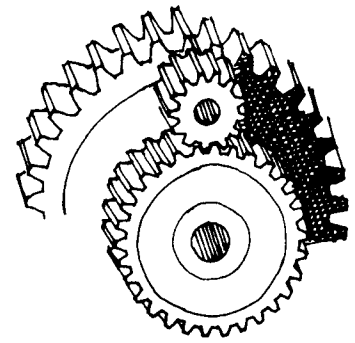


# Productivity Reports

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## Productivity increased in many industries in 1983

ARTHUR S. HERMAN

Productivity, as measured by output per employee hour, increased in 1983 in more than three-quarters of the industries for which the Bureau of Labor Statistics regularly publishes data. Productivity gains were unusually large in many industries and were in contrast to 1982 when productivity declined in almost half of the industries measured. The widespread gains in 1983 are consistent with the increase in the nonfarm business sector of the economy, which grew 3.5 percent.

Table 1 shows productivity trends in industries measured by the Bureau and includes new measures introduced for additional industries: refrigeration and heating equipment, internal combustion engines, machine tool accessories, and wood kitchen cabinets.<sup>1</sup>

### Changes by industry

**Manufacturing.** The steel industry, one of the more important industries included, had a record productivity increase of 27.7 percent, compared with a record productivity decline of 18.8 percent in 1982. Steel output was up 14.7 percent in 1983, as demand increased, especially from the motor vehicle and appliance markets, and employee hours declined 10.2 percent as the industry continued its consolidations and plant closings. The motor vehicles industry, another important industry covered, had a large productivity gain of 14.2 percent which was based on a steep increase in output of 30.6 percent, while employee hours were up 14.3 percent. Demand for motor vehicles increased significantly as compared with 1982 when demand was lower and output declined 8.0 percent.

Another manufacturing industry with a large productivity gain was household appliances. Productivity grew 17.6 percent in this key industry, as output was up a sharp 27.4 percent and hours increased 8.4 percent. Demand for household appliances was aided by increased sales of homes, more

favorable consumer credit, and an increase in personal disposable income in 1983.

Other manufacturing industries with unusually large productivity gains included: synthetic fibers (21.5 percent), gray iron foundries (17.4 percent), hydraulic cement (15.9 percent), copper rolling and drawing (14.9 percent), brick and structural clay tile (12.4 percent), primary aluminum (12.1 percent), electric lamps (11.9 percent), aluminum rolling and drawing (11.1 percent), and paints (10.5 percent). All of these industries, except two, had output gains of more than 10 percent in 1983.

Conversely, a small number of manufacturing industries had productivity declines in 1983. Noteworthy was machine tools in which productivity dropped a steep 29.9 percent as output fell 43.5 percent.

**Mining.** All of the mining industries recorded large gains in productivity in 1983. Iron mining (usable ore) posted the largest gain—41.2 percent—of all the measures. Output was up 7.7 percent in this industry while hours fell off sharply. Coal mining had a productivity increase of 13.9 percent, as output fell 6.4 percent and hours dropped 17.7 percent. Copper mining (recoverable metal) had a productivity gain of 10.8 percent, as output fell 9.5 percent and hours declined even more. In nonmetallic minerals, productivity was up 7.9 percent, as output grew due to the increased construction activity in 1983.

**Transportation and utilities.** Productivity was up in most transportation and utility industries. In railroads (revenue traffic), productivity advanced sharply by 23.0 percent. Output grew 6.8 percent, as commodity shipments increased in 1983 and hours continued to decline by 13.1 percent. Air transportation had a large productivity gain of 9.9 percent, as output grew 8.5 percent and hours declined slightly. Productivity grew 2.2 percent in petroleum pipelines as hours fell more than output. However, productivity dropped 6.6 percent in bus carriers, with output dropping 11.7 percent and hours falling 5.5 percent.

In telephone communications, productivity was up 12.7 percent, as output grew 1.7 percent and hours declined 9.8 percent. Electric utilities posted a gain in productivity of 1.7 percent—the first increase in this industry since 1977. On the other hand, gas utilities had a large productivity

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**Table 1. Indexes of output per employee hour in selected industries, 1978-83, and percent changes 1982-83 and 1978-83**

