

News

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MULTIFACTOR PRODUCTIVITY MEASURES, 1985

Private Business, Private Nonfarm Business, and
Manufacturing

The Bureau of Labor Statistics of the U.S. Department of Labor today reported multifactor productivity measures--output per unit of combined labor and capital--for 1985. The annual rates of multifactor productivity change in 1985 were:

plus 0.3 percent in private business,
minus 0.2 percent in private nonfarm business, and
plus 3.6 percent in manufacturing.

The 1985 annual changes are summarized in table A and detailed measures appear in tables 1 through 6.

Change in multifactor productivity measures the difference between the growth in output (goods and services produced) and the growth in labor and capital engaged in producing that output. It reflects the change in output due to factors other than the change in capital and labor inputs. Such factors include new technology, economies of scale, changes in the composition of labor (education and training), capacity utilization rates, and organization of production.

Private business

Multifactor productivity increased 0.3 percent in 1985 in private business compared with a 3.1 percent rise in 1984 (table 4). The 1985 increase reflected a 3.3 percent increase in output and a 2.9 percent increase in the combined inputs of hours of all persons and capital services. Separately, hours increased 2.2 percent, and capital services increased 4.2 percent.

Labor productivity (output per hour of all persons) increased 1.1 percent in 1985, compared with a 2.3 percent increase in 1984.

Table A. Productivity indexes and related measures
Percent change from 1984 to 1985

Item	Private business ¹	Private nonfarm business ¹	Manu- facturing ¹
Productivity			
Output per hour of all persons . . .	1.1	0.5	4.4
Output per unit of capital services .	-0.9	-1.3	1.8
Multifactor productivity ²	0.3	-0.2	3.6
Output :	3.3	3.0	3.8
Inputs			
Hours of all persons	2.2	2.6	-0.5
Capital services	4.2	4.4	2.0
Combined units of labor and capital inputs ³	2.9	3.2	0.2
Capital services per hour of all persons (capital-labor ratio). . .	2.0	1.8	2.6

¹ Excludes government enterprises.

² Output per unit of combined labor and capital input.

³ Hours of all persons combined with capital service input index, weighted by labor and capital shares.

Capital productivity (output per unit of capital services) fell 0.9 percent in 1985 compared with a 4.6 percent increase in 1984. The ratio of capital services to hours (capital-labor ratio) increased 2.0 percent in private business in 1985 after falling 2.2 percent in the previous year.

Private nonfarm business

Multifactor productivity fell 0.2 percent in 1985 in private nonfarm business compared with a 2.7 percent increase in 1984 (table 5). This was the first decrease since 1982. The 1985 decrease resulted from a 3.0 percent increase in output along with a 3.2 percent increase in the combined inputs of capital services and hours of all persons. Capital services increased 4.4 percent in 1985, which was the largest increase since 1980. Hours increased 2.6 percent in private nonfarm business in 1985.

The increase in labor productivity was 0.5 percent in private nonfarm business in 1985 as opposed to an increase of 1.8 percent in 1984.

Capital productivity decreased 1.3 percent in 1985 compared with a 4.2 percent increase in 1984. On the other hand, the capital-labor ratio increased 1.8 percent, following a decline in the previous year.

Manufacturing

Multifactor productivity growth in manufacturing--which is approximately 25 percent of private business output--showed a strong increase of 3.6 percent in 1985. This increase resulted from a 3.8 percent increase in output and only a 0.2 percent increase in the combined inputs of hours and capital services. The increase in combined inputs resulted from a decrease in hours of 0.5 percent and an increase in capital services of 2.0 percent in 1985. This was the first decrease in hours since 1982 when they fell 8.1 percent (table 6).

Labor productivity increased 4.4 percent in manufacturing compared with a 4.1 percent increase in 1984. For manufacturing, this was the fifth consecutive annual increase over 2 percent.

