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## PRODUCTIVITY AND COSTS

Third Quarter 1985

The Bureau of Labor Statistics of the U.S. Department of Labor today reported preliminary productivity statistics—as measured by output per hour of all persons—for the third quarter of 1985. The seasonally adjusted annual rates of increase in major sectors of the economy from the second to the third quarter of 1985 were:

- 3.0 percent in the business sector,
- 1.2 percent in the nonfarm business sector,
- 2.4 percent in manufacturing,
- 2.7 percent in durable goods manufacturing, and
- 2.0 percent in nondurable goods manufacturing.

Third-quarter measures are summarized in table A and appear in detail in tables 1 through 6.

### Business

Productivity increased at a 3.0 percent seasonally adjusted annual rate in the third quarter of 1985 in the business sector, as output grew 3.3 percent and hours of all persons increased 0.3 percent (table 1). During the second quarter, productivity had increased 1.5 percent as output and hours rose 2.7 percent and 1.2 percent, respectively. The slower rate of growth in hours in the third quarter reflected a continued slowing in employment growth and a further decline in the length of the average work week.

Hourly compensation increased at a 5.6 percent annual rate in the third quarter, compared with a 3.3 percent rise during the second quarter. This measure includes the cost to employers of wages and salaries, supplements, payments to employee-benefit plans, and taxes. Real hourly compensation, which also takes into account changes in the Consumer Price Index for All Urban Consumers (CPI-U), increased 3.1 percent in the third quarter, compared with a 0.9 percent decline during the second period. Unit labor costs, which reflect changes in productivity and hourly compensation, increased at a 2.6 percent annual rate during the third quarter, compared with a 1.7 percent gain in the second quarter.

Table A. Productivity and costs: Percent change at seasonally adjusted annual rates

Sector	Produc- tivity	Output	Hours	Hourly compen- sation	Real hourly compen- sation	Unit labor costs
		PRELIM	INARY			
	Second qu	arter to	third quar	ter 1985		
Business Nonfarm business Manufacturing Durable Nondurable	3.0 1.2 2.4 2.7 2.0	3.3 3.2 2.3 1.8 3.0	0.3 2.0 -0.1 -0.9 1.0	5.6 3.9 2.9 3.9 1.4	3.1 1.4 0.5 1.5 -1.0	2.6 2.7 0.5 1.2 -0.6
	Third quart	er 1984 to	o third qu	arter 1985		
Business Nonfarm business Manufacturing Durable Nondurable	0.9 0.4 2.2 2.1 2.3	2.7 2.7 1.3 1.0	1.8 2.3 -0.9 -1.1 -0.6	4.5 4.0 4.6 5.1 3.8	1.1 0.6 1.2 1.7 0.4	3.6 3.6 2.4 2.9

### Nonfarm business

Productivity in the nonfarm business sector increased at a 1.2 percent annual rate in the third quarter, as output rose 3.2 percent and hours of all persons engaged in the sector rose 2.0 percent. During the second quarter, the same increase in productivity reflected slower growth in both output and hours (table 2). Although output growth was similar in business and nonfarm business, differences in hours growth resulted in a larger business productivity gain as farm hours declined sharply.

Hourly compensation increased at a 3.9 percent annual rate in the third quarter, and unit labor costs—compensation per unit of output—rose 2.7 percent. Real hourly compensation increased 1.4 percent in the third quarter in the nonfarm business sector.

### Manufacturing

In manufacturing, output per hour of all persons increased at a 2.4 percent annual rate during the third quarter, as output rose 2.3 percent and hours of all persons declined 0.1 percent. During the second quarter, productivity increased at a 6.8 percent annual rate; output rose 2.0 percent while hours dropped 4.5 percent (table 3).

Hourly compensation increased at a 2.9 percent annual rate, compared with a 4.8 percent gain during the second quarter. Unit labor costs increased 0.5 percent, compared with a 1.9 percent decline in the second quarter (seasonally adjusted annual rates). Real hourly compensation increased 0.5 percent in the third quarter for persons engaged in manufacturing.

Although productivity increased faster among durable goods producers, output and hours were both weaker than among nondurable goods manufacturers (tables 4 and 5).

# Nonfinancial corporations: revised second quarter measures

Productivity in nonfinancial corporations declined 0.3 percent in the second quarter, according to revised measures announced today. This sector includes all corporations doing business in the United States, except banks, finance and insurance agencies, and stock and commodity brokers, Output rose 1.9 percent while hours of all employees increased 2.2 percent (seasonally adjusted annual rates). These changes are based on the most complete measures of output, compensation, and labor input available; table B compares them with the results reported on August 27, based on preliminary information.

