

Productivity continued to increase in many industries during 1984

Among industries with large increases in output per employee hour were steel, coal and iron mining, and several transportation and utilities industries; changes were mixed in trade and service

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Productivity, as measured by output per employee hour, grew in 1984 in about three quarters of the industries for which the Bureau of Labor Statistics regularly publishes data. Productivity increases were large in many industries. In a significant number, these gains followed major productivity growth in 1983. The expansion in industry productivity is consistent with the situation in the nonfarm business sector of the economy in which output per hour increased 1.6 percent between 1983 and 1984, after gaining 3.4 percent in 1982-83. Table 1 shows productivity trends in industries measured by the Bureau and includes new measures introduced for additional industries: barber and beauty shops; metal doors, sash and trim; metal stampings; and oilfield machinery.¹

Changes in manufacturing

Among important manufacturing industries, productivity in the steel industry grew 13.0 percent in 1984. This large gain was in addition to the record productivity advance of 28.5 percent in 1983. Steel output increased more than 13 percent in 1984, due in part to continued demand from

such key markets as motor vehicles, appliances, and construction. Employee hours rose only slightly and employment continued to decline, as the industry continued restructuring and the closing of inefficient facilities. The motor vehicles industry had an above average productivity gain of 4.6 percent, in addition to an unusually large gain in the previous year (13.1 percent). Output in this industry was up more than 21 percent in 1984, as demand for all types of motor vehicles expanded, while hours increased almost 16 percent.

Other important manufacturing industries with large gains included steel foundries with a productivity increase of more than 11 percent, while gray iron foundries attained an increase of more than 9 percent in 1984. Output in these industries rose in 1984 as demand from the automobile, construction, and railroad industries expanded. The tire industry posted an 11.3-percent productivity gain in 1984, following a 6.2-percent gain in 1983. Output grew by 14.3 percent in 1984 as demand was up for both original equipment and replacement tires, while hours rose only slightly. In petroleum refining, productivity moved up 10.9 percent in 1984, after gaining 3.0 percent in 1983. Refinery output increased for the first time since 1978, while hours declined, as small refineries continued to close.

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Other significant manufacturing industries with large productivity gains included malt beverages (10.5 percent), metal cans and primary aluminum (both 10.1 percent), and household cooking equipment (9.7 percent).

A few manufacturing industries registered productivity declines in 1984. These included pharmaceutical preparations (-5.2 percent), hardwood veneer and plywood (-4.8 percent), structural clay products (-3.9 percent), and folding paperboard boxes (-2.6 percent). Although output was up in all of these industries, except for pharmaceuticals where it fell slightly, employee hours rose even more, resulting in the productivity falloff.

Mining

All of the mining industries experienced productivity gains in 1984. Coal mining, the largest mining industry, posted a gain of 10.1 percent in 1984, on top of a 14.2-percent rise in 1983. Coal output was up 14.4 percent in 1984 in anticipation of a strike which did not occur, while hours rose 3.9 percent. Productivity in iron mining (usable ore) increased 25.3 percent, compared with a 41.1-percent gain the previous year. Output was up 36.9 percent in 1984 as demand increased from the steel industry, while hours rose 9.3 percent. Copper mining (recoverable metal) had a productivity gain of 17.6 percent, after a 12.7-percent increase in 1983. Output was up only 5.1 percent in 1984, because of low copper prices, while hours dropped 10.6 percent, as only the most efficient mines were operating. The nonmetallic minerals industry registered a productivity gain of 1.9 percent. Output grew 8.7 percent in this industry, owing to the expansion of construction activity, while hours were up 6.6 percent.

Transportation and utilities

Most transportation and utility industries also recorded 1984 productivity gains. In railroads (revenue traffic), productivity was up 7.5 percent following a 22.5-percent rise in 1983. Railroad output grew 9.2 percent in 1984 as shipments of coal, motor vehicles, construction materials, and chemicals were up significantly, while hours increased 1.5 percent. Productivity grew 3.3 percent in air transportation, compared with a 9.9-percent gain in the previous year. Air traffic increased significantly in 1984, resulting in a 7.9-percent gain in output. In petroleum pipelines, productivity grew 11.1 percent, as output rose and hours continued to fall. Electric utility productivity was up 3.5 percent, as output increased 5.3 percent, and hours were up 1.8 percent. The gas utilities industry registered its first productivity gain since 1979 (3.2 percent), with output increasing 2.5 percent, and hours dropping 0.7 percent.

