.8	14.8	63.9	28.4	26.7	27.8
1963	54.1	36.4	67.2	15.4	65.3	28.4	27.3	28.0
1964	56.6	38.7	68.3	16.1	67.8	28.5	27.8	28.3
1965	58.6	41.4	70.6	16.8	69.3	28.6	29.0	28.7
1966	61.0	44.2	72.5	17.9	71.8	29.3	29.7	29.4
1967	62.3	45.0	72.3	18.9	73.7	30.3	30.2	30.3
1968	64.5	47.3	73.4	20.4	76.5	31.7	31.0	31.4
1969	64.8	48.8	75.2	21.9	77.6	33.7	31.3	32.8
1970	66.2	48.8	73.7	23.5	79.0	35.6	32.0	34.3
1971	68.8	50.5	73.4	25.0	80.5	36.4	34.9	35.8
1972	71.0	53.8	75.8	26.6	82.9	37.5	36.4	37.1
1973	73.1	57.5	78.5	28.9	84.7	39.5	38.4	39.1
1974	72.2	56.8	78.6	31.7	83.7	43.8	40.6	42.6
1975	74.8	56.3	75.2	34.9	84.5	46.7	46.7	46.7
1976	77.2	59.9	77.6	38.0	87.0	49.2	49.4	49.3
1977	78.4	63.2	80.6	41.0	88.1	52.3	52.5	52.4
1978	79.5	67.2	84.6	44.7	89.7	56.2	55.7	56.0
1979	79.7	69.7	87.4	49.0	90.0	61.5	59.0	60.6
1980	79.8	69.1	86.7	54.3	89.7	68.1	62.1	65.9
1981	81.4	71.0	87.3	59.5	89.8	73.1	69.8	71.9
1982	81.2	69.1	85.1	63.9	91.1	78.8	70.8	75.8
1983	84.0	72.6	86.5	66.6	91.2	79.3	77.1	78.5
1984	86.4	79.0	91.5	69.5	91.5	80.5	81.1	80.7
1985	88.1	82.4	93.5	72.9	92.8	82.8	82.9	82.8
1986	90.7	85.4	94.2	76.7	95.9	84.6	83.4	84.1
1987	91.3	88.6	97.0	79.7	96.3	87.3	84.1	86.1
1988	92.4	92.4	100.0	83.4	97.3	90.3	86.2	88.8
1989	93.3	95.6	102.5	85.7	95.8	91.9	92.5	92.1
1990	94.5	97.0	102.6	90.6	96.4	95.9	94.6	95.4
1991	95.9	96.1	100.3	94.9	97.4	99.0	97.4	98.4
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	100.1	102.7	102.6	102.4	99.9	102.3	102.9	102.5
1994	101.4	107.7	106.2	104.5	99.7	103.0	106.9	104.4
<del>-</del>								
1995	102.2	111.1	108.8	106.7	99.1	104.4	109.8	106.4
1996	105.2	116.1	110.4	110.1	99.6	104.7	113.5	107.9
1997	107.5	122.3	113.8	114.2	101.1	106.2	115.1	109.5
1998	110.5	128.6	116.4	120.3	105.1	108.8	112.7	110.3

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Appendix table 2. Nonfarm business sector: Productivity, hourly compensation, unit labor costs, and prices 1992=100

					Real			
	Output per		Hours	Compensa-	compensa-	Unit	Unit non-	Implicit
	hour of		of all	tion per	tion per	labor	labor pay-	price
Year	all persons	Output	persons	hour (1)	hour (2)	costs	ments (3)	deflator (4)
1959	50.5	31.2	61.8	13.7	61.1	27.0	25.5	26.5
1960	51.2	31.7	62.0	14.3	62.8	27.9	24.9	26.8
1961	52.8	32.4	61.3	14.7	64.3	27.9	25.4	27.0
1962	55.2	34.6 36.2	62.6	15.4	66.2	27.8	26.3	27.3
1963	57.2	36.2	63.3	15.9	67.6	27.8	26.9	27.5
1964	59.6	38.6	64.8	16.6	69.9	27.9	27.6	27.8
1965	61.4	41.3	67.3	17.2	71.0	28.0	28.6	28.2
1966	63.6	44.3	69.7	18.2	73.0	28.6	29.3	28.9
1967	64.6	45.1	69.7	19.2	75.0	29.7	29.8	29.8
1968	66.9	47.5	70.9	20.7	77.6	31.0	30.8	30.9
1969	67.1	48.9	73.0	22.2	78.6	33.0	30.9	32.3
1970	68.0	48.9	71.8	23.7	79.7	34.9	31.7	33.7
1971	70.7	50.6	71.6	25.3	81.3	35.7	34.5	35.3
1972	73.0	54.0	74.0	26.9	83.8	36.8	35.5	36.4
1973	75.2	57.8	76.9	29.1	85.3	38.7	36.0	37.7
1974	74.3	57.2	77.0	31.9	84.4	43.0	38.6	41.4
1975	76.4	56.3	73.7	35.2	85.2	46.0	45.1	45.7
1976	78.9	60.1	76.1	38.2	87.5	48.4	48.3	48.4
1977	80.0	63.4	79.2	41.3	88.8	51.6	51.5	51.6
1978	81.3	67.6	83.2	45.0	90.5	55.4	54.2	55.0
1979	81.3	70.0	86.2	49.3	90.6	60.7	57.2	59.4
1980	81.3	69.5	85.5	54.7	90.3	67.2	61.1	65.0
1981	82.4	71.0	86.1	60.0	90.6	72.8	68.3	71.1
1982	82.0	68.9	83.9	64.4	91.8	78.5	69.9	75.4
1983	85.6	73.2	85.5	67.2	91.9	78.5	76.9	77.9
1984	87.4	79.3	90.7	70.0	92.1	80.1	80.0	80.1
1985	88.6	82.3	93.0	73.3	93.2	82.7	82.3	82.6
1986	91.3	85.5	93.7	77.1	96.3	84.4	83.1	83.9
1987	91.7	88.7	96.7	80.0	96.6	87.2	83.7	85.9
1988	92.9	92.8	99.8	83.6	97.4	89.9	85.9	88.5
1989	93.5	95.8	102.4	85.8	95.8	91.7	91.9	91.8
1990	94.6	97.1	102.7	90.5	96.3	95.7	94.2	95.1
1991	96.1	96.3	100.2	94.9	97.4	98.8	97.5	98.3
1992	100.0	100.0	100.0	100.0	100.0 99.6	100.0	100.0	100.0
1993	100.1	103.0	102.9	102.1		102.1	103.4	102.6
1994	101.4	107.8	106.3	104.3	99.5	102.9	107.4	104.5
1995	102.4	111.5	108.9	106.5	98.9	104.0	110.8	106.5
1996	105.2	116.4	110.7	109.8	99.3	104.4	113.8	107.8
1997	107.2	122.5	114.3	113.8	100.7	106.1	115.9	109.7
1998	110.2	129.0	117.1	119.7	104.5	108.6	113.9	110.5