Table B. Preliminary and revised prooductivity and related measures for nonfinancial corporations, second quarter 1985
Percent change from previous quarter at annual rate (Seasonally adjusted)

Item	Produc- tivity	Output	Hours	Hourly compen- sation	Real hourly compen- sation	Unit labor costs	Unit nonlabor costs	Unit profits
Preliminary	-0.3	1.8	2.1	2.9	-1.2	3.2	4.1	-2.7
Revised	-0.3		2.2	3.0	-1.2	3.3	4.3	-3.9

#### TECHNICAL NOTES

Business sector output is equal to gross national product, less the rest-of-the-world sector, general government, output of paid employees of private households and nonprofit institutions, rental value of owner-occupied dwellings, and the statistical discrepancy in computing the national income accounts. Corresponding exclusions are also made in labor inputs. Business output has accounted for about 77 percent of gross national product in recent years.

Total manufacturing measures are computed by summing series prepared for the durable and nondurable goods sectors.

The durable sector includes the following 2-digit SIC industries: Primary metals; fabricated metal products; nonelectrical machinery; electrical machinery; transportation equipment; instruments; lumber and lumber products; furniture and fixtures; stone, clay, and glass products; and miscellaneous manufactures. The nondurable sector includes the following 2-digit SIC industries: Textile mill products, apparel products, leather and leather products, printing and publishing, chemical and chemical products, petroleum products, rubber and plastic products, foods, and tobacco products.

Manufacturing output has accounted for about 24 percent of gross national product in recent years.

Nonfinancial corporate output is equal to gross hational product, less the rest-of-the world sector, general government, unincorporated business, output of paid employees of private households and nonfprofit institutions, rental value of owner-occupied dwellings, the output of corporations engaged in banking, finance, stock and commodity trading, and credit and insurance agencies, and the statistical discrepancy in computing the national income accounts. Nonfinancial corporate output has accounted for about 59 percent of gross national product in recent years.

The productivity and associated cost measures in this news release describe the relationship between output in real terms 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 of all persons engaged in a sector, they do not measure the specific contributions 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.

Table 1. Business sector: Productivity, hourly compensation, unit labor cost, and prices, 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 cost	Unit non- labor pay- ments(3)	Implicit price deflator(4)
	······································		***	Ir	ndexes 1977=100				
1984	I II IV	105.7 107.0 107.2 108.0	117.8 121.0 121.5 123.0	111.4 113.0 113.4 113.9	166.7 167.5 169.3 171.1	98.6 98.2 98.3 98.5	157.7 156.5 158.0 158.4	151.6 157.2 158.5 160.2	155.6 156.7 158.1 159.0
	ANNUAL.	107.0	120.8	112.9	168.6	98.4	157.6	157.0	157.4
1985	II III	106.9 107.3 108.1p	123.0 123.8r 124.9p	115.0 115.4r 115.5p	173.1 174.5 176.9p	98.9 98.6 99.4p	161.9 162.6r 163.6p	159.1 159.9r 161.2p	160.9 161.7 162.8p
<del></del>			Percent	change from p	previous quarte	r at annual rate	(5)		
1984	II III IV	4.0 4.9 0.6 3.1	11.4 . 11.2 1.8 5.0	7.2 6.0 1.2 1.8	6.2 1.9 4.4 4.4	0.8 -1.8 0.7 0.8	2.1 -2.9 3.7 1.2	7.0 15.4 3.4 4.3	3.7 2.9 3.6 2.2
	ANNUAL	3.2	8.8	5.4	4.2	0.0	1.0	7.9	3.2
1985	I II III	-3.9 1.5r 3.0p	0.0 2.7r 3.3p	4.1 1.2r 0.3p	4.8 3.3 5.6p	1.4 -0.9 3.1p	9.1 1.7r 2.6p	-2.6 2.1r 3.2p	5.0 1.8r 2.8p
			Percent ch	ange from com	rresponding qua	rter of previous	year		
1984	III III IV	3.5 3.3 2.7 3.2	10.2 9.9 8.0 7.3	6.5 6.4 5.1 4.0	4.1 4.0 4.6 4.2	-0.4 -0.3 0.4 0.1	0.6 0.7 1.9 1.0	8.4 8.7 7.1 7.4	3.0 3.3 3.6 3.1
	ANNUAL	3.2	8.8	5.4	4.2	0.0	1.0	7.9	3.2
1985	III II	1.1 0.3 0.9p	4.4 2.4r 2.7p	3.2 2.1r 1.8p	3.8 4.2 4.5p	0.3 0.5 1.1p	2.7 3.9 3.6p	4.9 1.8 1.7p	3.4 3.2 2.9p