sic Code <sup>1</sup>	Industry	1978	1979	1980	1981	1982	1983 <sup>2</sup>	Percent change 1982-83	Average annual percent change 1978-83
<b>Mining</b>									
1011	Iron mining, crude ore	116.8	125.5	129.0	139.0	106.9	147.3	37.8	2.2
1011	Iron mining, usable ore	119.2	125.6	127.5	136.8	104.0	146.9	41.2	1.6
1021	Copper mining, crude ore	109.6	108.8	99.1	101.5	105.8	126.9	19.9	1.9
1021	Copper mining, recoverable metal	107.6	97.8	91.3	97.2	115.4	127.9	10.8	4.2
111,121	Coal mining	106.4	99.4	112.5	122.2	119.1	135.6	13.9	5.4
121	Bituminous coal and lignite mining	106.7	99.6	112.6	122.7	120.0	136.5	13.7	5.5
14	Nonmetallic minerals, except fuels	104.6	102.4	96.2	95.0	89.8	96.9	7.9	-2.2
142	Crushed and broken stone	109.0	108.4	103.3	100.7	98.1	108.2	10.3	-1.0
<b>Manufacturing</b>									
2011, 13	Red meat products	98.7	101.7	107.0	107.9	107.7	113.2	5.1	2.5
2011	Meat packing plants	100.9	104.9	109.1	114.2	115.8	124.8	7.8	4.1
2013	Sausages and other prepared meats	93.6	94.6	101.8	94.3	89.8	89.9	0.1	-1.2
2026	Fluid milk	108.0	116.3	124.8	129.3	137.0	146.2	6.7	6.0
203	Preserved fruits and vegetables	104.4	99.3	101.2	99.6	107.6	(3)	(3)	40.6
2033	Canned fruits and vegetables	103.7	101.4	100.6	99.7	106.3	(3)	(3)	40.3
204	Grain mill products	100.4	102.2	107.1	112.9	(3)	(3)	(3)	(3)
2041	Flour and other grain mill products	101.5	98.5	96.7	99.2	(3)	(3)	(3)	(3)
2043	Cereal breakfast foods	101.7	107.6	106.5	110.0	116.9	(3)	(3)	43.1
2044	Rice milling	92.7	96.3	111.8	117.9	(3)	(3)	(3)	(3)
2045	Blended and prepared flour	92.5	91.0	104.8	104.6	(3)	(3)	(3)	(3)
2046	Wet corn milling	102.0	110.8	129.2	143.8	(3)	(3)	(3)	(3)
2047,48	Prepared feeds for animals and fowls	100.8	102.0	106.2	112.6	(3)	(3)	(3)	(3)
205	Bakery products	97.2	94.1	92.3	94.3	100.4	(3)	(3)	40.7
2061,62,63	Sugar	101.0	109.1	109.1	111.2	105.7	107.6	1.8	0.7
2061,62	Raw and refined cane sugar	100.7	107.3	107.8	111.1	102.5	112.8	10.0	1.3
2063	Beet sugar	101.2	110.9	111.7	111.4	110.6	99.0	-10.5	-0.3
2082	Malt beverages	100.0	107.4	112.1	113.0	115.8	122.1	5.4	3.6
2086	Bottled and canned soft drinks	104.5	105.6	109.8	114.3	118.3	126.4	6.8	3.9
2111,21,31	All tobacco products	102.8	102.2	102.2	100.6	100.8	100.6	-0.2	-0.5
2111,31	Cigarettes, chewing and smoking tobacco	103.8	102.1	101.1	98.9	98.6	97.2	-1.4	-1.3
2121	Cigars	98.2	103.7	110.3	112.5	118.3	129.1	9.1	5.2
2251,52	Hosiery	101.4	106.5	105.3	118.9	110.3	107.1	-2.9	1.4
2281	Nonwool yarn mills	104.2	103.9	99.8	103.2	119.6	(3)	(3)	42.7
2421	Sawmills and planing mills, general	101.4	96.7	101.8	104.5	117.6	118.6	0.9	4.1
2431	Millwork	90.4	92.3	93.9	96.9	87.0	(3)	(3)	4-0.3
2434	Wood kitchen cabinets	100.5	96.4	102.1	99.3	88.7	(3)	(3)	4-2.2
2435,36	Veneer and plywood	101.7	94.6	102.7	106.7	110.5	(3)	(3)	42.9
2435	Hardwood veneer and plywood	100.7	97.8	104.1	100.3	100.8	(3)	(3)	40.3
2436	Softwood veneer and plywood	102.1	93.4	102.7	111.8	116.6	(3)	(3)	44.6
251	Household furniture	104.6	101.3	99.7	102.6	105.0	113.4	8.0	1.6
2511,17	Wood household furniture	104.9	101.5	97.1	97.0	98.8	(3)	(3)	4-1.6
2512	Upholstered household furniture	108.8	104.9	101.9	110.1	116.2	(3)	(3)	41.8
2514	Metal household furniture	97.4	89.9	93.1	97.9	108.6	(3)	(3)	43.1
2515	Mattresses and bedsprings	101.4	102.6	111.9	113.7	104.2	(3)	(3)	41.6
252	Office furniture	100.1	107.3	112.5	109.1	108.6	(3)	(3)	41.8
2521	Wood office furniture	100.7	110.7	109.2	99.4	97.4	(3)	(3)	4-1.7
2522	Metal office furniture	99.9	104.8	114.4	114.7	115.4	(3)	(3)	43.9
2611,21,31,61	Paper, paperboard and pulp mills	103.2	105.4	105.2	104.4	106.2	115.8	9.0	1.7
2643	Paper and plastic bags	99.9	97.6	94.0	91.7	94.5	(3)	(3)	4-1.7
2651	Folding paperboard boxes	102.8	101.4	97.1	98.6	96.8	97.8	1.0	-1.1
2653	Corrugated and solid fiber board boxes	103.5	107.1	111.3	110.2	113.0	118.8	5.1	2.4
2823,24	Synthetic fibers	105.2	115.0	115.7	120.9	109.0	132.4	21.5	3.0
2834	Pharmaceutical preparations	99.0	106.4	107.3	106.1	109.6	(3)	(3)	42.0
2841	Soaps and detergents	105.2	104.0	108.4	105.9	99.5	(3)	(3)	4-0.9
2844	Cosmetics and other toiletries	99.3	93.1	82.5	74.9	81.9	(3)	(3)	4-5.9
2851	Paints and allied products	104.7	105.7	102.1	101.5	108.0	119.3	10.5	2.1
2911	Petroleum refining	101.3	94.9	94.2	83.7	82.5	86.9	5.3	-3.7
301	Tires and inner tubes	108.8	109.5	105.6	123.2	134.8	147.7	9.6	6.8
3079	Miscellaneous plastics products	100.8	94.8	95.7	98.5	111.2	(3)	(3)	42.4
314	Footwear	102.5	100.2	99.1	95.6	97.3	102.0	4.8	-0.4
3221	Glass containers	101.4	106.7	112.0	118.7	117.8	120.0	1.9	3.5
3241	Hydraulic cement	101.3	96.0	87.0	91.1	95.3	110.5	15.9	1.3
325	Structural clay products	102.6	96.1	97.8	100.9	105.3	113.9	8.2	2.4
3251,53,59	Clay construction products	102.6	92.1	94.8	98.4	107.6	115.1	7.0	3.1
3251	Brick and structural clay tile	96.5	85.8	85.6	85.2	92.5	104.0	12.4	1.7
3253	Ceramic wall and floor tile	115.3	111.8	120.3	126.5	132.1	(3)	(3)	44.0
3255	Clay refractories	102.9	109.1	108.0	109.0	98.0	107.9	10.1	-0.2
3271,72	Concrete products	98.6	94.6	93.2	92.5	96.8	(3)	(3)	40.6
3273	Ready-mixed concrete	103.1	99.9	93.1	95.4	90.4	(3)	(3)	4-3.0
331	Steel	108.3	106.9	102.9	112.0	90.9	116.1	27.7	-0.2
3321	Gray iron foundries	102.1	96.8	90.8	92.5	95.3	111.9	17.4	1.2
3324,25	Steel foundries	98.1	99.4	99.1	90.8	93.0	(3)	(3)	4-2.0