Capital productivity increased in manufacturing 1.8 percent in 1985 compared with an 8.6 percent increase in 1984. The capital-labor ratio increased 2.6 percent as opposed to a 4.2 percent decrease in 1984. This was the first increase since 1982 when it gained 11.4 percent.

Long-term trends

Over the entire period 1948-85, multifactor productivity grew at an annual rate of 1.4 percent in private business (table B). For private nonfarm business, the average annual growth rate of multifactor productivity was 1.1 percent over the same period and, for manufacturing, it was 1.8 percent.

From 1948 to 1973, multifactor productivity grew at an average rate of 2.0 percent in private business, 1.7 percent in private nonfarm business, and 2.0 percent in manufacturing. For the same period, output per hour grew at an annual rate of 2.9 percent for private business, 2.5 percent for private nonfarm business, and 2.8 percent for manufacturing. The difference between each set of growth rates is equal to a proportion of the change in the capital-labor ratio (capital services per hour) and is referred to in this release as the contribution of capital intensity. This component accounted for approximately one-third of the growth in labor productivity in all three sectors from 1948 to 1973.

The magnitude of the post-1973 slowdown in productivity growth is shown in table B. Multifactor productivity growth in private business declined almost 2 percentage points from the pre-1973 rate to 0.2 percent per year, and in private nonfarm business it was zero. The contribution of capital intensity accounted for most of the growth in output per hour for these two sectors during the latter period. Only in manufacturing did multifactor productivity growth remain strong between 1973 and 1985, with an annual growth rate of 1.3 percent.

Table B. Compound annual rates of growth in output per hour of all persons, the contribution of capital intensity, and multifactor productivity, by major sector, 1948 to 1985.

Measure	1948 - 1985	1948 - 1973	1973 - 1985	1984 - 1985
<u>Private business¹</u>				
Output per hour of all persons	2.3	2.9	0.9	1.1
Contribution of capital intensity ²	0.9	0.9	0.7	0.8
Multifactor productivity ³	1.4	2.0	0.2	0.3
<u>Private nonfarm business¹</u>				
Output per hour of all persons	1.9	2.5	0.7	0.5
Contribution of capital intensity ²	0.8	0.8	0.7	0.7
Multifactor productivity ³	1.1	1.7	0.0	-0.2
<u>Manufacturing¹</u>				
Output per hour of all persons	2.6	2.8	2.2	4.4
Contribution of capital intensity ²	0.8	0.8	0.9	0.8
Multifactor productivity ³	1.8	2.0	1.3	3.6

¹ Excludes government enterprises.

² Change in capital services per hour times capital's share of current dollar output.

³ Output per unit of combined labor and capital inputs.

Source: Tables 1-3

Summary of Methods

The following note briefly describes the major data sources and the procedures used in deriving BLS multifactor productivity indexes. More detailed information on the methods, limitations, and data sources are in BLS Bulletin 2178, "Trends in Multifactor Productivity 1948-81."

The multifactor productivity indexes are derived by dividing an output index by an input index which is a weighted average of the hours of all persons and capital services. The output indexes are computed from measures of constant dollar gross domestic product, derived from the national income and product accounts developed by the Bureau of Economic Analysis of the U.S. Department of Commerce.

The capital input series measures the services derived from the stock of physical assets. The assets included are fixed business equipment, structures, inventories, and land. Structures include nonresidential structures and residential capital which is rented out by profitmaking firms or persons. Financial assets are excluded as are owner-occupied residential structures. The aggregate capital measures are obtained by weighting each asset type by its respective rental price.

The labor and capital components of the input indexes are combined with weights which represent each component's share of total output. The index uses changing weights where the share in each year is averaged with the preceding year's value.

Data are presented for the private business, private nonfarm business, and manufacturing sectors. The private business sector, which accounts for about 80 percent of the gross national product, includes all activities in the economy with the exception of general government, government enterprises, the rest-of-the-world sector, owner-occupied housing, nonprofit institutions, and private household employees and the statistical discrepancy. The private nonfarm business sector also excludes farms but includes agricultural services.