See footnotes following table 6. r-revised p-preliminary

Table 2. Nonfarm business sector: Productivity, hourly compensation, unit labor cost, and prices, 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 cost	Unit non- labor pay- ments(3)	Implicit price deflator(4)
				Ir	dexes 1977=100				
1984	I II IV	105.2 106.6 106.3 106.9	118.0 121.0 121.3 122.7	112.3 113.6 114.1 114.8	166.5 168.0 169.5 171.0	98.4 98.4 98.4 98.5	158.3 157.6 159.5 160.0	152.2 156.8 158.0 160.3	156.3 157.3 159.0 160.1
	ANNUAL	106.2	120.7	113.6	168.7	98.4	158.8	156.9	158.2
1985	II II	106.0 106.3 106.7p	122.8 123.6r 124.5p	115.8 116.2 116.8p	173.1 174.6r 176.2p	98.9 98.7 99.0p	163.3 164.1r 165.2p	160.3 161.8r 163.7p	162.3 163.4 164.7p
			Percent	change from p	revious quarte	r at annual rate	e(5)		
1984	I II IV	2.9 5.5 -1.1 2.2	10.3 10.6 0.7 4.7	7.2 4.8 1.8 2.4	6.1 3.7 3.6 3.7	0.7 0.0 -0.1 0.1	3.1 ~1.7 4.7 1.4	2.3 12.5 3.1 5.9	2.8 2.8 4.2 2.9
	ANNUAL	2.7	8.5	5.7	4.1	-0.1	1.4	6.7	3.1
1985	III	-3.1 1.2r 1.2p	0.5 2.5r 3.2p	3.7 1.3r 2.0p	5.0 3.4r 3.9p	1.7 -0.8 1.4p	8.4 2.1r 2.7p	0.1 3.7r 4.9p	5.5 2.7r 3.4p
			Percent ch	ange from com	responding qua	rter of previous	year		
1984	I II III V	3.5 2.9 2.1 2.4	10.6 9.7 7.6 6.5	6.9 6.6 5.4 4.0	4.0 4.0 4.4 4.3	-0.5 -0.3 0.2 0.2	0.4 1.1 2.3 1.9	8.3 7.1 5.7 5.9	2.9 3.0 3.4 3.2
	ANNUAL	2.7	8.5	5.7	4.1	-0.1	1.4	6.7	3.1
1985	II III	0.8 -0.2r 0.4p	4.0 2.1r 2.7p	3.2 2.3 2.3p	4.0 3.9 4.0p	0.4 0.2 0.6p	3.1 4.1r 3.6p	5.3 3.2 3.6p	3.8 3.8 3.6p

See footnotes following table 6. r=revised

p=preliminary

Table 3. Manufacturing sector: Productivity, hourly compensation, and unit labor cost, seasonally adjusted

	Year and quarter	Output per hour of all persons	Output (6)	Hours of all persons	Compensa- tion per hour(1)	Real compensa- tion per hour(2)	Unit labor cost
			Ind	exes 1977=100	)		
1984	I	114.2	113.0	98.9	167.1	98.8	146.3
	II	114.8	114.9	100.1	168.3	98.6	146.6
	III	116.7	116.7	100.0	169.9	98.7	145.5
	IV	116.5	116.7	100.2	172.1	99.1	147.7
	ANNUAL	115.6	115.3	99.8	169.4	98.8	146.5
1985	I	116.7	117.0	100.3	174.4	99.6	149.5
	II	118.6r	117.6r	99.1	176.5	99.7	148.8r
	· III	119.3p	118.2p	99.1p	177.8p	99 <b>.</b> 9p	149.0p
	-	Percent cha	nge from pro	evious quarte	er at annual ra	te(5)	
1984	I	5.5	14.8	8.8	6.2	. 0.8	0.6
	II	2.2	6.9	4.6	2.9	-0.8	0.7
	III	6.8	6.5	-0.2	3.7	0.1	-2.8
	IA	-0.6	0.0	0.7	5.2	1.6	5.9
	ANNUAL	3.5	10.5	6.7	3.6	-0.6	0.1
1985	I	0.4	0.9	0.4	5.6	2.2	5.1
	. II	6.8r	2.0r	<b>-4.</b> 5	4.8	0.6	-1.9r
	III	. 2.4p	2,3p	-0.1p	2.9p	0.5p	0.5p
		Percent change	e from corr	esponding qua	rter of previous	us year	
1984	I	3.8	13.9	9.7	2.7	-1.7	-1.0
	II	3.6	12.2	8.3	3.3	-1.0	<del>-0.3</del>
	III	3.3	9.3	5.8	3.9	-0.3	0.6
	IV	3.4	7.0	3.4	4.5	0.4	1.0
	ANNUAL	3.5	10.5	6.7	3.6	-0.6	0.1
1985	I	2.1	3.5	1.4	4.4	0.8	2.2
	II	3.3r	2.3r	-0.9	4.8	1.1	1.5r
	III	2.2p	1.3p	-0.9p	4.6p	1.2p	2.4p