Trade and services

Productivity changes were mixed among trade and service industries. The hotel and motel industry registered the highest gain, at 7.7 percent. Output was up 15.2 percent in

this industry owing to the continuation of the business recovery, as well as a strong summer vacation period, while employee hours grew 7.0 percent. Apparel and accessory stores also registered a good productivity increase, up 6.0 percent. Output increased 9.6 percent in 1984, as favorable economic and credit conditions aided clothing sales, while hours rose 3.4 percent. In laundries and cleaning services, productivity grew 3.3 percent, based on a gain in output of 8.2 percent and an increase in hours of 4.8 percent. Productivity gains were recorded in drugstores (1.8 percent) and gasoline stations (0.4 percent). However, there were productivity declines in several of the service industries. The beauty and barber shop industry had a substantial 8.4-percent decline. Productivity also fell 2.1 percent in eating and drinking places. While output in the restaurant industry was up 3.8 percent in 1984, hours increased even more, resulting in the productivity falloff. Productivity dropped 1.0 percent in retail food stores. New car dealers had a small productivity decline of 0.1 percent. Output was up significantly at 10.8 percent. However, hours rose slightly more, resulting in the productivity decline.

Trends among industries

Almost all of the industries studied recorded average annual gains in productivity over the long term (1947-84 for many of the industries). A few industries experienced long-term declines, however. These included metal stampings, metal forming machine tools, farm machinery, and bus carriers.

Over the most recent 5-year period (1979-84), most of the industries registered a growth in productivity. Slightly more than one-fourth had productivity declines. In addition, almost two-thirds of the industries recorded lower rates of productivity growth from 1979-84 than in the preceding long-term period. The falloff in productivity growth in a majority of the industries is in line with the trend in the nonfarm business sector of the economy, where productivity grew at an annual rate of 1.0 percent from 1979 to 1984, compared with a 2.2-percent rate for 1947-79.

Gains, 1979-84. The highest rate of productivity increase over the 5-year period was recorded by the radio and television sets industry (14.5 percent per year). Productivity growth in this highly competitive industry was aided by widespread use of automatic production techniques and equipment and the closing of less efficient plants. Copper mining (recoverable metal) had the second highest rate of productivity gain, at 10.5 percent. However, this reflected both an output decline and a very sharp decline in hours. More advanced mining methods were introduced and less efficient mines were shut down in an effort to compete with low-priced foreign ore, resulting in the productivity gain. The wet corn milling industry had the third highest rate of gain at 9.7 percent. Here output rose, while employee hours

Table 1. Indexes of output per employee hour in selected industries, 1979-84, and percent changes, 1983-84 and 1979-84
 [1977 = 100]