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Appendix table 3. Manufacturing sector: Productivity, hourly compensation, and unit labor costs, Indexes 1992=100

hour of hour of all persons         Output per labor of all tion per tion per labor persons         Hour (1) hour (2) costs           1959         41.2         38.1         92.5         14.3         63.8         34.6           1960         42.1         38.7         92.1         14.9         65.4         35.3           1961         43.1         38.7         99.7         15.3         66.6         35.5           1962         44.5         41.5         93.4         15.9         68.5         35.6           1963         46.0         43.4         94.4         16.4         69.6         35.6           1964         47.7         46.0         96.4         17.0         71.6         35.7           1965         48.8         49.8         102.0         17.4         72.0         35.7           1966         49.3         53.6         108.6         18.2         73.2         36.9           1967         51.1         55.2         108.0         19.2         74.9         37.6           1968         52.9         57.9         109.6         20.7         77.3         39.1           1969         53.8         59.6         110.9         22.2						Real	
1959   41.2   38.1   92.5   14.3   63.8   34.6		Output per		Hours	Compensa-	compensa-	Unit
1959 41.2 38.1 92.5 14.3 63.8 34.6  1960 42.1 38.7 92.1 14.9 65.4 35.3  1961 43.1 38.7 89.7 15.3 66.6 35.5  1962 44.5 41.5 93.4 15.9 68.5 35.7  1963 46.0 43.4 94.4 16.4 69.6 35.6  1964 47.7 46.0 96.4 17.0 71.6 35.7  1965 48.8 49.8 102.0 17.4 72.0 35.7  1966 49.3 53.6 108.6 18.2 73.2 36.9  1967 51.1 55.2 108.0 19.2 74.9 37.6  1968 52.9 57.9 109.6 20.7 77.3 39.1  1969 53.8 59.6 110.9 22.2 78.7 41.2  1970 54.4 56.8 104.4 23.7 79.7 43.6  1971 58.2 58.5 100.5 25.2 81.0 43.3  1972 60.7 63.7 105.1 26.5 82.5 81.0 43.3  1972 60.7 63.7 105.1 26.5 82.5 81.0 43.3  1973 61.9 68.3 110.4 28.5 83.6 46.0  1974 61.6 66.5 107.9 31.6 83.6 57.1  1975 64.7 62.9 97.2 35.5 85.8 54.8  1976 67.4 68.6 101.9 38.4 88.0 57.1  1977 70.1 74.3 106.1 41.8 89.8 59.7  1978 70.7 78.2 110.6 45.2 90.8 63.9  1979 70.2 79.1 112.7 49.6 91.1 70.7  1980 70.4 75.7 107.5 55.6 91.8 98.9 19.1  1983 77.1 76.3 88.9 68.8 94.2 89.3  1984 79.8 84.0 105.3 71.2 93.7 89.3  1985 82.8 86.6 104.6 75.1 95.5 90.7  1983 77.1 76.3 88.9 68.8 94.2 89.3  1984 79.8 84.0 105.3 71.2 93.7 89.3  1985 82.8 86.6 104.6 75.1 95.5 96.1 199.7  1980 70.4 75.7 107.5 55.6 91.8 78.9  1981 71.1 76.0 107.0 61.1 92.2 85.9  1983 77.1 76.3 88.9 68.8 94.2 89.3  1984 79.8 84.0 105.3 71.2 93.7 89.3  1985 82.8 86.6 104.6 75.1 95.5 96.7  1986 86.5 99.1 103.0 78.5 96.5 96.5  1999 90.7 97.1 100.1 86.6 96.8 95.5  1999 90.7 97.1 100.1 86.6 96.8 95.5  1999 90.7 97.1 100.1 86.6 96.8 95.5		hour of		of all	tion per	tion per	labor
1960         42.1         38.7         92.1         14.9         65.4         35.3           1961         43.1         38.7         89.7         15.3         66.6         35.5           1962         44.5         41.5         93.4         15.9         68.5         35.6           1963         46.0         43.4         94.4         16.4         69.6         35.6           1964         47.7         46.0         96.4         17.0         71.6         35.7           1965         48.8         49.8         102.0         17.4         72.0         35.7           1966         49.3         53.6         108.6         18.2         73.2         36.9           1967         51.1         55.2         108.0         19.2         74.9         37.6           1968         52.9         57.9         109.6         20.7         77.3         39.1           1969         53.8         59.6         10.9         22.2         78.7         41.2           1970         54.4         56.8         104.4         23.7         79.7         43.6           1971         58.2         58.5         100.5         25.2         81.0	Year	all persons	Output	persons	hour (1)	hour (2)	costs
1961	1959	41.2	38.1	92.5	14.3	63.8	34.6
1962 44.5 41.5 93.4 15.9 68.5 33.7 1963 46.0 43.4 94.4 16.4 69.6 35.6 1964 47.7 46.0 96.4 17.0 71.6 35.7 1966 49.3 53.6 108.6 18.2 73.2 36.9 1967 51.1 55.2 108.0 19.2 74.9 37.6 1968 52.9 57.9 109.6 20.7 77.3 39.1 1969 53.8 59.6 110.9 22.2 78.7 41.2 1970 54.4 56.8 104.4 23.7 79.7 43.6 1971 58.2 58.5 100.5 25.2 81.0 43.3 1972 60.7 63.7 105.1 26.5 82.5 83.6 46.0 1973 61.9 68.3 110.4 28.5 83.6 46.0 1974 61.6 66.5 107.9 31.6 83.6 51.3 1975 64.7 62.9 97.2 35.5 83.6 36.6 51.3 1976 67.4 68.6 101.9 38.4 88.0 57.1 1977 70.1 74.3 106.1 41.8 89.8 59.7 1979 70.2 79.1 112.7 49.6 91.1 70.7 1980 70.4 75.7 107.5 55.6 91.8 78.9 1982 74.7 73.1 97.9 70.2 79.1 112.7 49.6 91.1 70.7 1982 74.7 79.9 1983 77.1 76.3 98.9 68.8 94.2 88.9 1983 77.1 76.3 98.9 68.8 94.2 88.9 1983 77.1 76.3 98.9 68.8 94.2 88.9 39.7 1984 79.8 84.0 105.3 71.9 93.7 89.3 1984 79.8 84.0 105.3 71.9 93.7 89.3 1984 79.8 84.0 105.3 71.9 93.7 89.3 1984 79.8 84.0 105.3 71.9 93.7 89.3 1989 90.7 97.1 107.1 86.6 96.8 97.9 92.8 1999 90.7 97.1 107.1 86.6 96.8 97.9 92.8 1999 90.7 97.1 107.1 86.6 96.8 97.9 92.8 1999 90.7 97.1 107.1 86.6 96.8 97.9 92.8 1999 90.7 97.1 107.1 86.6 96.8 95.5 109.9 1999 90.7 97.1 107.1 86.6 96.8 95.5 100.9 1999 90.7 97.1 107.1 86.6 96.8 95.5 100.9 1999 90.7 97.1 107.0 100.0 100.0 100.0 100.0 100.0 1999 100.2 100.0 100.0 100.0 100.0 100.0 1999 100.2 100.5 100.0 1	1960	42.1	38.7	92.1	14.9	65.4	35.3
1963	1961	43.1	38.7	89.7	15.3	66.6	35.5
1964       47.7       46.0       96.4       17.0       71.6       35.7         1965       48.8       49.8       102.0       17.4       72.0       35.7         1966       49.3       53.6       108.6       18.2       73.2       36.9         1967       51.1       55.2       108.0       19.2       74.9       37.6         1968       52.9       57.9       109.6       20.7       77.3       39.1         1969       53.8       59.6       110.9       22.2       78.7       41.2         1970       54.4       56.8       104.4       23.7       79.7       43.6         1971       58.2       58.5       100.5       25.2       81.0       43.3         1972       60.7       63.7       105.1       26.5       82.5       43.6         1973       61.9       68.3       110.4       28.5       83.6       46.0         1974       61.6       66.5       107.9       31.6       83.6       51.3         1975       64.7       62.9       97.2       35.5       85.8       54.8         1976       67.4       68.6       101.9       38.4	1962	44.5	41.5	93.4	15.9	68.5	35.7