These multifactor productivity measures describe the relationship between output in real terms and the paid labor time and capital services involved in its production. 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; 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. Private Business Sector: Productivity and Related Measures, 1948-85 [1]

Year	Productivity			Output [3]	Inputs			Capital per hour of all persons
	Output per hour of all persons	Output per unit of capital	Multifactor productivity [2]		Hours of all persons [4]	Capital [5]	Combined units of labor and capital inputs[6]	
Indexes 1977=100								
1948	46.5	98.8	60.8	38.1	81.8	38.5	62.6	47.1
1949	47.1	94.4	60.3	37.2	79.0	39.4	61.7	49.8
1950	51.1	100.1	64.9	40.8	79.9	40.8	62.9	51.0
1951	53.2	102.4	67.1	43.7	82.2	42.7	65.1	52.0
1952	54.9	102.5	68.5	45.1	82.1	44.0	65.8	53.6
1953	56.9	104.5	70.6	47.2	82.9	45.2	66.9	54.5
1954	57.9	100.7	70.5	46.4	80.1	46.0	65.8	57.5
1955	59.7	104.3	72.8	49.6	83.1	47.6	68.1	57.2
1956	60.5	103.5	73.2	51.1	84.4	49.3	69.7	58.5
1957	62.1	101.7	74.1	51.6	83.1	50.7	69.7	61.1
1958	64.0	98.1	74.6	50.6	79.1	51.6	67.9	65.3
1959	66.2	103.1	77.6	54.3	82.1	52.7	70.1	64.2
1960	67.3	102.4	78.2	55.3	82.2	54.0	70.7	65.7
1961	69.7	102.2	80.0	56.3	80.8	55.1	70.5	68.2
1962	72.3	104.8	82.5	59.3	82.1	56.6	71.9	69.0
1963	75.2	106.5	85.1	62.0	82.5	58.3	72.9	70.6
1964	78.4	109.3	88.3	65.8	83.8	60.2	74.5	71.8
1965	80.8	111.3	90.6	69.9	86.5	62.8	77.1	72.6
1966	82.9	111.3	92.1	73.5	88.6	66.0	79.8	74.5
1967	85.2	108.8	92.9	75.4	88.5	69.3	81.2	78.3
1968	87.6	109.0	94.6	78.8	90.0	72.3	83.3	80.4
1969	87.7	107.1	94.1	81.0	92.4	75.6	86.1	81.8
1970	88.4	102.0	92.9	80.2	90.8	78.7	86.3	86.7
1971	91.3	101.2	94.7	82.4	90.3	81.5	87.1	90.2
1972	94.0	103.8	97.4	87.7	93.2	84.4	90.0	90.6
1973	95.9	105.3	99.1	93.0	96.9	88.3	93.8	91.1
1974	93.8	98.8	95.6	91.2	97.2	92.4	95.5	95.0
1975	95.7	93.8	95.0	89.3	93.2	95.1	93.9	102.0
1976	98.4	97.2	98.0	94.5	96.1	97.2	96.5	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.8	102.0	101.2	105.8	105.0	103.8	104.5	98.8
1979	99.5	99.8	99.7	107.9	108.4	108.0	108.2	99.7
1980	99.2	94.2	97.4	106.6	107.5	113.1	109.4	105.3
1981	100.6	92.4	97.7	108.9	108.2	117.8	111.5	108.8
1982	100.3	86.6	95.2	105.4	105.2	121.7	110.7	115.7
1983	103.0	88.3	97.6	109.9	106.7	124.4	112.6	116.7
1984	105.4	92.4	100.6	118.9	112.8	128.7	118.1	114.1
1985	106.5	91.5	101.0	122.8	115.3	134.1	121.6	116.3

See Footnotes Following Table 6.