sic Code ¹	Industry	1979	1980	1981	1982	1983	1984 ²	Percent change, 1983-84	Average annual percent change, 1979-84
Mining									
1011	Iron mining, crude ore	122.7	124.7	132.8	100.9	139.0	175.2	26.0	5.4
1011	Iron mining, usable ore	122.8	123.2	130.6	98.2	138.6	173.6	25.3	5.3
1021	Copper mining, crude ore	109.1	99.5	102.0	106.4	129.9	140.3	8.0	6.2
1021	Copper mining, recoverable metal	98.2	91.6	97.7	116.2	130.9	153.9	17.6	10.5
111,21	Coal mining	99.4	112.5	122.2	119.2	136.1	149.9	10.1	7.7
121	Bituminous coal and lignite mining	99.6	112.6	122.7	120.0	136.9	151.1	10.4	7.9
14	Nonmetallic minerals, except fuels	102.7	96.5	94.7	89.3	98.1	100.0	1.9	-0.4
142	Crushed and broken stone	106.9	101.3	96.7	94.1	103.9	106.6	2.6	0.1
Manufacturing									
2011,13	Red meat products	101.7	107.0	107.9	112.3	116.2	115.1	-0.9	2.6
2011	Meatpacking plants	104.6	108.9	113.9	119.5	124.0	123.4	-0.5	3.7
2013	Sausages and other prepared meats	95.0	102.3	95.0	96.5	99.8	98.3	-1.5	0.3
2026	Fluid milk	117.3	126.5	131.6	140.0	147.1	(3)	(3)	4 5.7
203	Preserved fruits and vegetables	98.9	100.8	99.2	107.9	110.4	(3)	(3)	4 2.9
2033	Canned fruits and vegetables	101.9	101.4	100.7	108.6	112.2	(3)	(3)	4 2.6
204	Grain mill products	101.0	105.3	110.9	121.0	125.3	(3)	(3)	4 5.9
2041,45	Flour, including flour mixes and other grains	95.1	98.1	99.1	112.3	118.8	(3)	(3)	4 6.0
2041	Flour and other grain mill products	97.3	94.8	96.7	104.1	111.5	112.5	0.9	3.7
2043	Cereal breakfast foods	107.3	105.9	109.3	115.0	118.7	(3)	(3)	4 2.9
2044	Rice milling	96.3	111.8	117.9	104.5	101.5	(3)	(3)	4 0.4
2046	Wet corn milling	105.7	121.0	137.5	138.8	156.6	(3)	(3)	4 9.7
2047,48	Prepared feeds for animals and fowls	101.2	105.0	110.7	124.9	126.9	(3)	(3)	4 6.5
205	Bakery products	95.0	93.7	96.2	103.2	106.6	(3)	(3)	4 3.3
2061,62,63	Sugar	103.1	100.1	98.8	90.4	98.6	105.2	6.7	-0.1
2061,62	Raw and refined cane sugar	101.5	99.3	98.8	87.6	100.0	99.1	-0.9	-0.6
2063	Beet sugar	104.6	102.1	98.7	94.8	94.6	117.4	24.1	0.9
2082	Malt beverages	109.9	116.0	118.3	122.6	131.3	145.1	10.5	5.3
2086	Bottled and canned soft drinks	105.6	109.8	114.3	118.3	127.0	138.0	8.7	5.3
2111,21,31	Total, tobacco	102.1	102.1	100.5	100.7	105.1	106.1	1.0	0.8
2111,31	Cigarettes, chewing and smoking tobacco	102.4	101.8	99.6	99.5	104.1	105.1	1.0	0.6
2121	Cigars	101.4	106.4	107.3	111.4	112.3	114.8	2.2	2.4
2251,52	Hosiery	107.9	107.4	122.0	114.2	118.0	123.4	4.6	2.6
2281	Nonwool yarn mills	103.8	99.7	103.1	118.2	127.9	134.6	5.2	6.4
2421	Sawmills and planing mills, general	98.3	104.2	107.9	115.1	125.0	125.6	0.5	5.4
2431	Millwork	92.2	93.6	96.4	86.1	86.3	(3)	(3)	4 -2.1
2434	Wood kitchen cabinets	92.1	98.2	94.8	96.1	93.5	(3)	(3)	4 0.1
2435,36	Veneer and plywood	94.5	102.8	106.9	114.4	120.3	120.3	5	5.1
2435	Hardwood, veneer and plywood	97.8	104.1	100.3	101.4	107.2	102.1	-4.8	0.9
2436	Softwood, veneer and plywood	93.4	102.7	111.8	122.1	127.9	131.3	2.7	7.2
251	Household furniture	101.5	99.9	103.0	104.7	109.9	115.2	4.8	2.7
2511,17	Wood household furniture	101.7	97.3	97.4	98.3	104.1	(3)	(3)	4 0.6
2512	Upholstered household furniture	105.1	102.3	110.5	115.9	121.4	(3)	(3)	4 4.2
2514	Metal household furniture	90.2	93.6	98.7	107.5	108.4	(3)	(3)	4 5.2
2515	Mattresses and bedsprings	102.8	112.1	114.0	104.3	108.3	(3)	(3)	4 0.3
252	Office furniture	107.2	112.1	108.8	107.4	110.6	(3)	(3)	4 0.2
2521	Wood office furniture	110.8	109.2	92.9	90.3	92.9	(3)	(3)	4 -5.3
2522	Metal office furniture	104.5	113.9	114.0	116.6	120.2	(3)	(3)	4 3.1
2611,21,31,61	Paper, paperboard and pulp mills	105.4	105.2	104.4	111.3	120.0	123.9	3.2	3.7
2643	Paper and plastic bags	98.0	94.6	92.3	95.3	102.2	(3)	(3)	4 0.9
2651	Folding paperboard boxes	104.3	101.3	104.4	104.2	105.1	102.4	-2.6	(5)
2653	Corrugated and solid fiber board boxes	106.9	111.0	109.8	111.9	114.0	116.9	2.5	1.6
2823,24	Synthetic fibers	115.0	115.7	120.9	103.6	125.7	125.4	-0.2	1.5
2834	Pharmaceutical preparations	105.3	106.0	104.2	107.0	114.4	108.4	-5.2	1.2
2841	Soaps and detergents	104.8	109.6	107.4	100.9	98.2	(3)	(3)	4 -2.1
2844	Cosmetics and other toiletries	94.0	83.6	76.1	84.0	86.0	(3)	(3)	4 -1.7
2851	Paints and allied products	104.8	100.8	99.8	106.5	116.5	126.6	8.7	4.2
2911	Petroleum refining	94.9	94.2	83.7	79.4	81.8	90.7	10.9	-2.0
301	Tires and inner tubes	107.3	102.4	118.1	128.2	136.1	151.5	11.3	7.9
3079	Miscellaneous plastics products	94.8	95.7	98.5	110.1	107.1	(3)	(3)	4 3.9
314	Footwear	100.2	99.1	95.6	106.3	103.9	101.8	-2.0	0.9
3221	Glass containers	102.4	105.2	110.1	105.8	108.5	115.6	6.5	1.9
3241	Hydraulic cement	96.0	87.0	91.1	94.0	108.4	123.2	13.7	5.7
325	Structural clay products	95.9	97.6	100.7	102.6	104.0	99.9	-3.9	1.2
3251,53,59	Clay construction products	91.6	94.0	97.3	103.3	100.4	97.1	-3.3	1.6