1965       48.8       49.8       102.0       17.4       72.0       35.7         1966       49.3       53.6       108.6       18.2       73.2       36.9         1967       51.1       55.2       108.0       19.2       74.9       37.6         1968       52.9       57.9       109.6       20.7       77.3       39.1         1969       53.8       59.6       110.9       22.2       78.7       41.2         1970       54.4       56.8       104.4       23.7       79.7       43.6         1971       58.2       58.5       100.5       25.2       81.0       43.3         1972       60.7       63.7       105.1       26.5       82.5       43.6         1973       61.9       68.3       110.4       28.5       83.6       46.0         1974       61.6       66.5       107.9       31.6       83.6       55.3         1975       64.7       62.9       97.2       35.5       85.8       54.8         1976       67.4       68.6       101.9       38.4       88.0       57.1         1977       70.1       74.3       106.1       45.2	1963	46.0	43.4	94.4	16.4	69.6	35.6
1966	1964	47.7	46.0	96.4	17.0	71.6	35.7
1967         51.1         55.2         108.0         19.2         74.9         37.6           1968         52.9         57.9         109.6         20.7         77.3         39.1           1969         53.8         59.6         110.9         22.2         78.7         41.2           1970         54.4         56.8         104.4         23.7         79.7         43.6           1971         58.2         58.5         100.5         25.2         81.0         43.3           1972         60.7         63.7         105.1         26.5         82.5         43.6           1973         61.9         68.3         110.4         28.5         83.6         46.0           1974         61.6         66.5         107.9         31.6         83.6         51.3           1975         64.7         62.9         97.2         35.5         85.8         54.8           1976         67.4         68.6         101.9         38.4         88.0         59.7           1978         70.1         74.3         106.1         41.8         89.8         59.7           1978         70.7         78.2         110.6         45.2 <td< td=""><td>1965</td><td>48.8</td><td>49.8</td><td>102.0</td><td>17.4</td><td>72.0</td><td>35.7</td></td<>	1965	48.8	49.8	102.0	17.4	72.0	35.7
1968         52.9         57.9         109.6         20.7         77.3         39.1           1969         53.8         59.6         110.9         22.2         78.7         41.2           1970         54.4         56.8         104.4         23.7         79.7         43.6           1971         58.2         58.5         100.5         25.2         81.0         43.3           1972         60.7         63.7         105.1         26.5         82.5         43.6           1973         61.9         68.3         110.4         28.5         83.6         46.0           1974         61.6         66.5         107.9         31.6         83.6         51.3           1975         64.7         62.9         97.2         35.5         85.8         54.8           1976         67.4         68.6         101.9         38.4         88.0         57.1           1977         70.1         74.3         106.1         41.8         89.8         59.7           1978         70.7         78.2         110.6         45.2         90.8         63.9           1979         70.2         79.1         112.7         49.6 <td< td=""><td>1966</td><td>49.3</td><td>53.6</td><td>108.6</td><td>18.2</td><td>73.2</td><td>36.9</td></td<>	1966	49.3	53.6	108.6	18.2	73.2	36.9
1968         52.9         57.9         109.6         20.7         77.3         39.1           1969         53.8         59.6         110.9         22.2         78.7         41.2           1970         54.4         56.8         104.4         23.7         79.7         43.6           1971         58.2         58.5         100.5         25.2         81.0         43.3           1972         60.7         63.7         105.1         26.5         82.5         43.6           1973         61.9         68.3         110.4         28.5         83.6         46.0           1974         61.6         66.5         107.9         31.6         83.6         46.0           1974         61.6         66.5         107.9         31.6         83.6         46.0           1977         70.1         74.3         106.1         41.8         89.8         59.7           1978         70.7         78.2         110.6         45.2         90.8         63.9           1979         70.2         79.1         112.7         49.6         91.1         70.7           1980         70.4         75.7         107.5         55.6 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
1970         54.4         56.8         104.4         23.7         79.7         43.6           1971         58.2         58.5         100.5         25.2         81.0         43.3           1972         60.7         63.7         105.1         26.5         82.5         43.6           1973         61.9         68.3         110.4         28.5         83.6         46.0           1974         61.6         66.5         107.9         31.6         83.6         51.3           1975         64.7         62.9         97.2         35.5         85.8         54.8           1976         67.4         68.6         101.9         38.4         88.0         57.1           1977         70.1         74.3         106.1         41.8         89.8         59.7           1978         70.7         78.2         110.6         45.2         90.8         63.9           1979         70.2         79.1         112.7         49.6         91.1         70.7           1980         70.4         75.7         107.5         55.6         91.8         78.9           1981         71.1         76.0         107.0         61.1 <td< td=""><td>1968</td><td>52.9</td><td>57.9</td><td>109.6</td><td>20.7</td><td>77.3</td><td>39.1</td></td<>	1968	52.9	57.9	109.6	20.7	77.3	39.1
1971       58.2       58.5       100.5       25.2       81.0       43.3         1972       60.7       63.7       105.1       26.5       82.5       43.6         1973       61.9       68.3       110.4       28.5       83.6       46.0         1974       61.6       66.5       107.9       31.6       83.6       51.3         1975       64.7       62.9       97.2       35.5       85.8       54.8         1976       67.4       68.6       101.9       38.4       88.0       57.1         1977       70.1       74.3       106.1       41.8       89.8       59.7         1978       70.7       78.2       110.6       45.2       90.8       63.9         1979       70.2       79.1       112.7       49.6       91.1       70.7         1980       70.4       75.7       107.5       55.6       91.8       78.9         1981       71.1       76.0       107.0       61.1       92.2       85.9         1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       <	1969	53.8	59.6	110.9	22.2	78.7	41.2