October 2, 1986
SOURCE: Bureau of Labor Statistics

Table 2. Private Nonfarm Business Sector: Productivity and Related Measures, 1948-85 [1]

Year	Productivity			Output [3]	Inputs			Capital per hour of all persons
	Output per hour of all persons	Output per unit of capital	Multifactor productivity [2]		Hours of all persons [4]	Capital [5]	Combined units of labor and capital inputs[6]	
Indexes 1977=100								
1948	52.6	99.4	65.8	36.9	70.2	37.2	56.1	53.0
1949	53.6	95.2	65.6	36.1	67.3	37.9	55.0	56.3
1950	57.1	101.3	69.9	39.7	69.4	39.2	56.8	56.4
1951	58.9	104.2	72.0	42.8	72.6	41.0	59.4	56.5
1952	60.3	104.4	73.1	44.1	73.2	42.3	60.4	57.7
1953	61.6	106.3	74.6	46.2	75.1	43.5	62.0	57.9
1954	62.5	102.2	74.4	45.3	72.4	44.3	60.9	61.2
1955	64.4	105.9	76.7	48.6	75.4	45.9	63.3	60.8
1956	64.8	105.1	76.8	50.1	77.3	47.7	65.2	61.7
1957	66.1	103.4	77.4	50.8	76.8	49.1	65.6	63.9
1958	67.7	99.4	77.5	49.7	73.4	50.0	64.1	68.1
1959	69.9	104.9	80.7	53.6	76.6	51.1	66.4	66.7
1960	70.7	103.7	80.9	54.4	77.0	52.5	67.3	68.2
1961	73.0	103.5	82.6	55.5	76.1	53.6	67.2	70.5
1962	75.4	106.2	85.1	58.6	77.7	55.2	68.9	71.0
1963	78.1	107.9	87.5	61.3	78.5	56.8	70.1	72.4
1964	81.2	111.0	90.6	65.2	80.3	58.8	72.0	73.2
1965	83.3	113.0	92.7	69.4	83.3	61.4	74.9	73.7
1966	85.0	113.2	93.9	73.3	86.3	64.7	78.0	75.1
1967	86.9	110.3	94.4	75.1	86.4	68.1	79.6	78.8
1968	89.3	110.5	96.1	78.7	88.1	71.2	81.9	80.8
1969	88.9	108.4	95.1	80.8	90.9	74.6	84.9	82.0
1970	89.2	102.8	93.7	79.9	89.6	77.7	85.3	86.8
1971	91.9	101.9	95.2	82.1	89.3	80.6	86.2	90.3
1972	94.7	104.5	98.0	87.4	92.3	83.6	89.3	90.6
1973	96.4	106.0	99.6	92.9	96.3	87.6	93.3	91.0
1974	94.3	99.2	96.0	91.1	96.6	91.9	95.0	95.1
1975	96.0	93.8	95.3	88.9	92.6	94.8	93.4	102.3
1976	98.5	97.3	98.1	94.4	95.8	97.0	96.2	101.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.8	101.9	101.2	106.0	105.1	104.0	104.7	98.9
1979	99.2	99.0	99.1	107.9	108.8	109.0	108.9	100.1
1980	98.7	93.4	96.9	106.6	108.0	114.1	110.0	105.6
1981	99.6	91.1	96.7	108.4	108.8	119.0	112.2	109.4
1982	99.1	85.1	94.1	104.8	105.7	123.2	111.4	116.5
1983	102.4	87.3	97.0	110.0	107.4	126.1	113.5	117.4
1984	104.3	90.9	99.6	118.9	114.0	130.8	119.4	114.7
1985	104.8	89.7	99.4	122.5	116.9	136.6	123.3	116.8

See Footnotes Following Table 6.