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[1977 = 100]

sic Code ¹	Industry	1979	1980	1981	1982	1983	1984 ²	Percent change, 1983–84	Average annual percent change, 1979–84
3251	Brick and structural clay tile	85.4	84.9	84.3	88.6	84.9	82.4	-2.9	-0.4
3253	Ceramic wall and floor tile	111.6	119.8	125.9	128.1	125.5	(3)	(3)	4 3.1
3255	Clay refractories	110.2	109.6	111.1	100.0	119.9	110.2	-8.1	0.5
3271,72	Concrete products	92.7	90.4	88.5	92.4	96.7	(3)	(3)	4 1.1
3273	Ready-mixed concrete	99.9	93.1	95.4	90.6	95.7	(3)	(3)	4 -1.1
331	Steel	106.9	102.9	112.0	90.9	116.8	132.0	13.0	3.6
3321	Gray iron foundries	96.8	90.8	92.7	93.7	98.9	108.0	9.2	2.4
3324,25	Steel foundries	100.6	99.8	91.6	89.0	90.6	100.9	11.4	-0.9
3331,32,33	Primary copper, lead, and zinc	106.5	103.7	118.6	128.0	141.8	152.6	7.6	8.4
3331	Primary copper	113.3	105.3	124.4	128.5	138.3	156.9	13.4	7.3
3334	Primary aluminum	99.7	100.0	103.8	103.0	111.5	122.8	10.1	4.0
3351	Copper rolling and drawing	98.1	94.1	97.9	106.0	121.1	127.5	5.3	6.3
3353,54,55	Aluminum rolling and drawing	100.3	100.0	96.8	99.2	110.4	110.6	0.2	2.3
3411	Metal cans	103.6	102.6	108.1	112.2	121.2	133.5	10.1	5.3
3423	Hand and edge tools	103.9	98.4	95.2	92.8	90.5	(3)	(3)	4 -3.3
3441	Fabricated structural metal	102.1	102.1	98.5	98.4	103.3	(3)	(3)	4 -0.1
3442	Metal doors, sash, and trim	92.8	90.6	90.4	96.0	98.9	(3)	(3)	4 1.9
3465,66,69	Metal stampings	102.3	99.9	101.4	98.1	104.0	(3)	(3)	4 0.1
3465	Automotive stampings	102.9	101.6	105.0	106.7	121.5	(3)	(3)	4 3.9
3469	Metal stampings, n.e.c.	101.5	98.1	98.0	89.3	88.6	(3)	(3)	4 -3.6
3494	Valves and pipe fittings	105.3	102.8	105.4	101.3	104.6	(3)	(3)	4 -0.3
3598	Fabricated pipe and fittings	90.2	90.1	93.5	89.5	89.6	(3)	(3)	4 -0.2
3519	Internal combustion engines, n.e.c.	98.2	94.3	93.2	82.0	89.0	(3)	(3)	4 -3.3
352	Farm and garden machinery	100.5	93.3	95.1	94.9	95.0	98.7	3.9	-0.1
3523	Farm machinery	98.3	91.3	94.1	92.6	92.1	95.4	3.6	-0.4
3524	Lawn and garden equipment	113.5	106.5	101.0	106.9	108.7	115.0	5.8	0.5
3531	Construction machinery and equipment	100.3	97.4	96.1	88.9	95.3	103.0	8.1	(5)
3533	Oilfield machinery and equipment	105.6	104.0	104.7	98.4	100.7	(3)	(3)	4 -1.5
3541,42	Machine tools	102.0	98.8	96.5	88.1	86.8	86.9	0.1	-3.6
3541	Metal-cutting machine tools	103.0	100.6	98.9	89.4	85.0	85.9	1.1	-4.2
3542	Metal-forming machine tools	99.2	93.5	89.4	85.0	91.6	89.7	-2.1	-1.7
3545	Machine tool accessories	100.8	99.2	102.0	89.1	85.4	(3)	(3)	4 -4.3