1972       60.7       63.7       105.1       26.5       82.5       43.6         1973       61.9       68.3       110.4       28.5       83.6       46.0         1974       61.6       66.5       107.9       31.6       83.6       51.3         1975       64.7       62.9       97.2       35.5       85.8       54.8         1976       67.4       68.6       101.9       38.4       88.0       59.7         1977       70.1       74.3       106.1       41.8       89.8       59.7         1978       70.7       78.2       110.6       45.2       90.8       63.9         1979       70.2       79.1       112.7       49.6       91.1       70.7         1980       70.4       75.7       107.5       55.6       91.8       78.9         1981       71.1       76.0       107.0       61.1       92.2       85.9         1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       <	1970	54.4	56.8	104.4	23.7	79.7	43.6
1972       60.7       63.7       105.1       26.5       82.5       43.6         1973       61.9       68.3       110.4       28.5       83.6       46.0         1974       61.6       66.5       107.9       31.6       83.6       51.3         1975       64.7       62.9       97.2       35.5       85.8       54.8         1976       67.4       68.6       101.9       38.4       88.0       59.7         1977       70.1       74.3       106.1       41.8       89.8       59.7         1978       70.7       78.2       110.6       45.2       90.8       63.9         1979       70.2       79.1       112.7       49.6       91.1       70.7         1980       70.4       75.7       107.5       55.6       91.8       78.9         1981       71.1       76.0       107.0       61.1       92.2       85.9         1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       <	1971	58.2	58.5	100.5	25.2	81.0	43.3
1973       61.9       68.3       110.4       28.5       83.6       46.0         1974       61.6       66.5       107.9       31.6       83.6       51.3         1975       64.7       62.9       97.2       35.5       85.8       54.8         1976       67.4       68.6       101.9       38.4       88.0       57.1         1977       70.1       74.3       106.1       41.8       89.8       59.7         1978       70.7       78.2       110.6       45.2       90.8       63.9         1979       70.2       79.1       112.7       49.6       91.1       70.7         1980       70.4       75.7       107.5       55.6       91.8       78.9         1981       71.1       76.0       107.0       61.1       92.2       85.9         1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       93.7       89.3         1985       82.8       86.6       104.6       75.1       <	1972	60.7	63.7	105.1	26.5	82.5	
1974       61.6       66.5       107.9       31.6       83.6       51.3         1975       64.7       62.9       97.2       35.5       85.8       54.8         1976       67.4       68.6       101.9       38.4       88.0       57.1         1977       70.1       74.3       106.1       41.8       89.8       59.7         1978       70.7       78.2       110.6       45.2       90.8       63.9         1979       70.2       79.1       112.7       49.6       91.1       70.7         1980       70.4       75.7       107.5       55.6       91.8       78.9         1981       71.1       76.0       107.0       61.1       92.2       85.9         1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       93.7       89.3         1985       82.8       86.6       104.6       75.1       95.5       90.7         1986       86.5       89.1       103.0       78.5       <	1973	61.9		110.4	28.5	83.6	46.0
1976       67.4       68.6       101.9       38.4       88.0       57.1         1977       70.1       74.3       106.1       41.8       89.8       59.7         1978       70.7       78.2       110.6       45.2       90.8       63.9         1979       70.2       79.1       112.7       49.6       91.1       70.7         1980       70.4       75.7       107.5       55.6       91.8       78.9         1981       71.1       76.0       107.0       61.1       92.2       85.9         1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       93.7       89.3         1985       82.8       86.6       104.6       75.1       95.5       90.7         1986       86.5       89.1       103.0       78.5       98.1       90.7         1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0	1974	61.6	66.5	107.9	31.6	83.6	51.3
1976       67.4       68.6       101.9       38.4       88.0       57.1         1977       70.1       74.3       106.1       41.8       89.8       59.7         1978       70.7       78.2       110.6       45.2       90.8       63.9         1979       70.2       79.1       112.7       49.6       91.1       70.7         1980       70.4       75.7       107.5       55.6       91.8       78.9         1981       71.1       76.0       107.0       61.1       92.2       85.9         1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       93.7       89.3         1985       82.8       86.6       104.6       75.1       95.5       90.7         1986       86.5       89.1       103.0       78.5       98.1       90.7         1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0	1975	64.7	62.9	97.2	35.5	85.8	54.8
1978       70.7       78.2       110.6       45.2       90.8       63.9         1979       70.2       79.1       112.7       49.6       91.1       70.7         1980       70.4       75.7       107.5       55.6       91.8       78.9         1981       71.1       76.0       107.0       61.1       92.2       85.9         1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       93.7       89.3         1985       82.8       86.6       104.6       75.1       95.5       90.7         1986       86.5       89.1       103.0       78.5       98.1       90.7         1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0       97.9       92.8         1989       90.7       97.1       107.1       86.6       96.8       95.5         1990       93.0       97.5       104.8       90.8	1976	67.4	68.6	101.9	38.4	88.0	57.1