r=revised

p=preliminary

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

	Year and quarter	Output per hour of all persons	Output (6)	Hours of all persons	Compensa- tion per hour(1)	Real compensa- tion per hour(2)	Unit labor cost
			Ind	exes 1977=100			
1984	I	115.3	114.1	98.9	165.8	98.1	143.8
	II	116.1	116.6	100.4	167.0	97.8	143.8
	III	118.3	119.4	101.0	168.1	97.6	142.1
	IV	117.7	119.5	101.5	170.1	<b>97.9</b>	144.4
	ANNUAL	116.9	117.4	100.4	167.7	97.9	143,5
1985	I	118.2	119.8	101.4	172.9	98.7	146.3
	II	120.0r	120.1r	100.1r	175.0	98.9	145.8r
	III	120.8p	120.6p	99 <b>.</b> 8p	176.7p	99.3p	146.3p
		Percent cha	nge from pr	evious quarte	r at annual ra	te(5)	· · · · · · · · · · · · · · · · · · ·
1984	I	8.4	20.3	10.9	6.1	0.8	-2.2
	II	2.8	9.2	6.2	2.8	-0.9	0.0
	III	7.6	9.9	2.1	2.6	-1.0	-4.6
	IV	-1.8	0.3	2.1	4.9	1.3	6.8
	ANNUAL	4.8	14.4	9.1	3.2	-1.0	-1.6
1985	I	1.5	1.2	-0.4	6.9	3.5	5.3
	II	6.2r	0.7r	-5.2	4.9	0.7	-1.3r
	III	2.7p	1.8p	-0.9p	3.9p	1.5p	1.2p
	<del>. w.</del>	Percent chang	e from corr	esponding qua	rter of previo	us year	
1984	I	5.5	18.5	12.3	2.2	-2.2	-3.1
	II	5.1	16.7	11.1	2.9	-1.4	-2.0
	III	4.6	13.4	8.4	3.4	-0.8	-1.2
	IV	4.2	9.7	5.3	4.1	0.0	-0.1
	ANNUAL	4.8	14.4	9.1	3.2	-1.0	-1.6
1985	I	2.5	5.0	2.5	4.3	0.7	1.8
	II	3.3r	2.9r	-0.4	4.8	1.1	1.4r
	III	2.1p	1.0p	-1.1p	5.1p	1.7p	- 2.9p

r=revised

p-preliminary

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

	Year and quarter	Output per hour of all persons	Output (6)	Hours of all persons	Compensa- tion per hour(1)	Real compensa- tion per hour(2)	Unit labor cost
<del></del>			Ind	exes 1977=100	)		
1984	I	112.5	111.4	99.0	169.5	100.2	150.6
	II	112.9	112.3	99.5	170.6	100.0	151.2
	III	114.4	112.8	98.6	172.7	100.3	151.1
	IV	114.7	112.7	98.2	175.1	100.8	152.7
	ANNUAL	113.6	112.3	98.9	171.9	100•3	151.4
1985	ı	114.3	112.8	98.7	176.6	100.8	154.5
	· II	116.5r	113.9r	97.8	178.6r	101.0	153.4r
	III	117.0p	114.7p	98.0p	179.3p	100.7p	153.2p
	<del>- 11 - 72-11 - 1-11 - 21-1</del>	Percent cha	nge from pr	evious quarte	er at annual ra	te(5)	
1984	I	1.3	7.1	5.8	5.8	0.5	4.5
	II	1.2	3.6	2.4	2.7	-1.0	1.5
	III	5.4	1.5	<b>-3.</b> 7	5.1	1.4	-0.3
	IV	1.1	-0.4	-1.5	5.5	1.9	4.3
	ANNUAL	1.5	4.9	3.3	3.8	-0.4	2.3
1985	I	-1.3	0.4	1.7	3.5	0.2	4.9
	II	7.8r	3.9r	-3.6	4.8	• 0.6	-2.8r
	III	2.0p	3.0p	1,0p	1.4p	-1.0p	-0.6p
		Percent chang	e from corr	esponding qua	arter of previo	us year	
1984	I	1.3	7.5	6.1	3.0	-1.4	1.7
	II	1.3	5.9	4.5	3.3	<b>-1.0</b> °	2.0
	III	1.3	3.4	2.1	4.3	0.1	2.9
	IV	2.2	2.9	0.7	4.8	0.7	2.5
	ANNUAL	. <b>1.5</b>	4.9	3.3	3.8	-0.4	2.3
1985	· 1	1.6	1.3	-0.3	4.2	0.6	2.6
	II	3.2r	1.4r	-1.8	4.7	1.0	1.5r
	III	2.3p	1.7p	-0.6p	3.8p	0.4p	~1.4p