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SOURCE: Bureau of Labor Statistics

Table 3. Manufacturing Sector: Productivity and Related Measures, 1948-85

Year	Productivity			Output [3]	Inputs			Capital per hour of all persons
	Output per hour of all persons	Output per unit of capital	Multifactor productivity [2]		Hours of all persons [4]	Capital [5]	Combined units of labor and capital inputs[6]	
Indexes 1977=100								
1948	46.6	105.0	59.3	37.0	79.4	35.2	62.3	44.4
1949	48.5	98.5	59.7	35.1	72.4	35.6	58.8	49.2
1950	51.1	109.0	64.0	40.0	78.2	36.7	62.5	46.9
1951	53.1	112.6	66.3	44.7	84.2	39.7	67.4	47.2
1952	54.1	111.4	67.0	46.2	85.4	41.5	69.1	48.6
1953	55.3	115.2	68.6	49.6	89.8	43.0	72.3	48.0
1954	56.0	106.3	67.6	46.0	82.1	43.3	68.0	52.7
1955	58.7	113.2	71.2	50.8	86.6	44.9	71.4	51.8
1956	58.3	108.5	69.9	51.3	87.9	47.2	73.3	53.8
1957	59.6	105.5	70.4	51.5	86.5	48.9	73.3	56.5
1958	59.3	95.3	68.0	47.0	79.4	49.3	69.2	62.2
1959	61.9	104.7	72.1	52.4	84.6	50.1	72.6	59.1
1960	62.2	102.5	71.9	52.5	84.4	51.2	73.0	60.7
1961	64.0	101.2	73.0	52.6	82.3	52.0	72.0	63.2
1962	66.7	106.6	76.4	57.1	85.6	53.6	74.8	62.6
1963	71.2	111.8	81.1	61.6	86.5	55.1	75.9	63.7
1964	74.6	116.0	84.7	66.0	88.4	56.9	77.9	64.3
1965	76.6	119.8	87.1	71.7	93.6	59.9	82.3	64.0
1966	77.4	119.8	87.7	77.2	99.7	64.5	88.0	64.6
1967	77.4	110.6	85.5	77.0	99.5	69.6	90.1	70.0
1968	79.8	110.3	87.3	80.9	101.4	73.4	92.7	72.4
1969	80.8	108.3	87.5	83.2	103.0	76.8	95.1	74.6
1970	80.8	98.6	85.2	78.6	97.3	79.7	92.2	82.0
1971	85.3	97.9	88.4	79.9	93.7	81.6	90.4	87.1
1972	89.0	104.2	92.8	87.0	97.8	83.5	93.8	85.4
1973	93.4	111.4	97.9	96.3	103.1	86.4	98.4	83.8
1974	90.6	101.2	93.3	91.7	101.2	90.6	98.3	89.5
1975	92.9	90.1	92.0	84.9	91.4	94.2	92.2	103.1
1976	97.1	96.2	96.8	93.1	95.9	96.7	96.1	100.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.5	102.1	101.7	106.0	104.4	103.7	104.2	99.4
1979	101.4	99.7	101.0	108.1	106.5	108.4	107.0	101.7
1980	101.4	91.2	98.7	103.2	101.7	113.1	104.5	111.2
1981	103.6	89.2	99.8	104.8	101.1	117.5	105.0	116.2
1982	105.9	81.8	99.2	98.4	92.9	120.3	99.2	129.4
1983	112.0	86.9	105.1	104.7	93.5	120.6	99.7	129.0
1984	116.6	94.4	110.7	116.0	99.5	122.9	104.8	123.6
1985	121.7	96.0	114.7	120.4	98.9	125.4	105.0	126.7

See Footnotes Following Table 6.

October 2, 1986
SOURCE: Bureau of Labor Statistics

Table 4. Private Business Sector: Productivity and Related Measures 1949-85 [1]