1978       70.7       78.2       110.6       45.2       90.8       63.9         1979       70.2       79.1       112.7       49.6       91.1       70.7         1980       70.4       75.7       107.5       55.6       91.8       78.9         1981       71.1       76.0       107.0       61.1       92.2       85.9         1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       93.7       89.3         1985       82.8       86.6       104.6       75.1       95.5       90.7         1986       86.5       89.1       103.0       78.5       98.1       90.7         1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0       97.9       92.8         1989       90.7       97.1       107.1       86.6       96.8       95.5         1990       93.0       97.5       104.8       90.8	1977	70.1	74.3	106.1	41.8	89.8	59.7
1979     70.2     79.1     112.7     49.6     91.1     70.7       1980     70.4     75.7     107.5     55.6     91.8     78.9       1981     71.1     76.0     107.0     61.1     92.2     85.9       1982     74.7     73.1     97.9     67.0     95.5     89.7       1983     77.1     76.3     98.9     68.8     94.2     89.3       1984     79.8     84.0     105.3     71.2     93.7     89.3       1985     82.8     86.6     104.6     75.1     95.5     90.7       1986     86.5     89.1     103.0     78.5     98.1     90.7       1987     88.8     92.1     103.8     80.7     97.5     90.9       1988     90.5     96.5     106.6     84.0     97.9     92.8       1990     93.0     97.5     104.8     90.8     96.6     97.6       1991     95.1     95.5     100.4     95.6     98.0     100.4       1992     100.0     100.0     100.0     100.0     100.0       1993     102.2     103.6     101.4     102.7     100.2     100.5       1994     105.3     109.1	1978	70.7	78.2	110.6	45.2	90.8	63.9
1981       71.1       76.0       107.0       61.1       92.2       85.9         1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       93.7       89.3         1985       82.8       86.6       104.6       75.1       95.5       90.7         1986       86.5       89.1       103.0       78.5       98.1       90.7         1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0       97.9       92.8         1989       90.7       97.1       107.1       86.6       96.8       95.5         1990       93.0       97.5       104.8       90.8       96.6       97.6         1991       95.1       95.5       100.4       95.6       98.0       100.4         1992       100.0       100.0       100.0       100.0       100.0       100.0         1993       102.2       103.6       101.4       102.7 <td>1979</td> <td>70.2</td> <td>79.1</td> <td>112.7</td> <td>49.6</td> <td>91.1</td> <td></td>	1979	70.2	79.1	112.7	49.6	91.1	
1982       74.7       73.1       97.9       67.0       95.5       89.7         1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       93.7       89.3         1985       82.8       86.6       104.6       75.1       95.5       90.7         1986       86.5       89.1       103.0       78.5       98.1       90.7         1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0       97.9       92.8         1989       90.7       97.1       107.1       86.6       96.8       95.5         1990       93.0       97.5       104.8       90.8       96.6       97.6         1991       95.1       95.5       100.4       95.6       98.0       100.4         1992       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0         1993       102.2       103.6       101.4       102.7       100.2       100.5         1994       105.3       109	1980	70.4	75.7	107.5	55.6	91.8	78.9
1983       77.1       76.3       98.9       68.8       94.2       89.3         1984       79.8       84.0       105.3       71.2       93.7       89.3         1985       82.8       86.6       104.6       75.1       95.5       90.7         1986       86.5       89.1       103.0       78.5       98.1       90.7         1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0       97.9       92.8         1989       90.7       97.1       107.1       86.6       96.8       95.5         1990       93.0       97.5       104.8       90.8       96.6       97.6         1991       95.1       95.5       100.4       95.6       98.0       100.4         1992       100.0       100.0       100.0       100.0       100.0       100.0       100.0         1993       102.2       103.6       101.4       102.7       100.2       100.5         1994       105.3       109.1       103.6       105.6       100.8       100.3         1995       109.4       113.8       <	1981	71.1	76.0	107.0	61.1	92.2	85.9
1984       79.8       84.0       105.3       71.2       93.7       89.3         1985       82.8       86.6       104.6       75.1       95.5       90.7         1986       86.5       89.1       103.0       78.5       98.1       90.7         1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0       97.9       92.8         1989       90.7       97.1       107.1       86.6       96.8       95.5         1990       93.0       97.5       104.8       90.8       96.6       97.6         1991       95.1       95.5       100.4       95.6       98.0       100.4         1992       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.5       100.5       100.5       100.5       100.8       100.3         1993       102.2       103.6       101.4       102.7       100.2       100.5         1994       105.3       109.1       103.6       105.6       100.8       100.3<	1982	74.7	73.1	97.9	67.0	95.5	89.7
1985       82.8       86.6       104.6       75.1       95.5       90.7         1986       86.5       89.1       103.0       78.5       98.1       90.7         1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0       97.9       92.8         1989       90.7       97.1       107.1       86.6       96.8       95.5         1990       93.0       97.5       104.8       90.8       96.6       97.6         1991       95.1       95.5       100.4       95.6       98.0       100.4         1992       100.0       100.0       100.0       100.0       100.0       100.0       100.0         1993       102.2       103.6       101.4       102.7       100.2       100.5         1994       105.3       109.1       103.6       105.6       100.8       100.3         1995       10.4       113.8       104.0       107.9       100.2       98.6         1996       113.8       118.0       103.7       109.3       98.9       96.0         1997       119.2       125.7	1983	77.1	76.3	98.9	68.8	94.2	89.3