3561,63	Pumps and compressors	102.9	100.2	102.4	95.5	101.8	(3)	(3)	4 -0.7
3561	Pumps and pumping equipment	101.2	97.7	101.7	92.7	99.6	(3)	(3)	4 -0.8
3562	Ball and roller bearings	105.8	95.4	94.3	83.3	87.2	89.0	2.1	-3.5
3563	Air and gas compressors	106.0	105.5	106.8	101.7	106.1	(3)	(3)	4 -0.3
3585	Refrigeration and heating equipment	101.4	93.8	99.4	100.1	101.2	(3)	(3)	4 0.6
3612	Transformers	108.4	110.6	106.9	99.6	100.7	101.4	0.7	-1.9
3613	Switchgear and switchboard apparatus	102.8	103.2	99.5	101.3	105.0	(3)	(3)	4 -0.2
3621	Motors and generators	99.6	100.1	102.3	109.3	107.5	107.4	-0.1	1.9
3631,32,33,39	Major household appliances	108.7	105.8	107.6	108.6	116.2	122.2	5.2	2.5
3631	Household cooking equipment	108.9	103.9	105.7	112.6	115.6	126.8	9.7	3.3
3632	Household refrigerators and freezers	112.3	114.4	117.4	116.1	128.4	135.9	5.8	3.8
3633	Household laundry equipment	108.1	102.1	103.9	105.4	112.0	111.6	-0.4	1.3
3639	Household appliances, n.e.c.	102.6	99.1	100.4	94.7	103.2	105.9	2.6	0.6
3641	Electric lamps	105.2	103.2	106.9	108.4	124.7	132.0	5.9	5.0
3645,46,47,48	Lighting fixtures	94.6	93.3	88.7	91.0	94.7	97.6	3.1	0.6
3651	Radio and television receiving sets	118.5	116.9	133.6	163.9	196.7	(3)	(3)	4 14.5
371	Motor vehicles and equipment	97.8	90.8	93.1	96.9	109.6	114.6	4.6	4.1
3825	Instruments to measure electricity	100.2	108.4	111.9	118.8	120.2	(3)	(3)	4 4.7
	Other								
401	Railroad transportation-revenue traffic	104.7	107.3	111.5	115.8	141.9	152.6	7.5	8.2
401	Railroad transportation-car miles	102.9	107.9	107.6	110.1	128.9	137.7	6.8	5.9
4111,31,414	Class I bus carriers	98.3	100.8	90.9	90.0	84.8	(3)	(3)	4 -4.0
4213 PT	Intercity trucking ⁶	98.6	94.3	98.7	93.3	101.0	(3)	(3)	4 0.4
4213 PT	Intercity trucking-general freight ⁶	96.6	87.9	92.5	86.8	92.5	(3)	(3)	4 -1.0
4511,4521 PT	Air transportation ⁶	113.1	106.2	104.9	114.7	126.0	130.1	3.3	3.8
4612,13	Petroleum pipelines	101.7	93.0	86.0	89.2	93.9	104.3	11.1	0.5
4811	Telephone communications	110.8	118.1	124.4	129.1	146.0	(3)	(3)	4 6.6
491,92,93	Gas and electric utilities	97.6	96.2	94.4	89.3	88.1	91.2	3.5	-1.9
491,493 PT	Electric utilities	95.4	94.0	93.0	89.5	90.9	94.1	3.5	-0.6
492,493 PT	Gas utilities	103.4	102.1	98.1	89.0	81.1	83.7	3.2	-5.1
54	Retail food stores ⁷	97.3	99.7	96.8	95.2	96.9	95.9	-1.0	-0.5
5511	Franchised new car dealers	94.6	99.5	96.6	97.4	106.2	106.1	-0.1	2.2
5541	Gasoline service stations ⁷	106.9	104.3	105.8	110.7	118.5	119.0	0.4	2.8
56	Apparel and accessory stores ⁷	114.4	120.1	127.1	130.9	138.1	146.4	6.0	4.9