Year	Productivity			Output [3]	Inputs			Capital per hour of all persons
	Output per hour of all persons	Output per unit of capital	Multifactor productivity [2]		Hours of all persons [4]	Capital [5]	Combined units of labor and capital inputs[6]	
Percent Change								
1949	1.1	-4.4	-0.9	-2.4	-3.5	2.1	-1.5	5.8
1950	8.6	6.0	7.6	9.8	1.1	3.6	2.0	2.4
1951	4.1	2.3	3.4	7.1	2.9	4.7	3.6	1.8
1952	3.2	0.1	2.1	3.2	0.0	3.1	1.1	3.1
1953	3.7	2.0	3.1	4.7	1.0	2.7	1.6	1.7
1954	1.7	-3.6	-0.2	-1.8	-3.4	1.9	-1.7	5.5
1955	3.1	3.5	3.2	7.0	3.8	3.3	3.6	-0.4
1956	1.4	-0.8	0.6	2.9	1.5	3.7	2.3	2.2
1957	2.7	-1.7	1.1	1.1	-1.6	2.8	0.0	4.5
1958	3.0	-3.6	0.7	-1.9	-4.8	1.7	-2.6	6.9
1959	3.4	5.2	4.0	7.3	3.9	2.1	3.2	-1.7
1960	1.7	-0.8	0.8	1.7	0.1	2.5	0.9	2.5
1961	3.6	-0.1	2.3	1.9	-1.7	2.0	-0.4	3.7
1962	3.6	2.5	3.2	5.3	1.6	2.7	2.0	1.1
1963	4.0	1.6	3.2	4.6	0.5	2.9	1.4	2.4
1964	4.3	2.6	3.7	6.0	1.6	3.3	2.2	1.7
1965	3.0	1.9	2.6	6.3	3.2	4.3	3.6	1.1
1966	2.7	0.0	1.7	5.2	2.4	5.2	3.4	2.7
1967	2.7	-2.3	0.9	2.7	-0.1	5.0	1.8	5.1
1968	2.8	0.1	1.8	4.5	1.6	4.3	2.6	2.7
1969	0.1	-1.7	-0.6	2.7	2.6	4.5	3.3	1.8
1970	0.8	-4.8	-1.2	-0.9	-1.7	4.1	0.2	5.9
1971	3.3	-0.8	1.8	2.7	-0.5	3.5	0.9	4.1
1972	3.0	2.6	2.9	6.4	3.3	3.6	3.4	0.4
1973	2.0	1.4	1.8	6.0	4.0	4.6	4.2	0.6
1974	-2.1	-6.2	-3.6	-1.9	0.3	4.6	1.8	4.4
1975	2.0	-5.0	-0.5	-2.2	-4.1	3.0	-1.6	7.4
1976	2.8	3.6	3.1	5.9	3.0	2.2	2.7	-0.8
1977	1.6	2.9	2.1	5.8	4.1	2.9	3.7	-1.2
1978	0.8	2.0	1.2	5.8	5.0	3.8	4.5	-1.2
1979	-1.2	-2.1	-1.5	2.0	3.2	4.1	3.6	0.9
1980	-0.4	-5.7	-2.2	-1.2	-0.8	4.7	1.1	5.6
1981	1.4	-1.9	0.3	2.2	0.7	4.1	1.9	3.4
1982	-0.3	-6.3	-2.5	-3.1	-2.8	3.3	-0.7	6.3
1983	2.7	1.9	2.5	4.2	1.4	2.2	1.7	0.8
1984	2.3	4.6	3.1	8.2	5.8	3.4	4.9	-2.2
1985	1.1	-0.9	0.3	3.3	2.2	4.2	2.9	2.0

See Footnotes Following Table 6.

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SOURCE: Bureau of Labor Statistics

Table 5. Private Nonfarm Business Sector: Productivity and Related Measures, 1949-85 [1]