1986       86.5       89.1       103.0       78.5       98.1       90.7         1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0       97.9       92.8         1989       90.7       97.1       107.1       86.6       96.8       95.5         1990       93.0       97.5       104.8       90.8       96.6       97.6         1991       95.1       95.5       100.4       95.6       98.0       100.4         1992       100.0       100.0       100.0       100.0       100.0       100.0         1993       102.2       103.6       101.4       102.7       100.2       100.5         1994       105.3       109.1       103.6       105.6       100.8       100.3         1995       109.4       113.8       104.0       107.9       100.2       98.6         1996       113.8       118.0       103.7       109.3       98.9       96.0         1997       119.2       125.7       105.5       113.4       100.4       95.1	1984	79.8	84.0	105.3	71.2	93.7	89.3
1987       88.8       92.1       103.8       80.7       97.5       90.9         1988       90.5       96.5       106.6       84.0       97.9       92.8         1989       90.7       97.1       107.1       86.6       96.8       95.5         1990       93.0       97.5       104.8       90.8       96.6       97.6         1991       95.1       95.5       100.4       95.6       98.0       100.4         1992       100.0       100.0       100.0       100.0       100.0       100.0       100.0         1993       102.2       103.6       101.4       102.7       100.2       100.5         1994       105.3       109.1       103.6       105.6       100.8       100.3         1995       109.4       113.8       104.0       107.9       100.2       98.6         1996       113.8       118.0       103.7       109.3       98.9       96.0         1997       119.2       125.7       105.5       113.4       100.4       95.1	1985	82.8	86.6	104.6	75.1	95.5	90.7
1988       90.5       96.5       106.6       84.0       97.9       92.8         1989       90.7       97.1       107.1       86.6       96.8       95.5         1990       93.0       97.5       104.8       90.8       96.6       97.6         1991       95.1       95.5       100.4       95.6       98.0       100.4         1992       100.0       100.0       100.0       100.0       100.0       100.0       100.0         1993       102.2       103.6       101.4       102.7       100.2       100.5         1994       105.3       109.1       103.6       105.6       100.8       100.3         1995       109.4       113.8       104.0       107.9       100.2       98.6         1996       113.8       118.0       103.7       109.3       98.9       96.0         1997       119.2       125.7       105.5       113.4       100.4       95.1	1986	86.5	89.1	103.0	78.5	98.1	90.7
1989     90.7     97.1     107.1     86.6     96.8     95.5       1990     93.0     97.5     104.8     90.8     96.6     97.6       1991     95.1     95.5     100.4     95.6     98.0     100.4       1992     100.0     100.0     100.0     100.0     100.0     100.0       1993     102.2     103.6     101.4     102.7     100.2     100.5       1994     105.3     109.1     103.6     105.6     100.8     100.3       1995     109.4     113.8     104.0     107.9     100.2     98.6       1996     113.8     118.0     103.7     109.3     98.9     96.0       1997     119.2     125.7     105.5     113.4     100.4     95.1	1987	88.8	92.1	103.8	80.7	97.5	90.9
1990     93.0     97.5     104.8     90.8     96.6     97.6       1991     95.1     95.5     100.4     95.6     98.0     100.4       1992     100.0     100.0     100.0     100.0     100.0     100.0     100.0     100.0     100.0       1993     102.2     103.6     101.4     102.7     100.2     100.5       1994     105.3     109.1     103.6     105.6     100.8     100.3       1995     109.4     113.8     104.0     107.9     100.2     98.6       1996     113.8     118.0     103.7     109.3     98.9     96.0       1997     119.2     125.7     105.5     113.4     100.4     95.1	1988	90.5	96.5	106.6	84.0	97.9	92.8
1991       95.1       95.5       100.4       95.6       98.0       100.4         1992       100.0       100.0       100.0       100.0       100.0       100.0         1993       102.2       103.6       101.4       102.7       100.2       100.5         1994       105.3       109.1       103.6       105.6       100.8       100.3         1995       109.4       113.8       104.0       107.9       100.2       98.6         1996       113.8       118.0       103.7       109.3       98.9       96.0         1997       119.2       125.7       105.5       113.4       100.4       95.1	1989	90.7	97.1	107.1	86.6	96.8	95.5
1991       95.1       95.5       100.4       95.6       98.0       100.4         1992       100.0       100.0       100.0       100.0       100.0       100.0         1993       102.2       103.6       101.4       102.7       100.2       100.5         1994       105.3       109.1       103.6       105.6       100.8       100.3         1995       109.4       113.8       104.0       107.9       100.2       98.6         1996       113.8       118.0       103.7       109.3       98.9       96.0         1997       119.2       125.7       105.5       113.4       100.4       95.1	1990	93.0	97.5	104.8	90.8	96.6	97.6
1992       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.2       100.5       100.5       100.5       100.8       100.3       100.3       100.3       100.2       98.6       100.2       98.6       1996       113.8       118.0       103.7       109.3       98.9       96.0       1997       119.2       125.7       105.5       113.4       100.4       95.1	1991	95.1	95.5	100.4	95.6	98.0	100.4
1994     105.3     109.1     103.6     105.6     100.8     100.3       1995     109.4     113.8     104.0     107.9     100.2     98.6       1996     113.8     118.0     103.7     109.3     98.9     96.0       1997     119.2     125.7     105.5     113.4     100.4     95.1	1992	100.0		100.0	100.0	100.0	100.0
1994     105.3     109.1     103.6     105.6     100.8     100.3       1995     109.4     113.8     104.0     107.9     100.2     98.6       1996     113.8     118.0     103.7     109.3     98.9     96.0       1997     119.2     125.7     105.5     113.4     100.4     95.1							
1996     113.8     118.0     103.7     109.3     98.9     96.0       1997     119.2     125.7     105.5     113.4     100.4     95.1							
1996     113.8     118.0     103.7     109.3     98.9     96.0       1997     119.2     125.7     105.5     113.4     100.4     95.1	1995	109.4	113.8	104.0	107.9	100.2	98.6
1997 119.2 125.7 105.5 113.4 100.4 95.1							