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sic Code ¹	Industry	1979	1980	1981	1982	1983	1984 ²	Percent change, 1983–84	Average annual percent change, 1979–84
5611	Men's and boys' clothing stores ⁷	108.2	106.4	115.6	115.7	120.2	127.0	5.7	3.4
5621	Women's ready-to-wear stores ⁷	120.7	125.5	139.0	158.2	169.0	184.1	8.9	9.4
5651	Family clothing stores ⁷	107.7	122.6	131.4	139.6	149.3	155.0	3.8	7.3
5661	Shoe stores ⁷	112.2	109.3	113.0	108.9	109.9	116.3	5.8	0.5
58	Eating and drinking places ⁷	99.1	99.2	96.5	95.9	96.4	94.4	-2.1	-1.0
5912	Drug and proprietary stores ⁷	103.1	106.0	106.2	106.1	107.9	109.8	1.8	1.1
602	Commercial banking	99.3	92.7	90.5	93.2	102.7	(³)	(³)	⁴ 0.7
7011	Hotels, motels, and tourist courts ⁷	102.4	98.6	96.2	94.5	95.5	102.9	7.7	-0.3
721	Laundry and cleaning services ⁷	97.6	90.7	88.2	90.4	90.3	93.3	3.3	-0.6
723, 724	Beauty and barber shops ⁷	107.4	102.9	109.2	108.3	114.1	104.5	-8.4	0.5
723	Beauty shops ⁷	108.0	106.2	114.7	113.1	120.0	111.7	-6.9	1.5

¹ As defined in the *Standard Industrial Classification Manual*, 1972, published by the Office of Management and Budget.

² Preliminary data.

³ Not available.

⁴ Percent change, 1979–83.

⁵ Rate of change is less than 0.05 percent.

⁶ Output per employee.

⁷ Output per hour of all persons.

NOTE: Although the output per employee-hour measures relate output to the hours of all employees engaged in each industry, they do not measure the specific contribution of labor, capital, or any other single factor of production. Rather, they reflect the joint effects of many influences, including new technology, capital investment, the level of output, capacity utilization, energy use, and managerial skills, as well as the skills and efforts of the work force. Some of these measures use a labor input series that is based on hours paid, and some use a labor input series that is based on plant hours.

n.e.c. = not elsewhere classified.

fell. Demand continued strong for high fructose corn syrup, a key product of this industry, which is used as a sweetener, especially by soft drink manufacturers. The industry has made substantial capital investment in highly automated plants, allowing for output expansion at the same time as employment was being reduced. Other industries with high rates of gain from 1979 to 1984 include: women's clothing stores (9.4 percent), primary copper, lead and zinc (8.4 percent), railroad transportation (revenue traffic) (8.2 percent), tires (7.9 percent), coal mining (7.7 percent), family clothing stores (7.3 percent), and softwood veneer and plywood (7.2 percent).

Declines, 1979–84. Among the industries with declines, the wood office furniture industry had the greatest falloff in output per hour, dropping at a rate of 5.3 percent from 1979 to 1983. (The 1984 data are not as yet available.) Output decreased at a 4.1-percent rate, while employee hours grew at a 1.3-percent rate. This industry was severely affected by the two recessions which occurred within this period and suffered sharp drops in output and associated declines in

productivity. The industry with the second largest falloff was gas utilities, registering an average annual decline of 5.1 percent from 1979 to 1984. Output fell at a rate of 3.8 percent owing to a drop in average use per customer, while the number of customers increased, leading to growth in employee hours at a rate of 1.4 percent. Among other industries with substantial declines were: Machine tool accessories (-4.3 percent, 1979–83), bus carriers (-4.0 percent), machine tools (-3.6 percent), metal stampings (-3.6 percent, 1979–83), ball and roller bearings (-3.5 percent), as well as internal combustion engines and hand and edge tools (both -3.3 percent, 1979–83). □

— FOOTNOTE —

¹ For a detailed report on these industries, see Brian L. Friedman and Arthur S. Herman, "Productivity growth low in the oilfield machinery industry," *Monthly Labor Review*, December 1985, pp. 34–38; Horst Brand and Ziaul Z. Ahmed, "Beauty and barber shops: the trend of labor productivity," pp. 21–26, this issue; and Elmer S. Persigehl and John G. Olsen, "Productivity in the metal doors, sash, and trim industry," pp. 27–31, this issue. An article on the metal stampings industry will appear in a forthcoming issue of the *Review*.