Year	Productivity			Output [3]	Inputs			Capital per hour of all persons
	Output per hour of all persons	Output per unit of capital	Multifactor productivity [2]		Hours of all persons [4]	Capital [5]	Combined units of labor and capital inputs[6]	
Percent Change								
1949	1.8	-4.2	-0.4	-2.3	-4.1	1.9	-2.0	6.2
1950	6.6	6.3	6.5	9.9	3.1	3.4	3.2	0.2
1951	3.1	2.9	3.0	7.8	4.6	4.8	4.7	0.2
1952	2.3	0.1	1.5	3.2	0.9	3.1	1.7	2.2
1953	2.2	1.9	2.1	4.7	2.5	2.8	2.6	0.3
1954	1.6	-3.9	-0.3	-2.0	-3.5	1.9	-1.7	5.6
1955	3.0	3.6	3.2	7.2	4.1	3.5	3.9	-0.6
1956	0.6	-0.8	0.1	3.1	2.5	3.9	3.0	1.4
1957	1.9	-1.6	0.7	1.3	-0.6	3.0	0.6	3.6
1958	2.5	-3.8	0.2	-2.1	-4.5	1.8	-2.3	6.6
1959	3.3	5.5	4.0	7.8	4.4	2.2	3.6	-2.1
1960	1.1	-1.1	0.3	1.6	0.5	2.7	1.3	2.2
1961	3.2	-0.2	2.0	2.0	-1.2	2.2	0.0	3.4
1962	3.3	2.5	3.0	5.5	2.1	2.9	2.4	0.7
1963	3.7	1.6	2.9	4.7	1.1	3.1	1.8	2.0
1964	3.9	2.8	3.5	6.3	2.3	3.4	2.7	1.1
1965	2.5	1.8	2.3	6.4	3.7	4.5	4.0	0.7
1966	2.0	0.2	1.3	5.6	3.5	5.4	4.2	1.8
1967	2.3	-2.6	0.5	2.5	0.2	5.2	2.0	5.0
1968	2.7	0.2	1.8	4.7	1.9	4.5	2.9	2.5
1969	-0.5	-1.9	-1.0	2.7	3.2	4.7	3.7	1.5
1970	0.4	-5.1	-1.6	-1.1	-1.5	4.3	0.5	5.8
1971	3.0	-0.9	1.7	2.7	-0.3	3.7	1.0	4.0
1972	3.0	2.6	2.9	6.5	3.4	3.8	3.5	0.4
1973	1.8	1.4	1.7	6.2	4.3	4.8	4.5	0.4
1974	-2.2	-6.4	-3.6	-1.9	0.3	4.9	1.8	4.5
1975	1.8	-5.4	-0.7	-2.4	-4.1	3.1	-1.7	7.6
1976	2.6	3.7	3.0	6.1	3.5	2.4	3.1	-1.1
1977	1.5	2.8	2.0	5.9	4.4	3.1	3.9	-1.2
1978	0.8	1.9	1.2	6.0	5.1	4.0	4.7	-1.1
1979	-1.6	-2.8	-2.0	1.8	3.5	4.8	3.9	1.3
1980	-0.5	-5.7	-2.3	-1.2	-0.8	4.7	1.0	5.5
1981	1.0	-2.5	-0.2	1.7	0.8	4.3	2.0	3.5
1982	-0.5	-6.6	-2.7	-3.3	-2.8	3.5	-0.7	6.5
1983	3.3	2.5	3.1	5.0	1.6	2.4	1.9	0.8
1984	1.8	4.2	2.7	8.0	6.1	3.7	5.2	-2.3
1985	0.5	-1.3	-0.2	3.0	2.6	4.4	3.2	1.8

See Footnotes Following Table 6.

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SOURCE: Bureau of Labor Statistics