See footnotes following Table 6. November 12, 1999

Appendix table 4. Durable manufacturing sector: Productivity, hourly compensation, and unit labor costs, Indexes 1992=100

INCORES 1332-100	Output per hour of		Hours of all	Compensa- tion per	Real compensa- tion per	Unit labor	
Year	all persons	Output	persons	hour (1)	hour (2)	costs	
1959	38.0	34.7	91.4	14.4	64.4	37.9	
1960	38.4	35.1	91.3	15.0	65.9	39.0	
1961	39.0	34.2	87.8	15.4	67.1	39.5	
1962	40.9	37.9	92.7	16.0	69.1	39.2	
1963	42.7	40.3	94.3	16.5	70.1	38.6	
1964	44.2	42.9	97.0	17.1	72.0	38.8	
1965	46.4	48.3	104.1	17.4	72.1	37.6	
1966	47.1	53.3	113.1	18.2	73.2	38.6	
1967	48.0	54.0	112.3	19.2	74.7	39.9	
1968	50.2	57.2	113.9	20.6	77.3	41.1	
1969	50.9	58.9	115.6	22.1	78.6	43.5	
1970	50.6	53.9	106.5	23.8	79.7	47.0	
1971	54.9	55.5	101.1	25.4	81.6	46.2	
1972	57.6	61.6	107.0	26.6	83.0	46.3	
1973	59.9	69.1	115.2	28.6	83.8	47.6	
1974	58.2	66.0	113.3	31.6	83.5	54.3	
1975	60.2	60.0	99.7	35.7	86.4	59.3	
1976	63.7	66.4	104.3	38.8	88.8	60.9	
1977	66.8	73.5	110.0	42.1	90.5	63.0	
1978	67.7	78.9	116.5	45.3	91.0	66.9	
1979	67.8	81.5	120.1	49.7	91.2	73.3	
1980	67.8	76.7	113.1	55.9	92.4	82.4	
1981	68.5	76.7 76.9	112.3	61.5	93.0	82.4	
1982	71.4	71.8	100.6	67.5	96.3	94.7	
1983	75.3	76.2	101.2	69.1	94.6	91.7	
1984	79.7	87.8	110.2	71.0	93.5	89.2	
1985	82.0	90.4	110.2	74.8	95.1	91.1	
1986	86.4	92.7	107.3	78.5	98.1	90.8	
1987	89.1	95.4	107.1	80.9	97.7	90.8	
1988	91.0	100.9	110.8	83.7	97.6	91.9	
1989	91.2	101.2	110.9	86.3	96.4	94.6	
1990	93.0	99.8	107.3	90.3	96.1	97.1	
1991	94.3	95.5	101.3	95.3	97.7	101.0	
1992	100.0	100.0	100.0	100.0	100.0	100.0	
1993	104.2	105.7	101.5	102.9	100.3	98.8	
1994	109.3	114.4	104.7	105.6	100.8	96.7	
1995	114.8	121.9	106.2	107.5	99.9	93.7	
1996	121.5	130.2	107.2	107.4	97.1	88.3	
1997	129.2	142.5	110.3	110.9	98.2	85.8	
1998	137.5	152.6	111.0	117.0	102.2	85.1	

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See footnotes following Table 6.

November 12, 1999

Appendix table 5. Nondurable manufacturing sector: Productivity, hourly compensation, and unit labor costs, Indexes 1992=100