r=revised p-preliminary

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

	Year and quarter	Output per all- employee hour	Output	Employee hours	Hourly compensation (1)	Real hourly compen- sation(2)	Unit labor cost	Unit non- labor cost(7)	Total unit cost (8)	Unit pro- fits (9)	Implicit price deflator (4)
-					Index	es 1977=100					
1984	I III IV	108.1 108.9 108.2 108.8	120.2 123.1 123.1 124.7	111.2 113.1 113.8 114.6	164.8 165.8 167.1 168.7	97.5 97.2 97.1 97.1	152.5 152.3 154.5 155.0	162.0 162.8 165.9 166.4	155.0 155.0 157.5 158.0	143.2 151.1 145.3 150.7	153.6 154.6 156.1 157.1
	ANNUAL	108.5	122.8	113.2	166.6	97.2	153.6	164.3	156.4	147.6	155.4
1985	I II	108.1 108.1	124.9 125.5	115.5 116.1	170.3 171.6	97.3 97.0	157.5 158.8	168.1 169.8	160.2 161.6	150.4 148.9r	159 <b>.</b> 1 160 <b>.</b> 2
			Percer	nt change	from prev	ious quarte	r at annu	ul rate(5	)	·············	······································
1984	I II III IV	3.6 2.8 -2.5 2.5	11.6 9.8 0.2 5.2	7.7 6.8 2.8 2.6	5.7 2.4 3.2 3.7	0.4 -1.3 -0.4 0.2	2.0 -0.4 5.9 1.2	-3.2 2.0 8.0 1.1	0.6 0.2 6.5 1.2	23.4 23.8 -14.5 16.0	2.7 2.6 3.9 2.7
	ANNUAL	2.3	9.0	6.6	3.5	-0.8	1.1	-0.4	0.7	25.9	3.0
1985	I II	-2.5 -0.3	0.6 1.9r	3.3 2.2r	3.9 3.0r	0.6 -1.2	6.6 3.3r	4.0 4.3r	5.9 3.5	-1.0 -3.9r	5.1 2.7r
	-		Percent	change f	rom corres	ponding qua	rter of p	revious y	ear		
1984	I II III IV	4.0 2.9 0.9 1.6	11.8 10.5 7.4 6.6	7.5 7.5 6.4 5.0	3.6 3.3 3.3 3.8	-0.9 -1.0 -0.9 -0.3	-0.4 0.4 2.4 2.2	-3.0 -1.4 0.9 1.9	-1.1 -0.1 2.0 2.1	54.8 35.2 14.7 10.9	2.8 2.9 3.2 3.0
	ANNUAL	2.3	9.0	6.6	3.5	-0.8	1.1	-0.4	0.7	25.9	3.0
1985	I II	0.0 -0.7	3.9 2.0É	3.9 2.7	3.3 3.5	-0.2 -0.2	3.3 4.2	3.8 4.3	3.4 4.3r	5.0 -1.5r	3.6 3.6

r=revised

p=preliminary

#### Footnotes, Tables 1-6

SOURCE: Output data from Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Compensation and hours data from the Bureau of Labor Statistics, U.S. Department of Labor, and the Bureau of Economic Analysis.

RELIABILITY: Based on data covering the period from the first quarter of 1976 to the second quarter of 1984, the probability is 0.95 that the interval between -1.8 and 2.0 index points contains the revision of the index of productivity in the business sector from the first to the third quarterly publication of the estimate.

- (1) Wages and salaries of the 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) Compensation per hour adjusted for changes in the Consumer Price Index for All Urban Consumers.
- (3) Nonlabor payments include profits, depreciation, interest, rental income, and indirect taxes.
- (4) Current dollar gross product divided by constant dollar gross product.
- (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) Quarterly measures adjusted to annual estimates of output (gross product originating) from the Bureau of Economic Analysis, U.S. Department of Commerce.
- (7) Unit nonlabor cost includes depreciation, interest, and indirect taxes.
- (8) Total unit cost is the sum of labor and nonlabor costs.
- (9) Unit profits include corporate profit and inventory valuation adjustment.