Table 6. Manufacturing Sector: Productivity and Related Measures, 1949-85

Year	Productivity			Output [3]	Inputs			Capital per hour of all persons
	Output per hour of all persons	Output per unit of capital	Multifactor productivity [2]		Hours of all persons [4]	Capital [5]	Combined units of labor and capital inputs[6]	
Percent Change								
1949	4.1	-6.2	0.6	-5.1	-8.9	1.1	-5.7	10.9
1950	5.4	10.6	7.2	13.9	8.0	3.0	6.3	-4.6
1951	3.9	3.4	3.7	11.9	7.7	8.3	7.9	0.5
1952	1.9	-1.1	0.9	3.4	1.4	4.6	2.5	3.1
1953	2.1	3.5	2.5	7.3	5.1	3.7	4.7	-1.4
1954	1.4	-7.8	-1.5	-7.3	-8.6	0.5	-5.9	9.9
1955	4.7	6.5	5.3	10.5	5.5	3.7	5.0	-1.7
1956	-0.6	-4.2	-1.7	0.9	1.5	5.3	2.7	3.7
1957	2.1	-2.8	0.6	0.6	-1.5	3.4	0.0	5.0
1958	-0.6	-9.6	-3.3	-8.7	-8.2	1.0	-5.6	10.0
1959	4.5	9.8	6.1	11.4	6.6	1.4	5.0	-4.9
1960	0.5	-2.1	-0.3	0.2	-0.3	2.3	0.5	2.6
1961	2.8	-1.3	1.6	0.2	-2.5	1.5	-1.3	4.1
1962	4.2	5.3	4.6	8.5	4.1	3.1	3.8	-1.0
1963	6.8	4.9	6.2	7.9	1.0	2.9	1.6	1.8
1964	4.8	3.7	4.4	7.1	2.2	3.2	2.5	1.0
1965	2.7	3.2	2.9	8.7	5.9	5.3	5.7	-0.6
1966	1.1	0.0	0.7	7.7	6.5	7.6	6.9	1.0
1967	-0.1	-7.7	-2.6	-0.3	-0.2	8.0	2.4	8.2
1968	3.2	-0.3	2.1	5.1	1.9	5.4	3.0	3.5
1969	1.2	-1.8	0.3	2.8	1.6	4.7	2.5	3.1
1970	0.0	-9.0	-2.6	-5.6	-5.6	3.8	-3.0	9.9
1971	5.6	-0.7	3.8	1.7	-3.7	2.4	-2.0	6.3
1972	4.4	6.5	5.0	8.9	4.3	2.3	3.7	-2.0
1973	4.9	6.9	5.5	10.7	5.5	3.6	4.9	-1.8
1974	-3.0	-9.2	-4.7	-4.8	-1.9	4.8	-0.1	6.8
1975	2.5	-11.0	-1.3	-7.5	-9.7	4.0	-6.2	15.2
1976	4.6	6.9	5.2	9.7	4.9	2.7	4.3	-2.2
1977	3.0	3.9	3.3	7.4	4.3	3.4	4.0	-0.9
1978	1.5	2.1	1.7	6.0	4.4	3.7	4.2	-0.6
1979	-0.1	-2.4	-0.7	2.0	2.1	4.4	2.7	2.3
1980	0.0	-8.5	-2.2	-4.5	-4.5	4.4	-2.4	9.3
1981	2.2	-2.2	1.1	1.6	-0.6	3.9	0.5	4.5
1982	2.2	-8.3	-0.6	-6.1	-8.1	2.3	-5.6	11.4
1983	5.8	6.2	5.9	6.4	0.6	0.3	0.5	-0.4
1984	4.1	8.6	5.4	10.8	6.4	1.9	5.1	-4.2
1985	4.4	1.8	3.6	3.8	-0.5	2.0	0.2	2.6

See Footnotes Following Table 6.

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SOURCE: Bureau of Labor Statistics

Footnotes: Tables 1-6

SOURCE: Output data from Bureau of Economic Analysis (BEA), U.S. Department of Commerce, and the Federal Reserve Board. Hours data from the Bureau of Labor Statistics, U.S. Department of Labor. Capital measures are based on data supplied by BEA and U.S. Department of Agriculture.

- (1) The private business sector includes all of Gross National Product except the rest-of-world sector, the rental value of owner-occupied real estate, the output arising in nonprofit organizations, the output of paid employees of private households, government enterprises, general government, and the statistical discrepancy in preparing the national income accounts. The private nonfarm business sector also excludes farms, but includes agricultural services.
- (2) Output per unit of combined labor and capital inputs.
- (3) Gross Domestic Product originating in the sector, in constant dollars.
- (4) Paid hours of all employees, plus the hours of proprietors and unpaid family workers engaged in the sector.
- (5) A measure of the flow of capital services used in the sector.
- (6) Hours of all persons combined with capital services input, using labor and capital shares of output as weights.