Year	Output per hour of all persons	Output	Hours of all persons	Compensa- tion per hour (1)	Real compensa- tion per hour (2)	Unit labor costs
1959	46.0	43.2	93.9	14.1	63.2	30.7
1960	47.2	44.0	93.2	14.7	64.8	31.2
1961	48.5	44.8	92.3	15.2	66.3	31.4
1962	49.5	46.8	94.4	15.7	67.8	31.7
1963	51.2	48.3	94.4	16.2	69.0	31.7
1964	53.3	50.9	95.5	16.9	71.0	31.7
1965	53.3	52.8	99.1	17.3	71.4	32.4
1966	53.7	55.2	102.7	18.0	72.5	33.6
1967	56.6	57.8	102.3	19.1	74.4	33.7
1968	58.1	60.3	103.8	20.5	76.7	35.3
1969	59.6	62.3	104.6	22.0	78.1	36.9
1970	61.2	62.1	101.5	23.6	79.2	38.5
1971	64.1	64.0	99.8	24.9	79.9	38.8
1972	67.1	68.8	102.5	26.1	81.2	38.8
1973	67.5	70.2	104.0	28.1	82.5	41.6
1974	69.3	69.9	100.9	31.3	82.8	45.2
1975	72.0	67.6	93.9	34.9	84.4	48.4
1976	73.8	72.8	98.7	37.7	86.2	51.1
1977	76.5	77.2	100.9	40.9	87.9	53.5
1978	77.4	79.4	102.6	44.4	89.2	57.4
1979	76.4	78.5	102.8	48.7	89.4	63.7
1980	76.1	76.2	100.1	54.3	89.7	71.3
1981	76.5	76.4	99.9	59.5	89.9	77.8
1982	79.9	75.5	94.4	65.6	93.5	82.0
1983	80.8	77.5	95.9	68.0	93.1	84.1
1984	82.4	81.4	98.8	70.7	93.0	85.8
1985	86.0	83.6	97.1	74.7	95.0	86.8
1986	88.7	86.3	97.3	77.7	97.1	87.6
1987	90.5	90.0	99.4	79.8	96.4	88.2
1988	91.9	92.8	100.9	83.7	97.5	91.0
1989	91.7	93.4	101.9	86.5	96.7	94.4
1990	93.8	95.2	101.4	91.0	96.9	97.0
1991	95.8	95.2	99.3	95.8	98.3	100.0
1992	100.0	100.0	100.0	100.0	100.0	100.0
1993	100.4	101.6	101.2	102.5	99.9	102.1
1994	102.0	104.2	102.1	105.4	100.6	103.3
1995	104.9	106.1	101.1	107.9	100.3	102.9
1996	107.5	106.4	99.0	111.8	101.2	104.1
1997	110.7	109.6	99.1	116.4	103.0	105.2
1998	112.1	110.3	98.4	122.1	106.6	108.9

See footnotes following Table 6.

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Appendix table 6. Nonfinancial corporations: Productivity, hourly compensation, unit labor costs,

unit profits, and prices Indexes 1992=100

Year	Output per all- employee hour	Output	Employee hours	Hourly compen- sation (1)	Real hourly compen sation(2)	Unit labor costs	Unit non- labor costs(6)	Total unit costs (7)	Unit pro- fits (8)	Impli price defla (4)
1959	51.6	26.9	52.1	15.0	67.0	29.0	26.0	28.1	58.4	30
1960	52.6	27.8	52.9	15.6	68.6	29.7	26.8	28.9	53.2	30
1961	54.3	28.5	52.4	16.1	70.2	29.7	27.3	29.0	53.2	31
1962	56.5	30.8	54.4	16.7	72.2	29.6	26.9	28.8	57.9	31
1963	58.5	32.6	55.7	17.3	73.5	29.5	26.7	28.7	61.3	31
1964	60.8	34.8	57.2	18.0	75.8	29.6	26.6	28.8	63.8	31
1965	62.2	37.6	60.5	18.5	76.7	29.8	26.4	28.8	68.9	32
1966	63.0	40.2	63.9	19.5	78.6	31.0	26.3	29.7	68.8	32
1967	63.9	41.3	64.5	20.6	80.4	32.3	27.9	31.0	64.3	33
1968	66.0	43.8	66.4	22.2	83.0	33.6	29.4	32.4	64.2	3.5
1969	66.0	45.5	69.0	23.7	84.0	35.9	31.6	34.7	57.9	36
1970	66.3	45.1	68.0	25.3	85.1	38.2	35.4	37.4	47.1	38
1971	69.1	46.9	67.9	26.9	86.6	39.0	37.1	38.5	53.3	3.9
1972	70.8	50.5	71.4	28.5	88.7	40.2	37.2	39.3	57.5	4 (
1973	71.3	53.4	74.9	30.7	90.0	43.0	38.7	41.8	59.2	43
1974	69.7	52.5	75.3	33.6	88.8	48.2	44.4	47.2	52.4	4
1975	72.4	51.6	71.3	37.0	89.5	51.1	50.2	50.8	68.4	52
1976	74.6	55.6	74.6	40.0	91.6	53.7	50.1	52.6	77.4	54
1977	76.3	59.6	78.1	43.2	92.8	56.6	51.7	55.2	85.1	51
1978	76.9	63.5	82.6	47.0	94.3	61.1	54.4	59.2	88.5	63
1979	75.8	65.0	85.8	51.3	94.2	67.7	60.1	65.6	82.8	6
1980	76.9	65.4	85.1	56.6	93.6	73.7	69.4	72.5	72.6	72
1981	79.4	68.5	86.2	61.8	93.4	77.9	78.5	78.1	85.9	78
1982	81.0	67.8	83.7	66.3	94.4	81.8	85.1	82.7	77.1	82
1983	83.6	70.9	84.8	68.7	94.1	82.3	84.7	82.9	94.1	83
1984	86.6	78.2	90.3	71.7	94.3	82.8	83.7	83.1	111.3	85
1985	88.3	81.6	92.5	75.0	95.5	85.0	85.1	85.0	107.0	86
1986	90.7	84.1	92.7	78.8	98.5	86.9	87.5	87.1	89.7	8
1987	92.6	88.7	95.8	81.7	98.7	88.2	87.3	87.9	100.3	8.9
1988	94.7	93.8	99.1	84.8	98.9	89.6	89.1	89.5	110.3	91
1989	93.8	95.7	102.0	87.0	97.2	92.7	95.9	93.6	99.0	94
1990	94.9	97.1	102.4	91.4	97.2	96.4	99.0	97.1	95.5	91
1991	96.9	96.4	99.6	95.5	98.0	98.6	102.9	99.8	94.0	99
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100
1993	101.5	103.8	102.3	102.1	99.5	100.6	99.6	100.3	112.5	101
1994	104.3	110.8	106.2	104.3	99.5	100.0	100.2	100.0	130.5	102
1995	105.6	115.7	109.6	106.2	98.6	100.5	100.9	100.6	137.5	103
1996	108.4	120.9	111.5	109.0	98.6	100.5	100.1	100.4	151.5	104
1997	111.7	128.9	115.4	113.0	100.0	101.1	99.4	100.6	157.1	105
1998	116.2	137.5	118.4	119.0	103.9	102.4	98.4	101.3	150.4	105

See footnotes following Table 6.

November 12, 1999

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 +2.6 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 second 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 selfemployed.
- (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.