**Table 1. Continued—Indexes of output per employee hour in selected industries, 1978–83, and percent changes 1982–83 and 1978–83**

sic Code <sup>1</sup>	Industry	1978	1979	1980	1981	1982	1983 <sup>2</sup>	Percent change 1982–83	Average annual percent change 1978–83
3331, 32, 33	Primary copper, lead, and zinc	96.5	106.5	103.7	118.6	121.8	131.6	8.0	6.1
3331	Primary copper	99.4	113.3	105.3	124.4	119.9	124.6	3.9	4.3
3334	Primary aluminum	99.6	99.7	100.0	103.8	103.0	115.5	12.1	2.5
3351	Copper rolling and drawing	100.2	98.8	94.9	99.2	107.6	123.6	14.9	3.9
3353, 54, 55	Aluminum rolling and drawing	104.6	101.5	101.9	99.4	105.1	116.8	11.1	1.8
3411	Metal cans	102.3	103.6	102.6	108.1	119.0	130.0	9.2	4.9
3423	Hand and edge tools	100.6	104.3	99.0	95.8	95.1	( <sup>3</sup> )	( <sup>3</sup> )	4–2.0
3441	Fabricated structural metal	100.4	102.0	101.9	98.3	101.4	( <sup>3</sup> )	( <sup>3</sup> )	4–0.2
3494	Valves and pipe fittings	100.9	104.3	101.4	103.5	100.4	( <sup>3</sup> )	( <sup>3</sup> )	4–0.2
3498	Fabricated pipe and fittings	100.7	90.1	89.9	93.1	89.8	( <sup>3</sup> )	( <sup>3</sup> )	4–1.9
3519	Internal combustion engines, n.e.c.	105.4	98.8	94.8	94.4	87.0	( <sup>3</sup> )	( <sup>3</sup> )	4–4.2
352	Farm and garden machinery	101.0	103.3	96.3	98.6	98.5	( <sup>3</sup> )	( <sup>3</sup> )	4–1.0
3523	Farm machinery	98.4	100.2	94.0	98.0	95.0	( <sup>3</sup> )	( <sup>3</sup> )	4–0.9
3524	Lawn and garden equipment	108.6	113.9	107.0	101.3	106.8	( <sup>3</sup> )	( <sup>3</sup> )	4–1.5
3531	Construction machinery and equipment	105.8	100.3	97.4	96.1	89.0	( <sup>3</sup> )	( <sup>3</sup> )	4–3.8
3541, 42	Machine tools	102.5	101.9	98.7	96.5	93.2	65.3	–29.9	–7.0
3541	Metal cutting machine tools	103.6	103.1	100.9	99.3	95.1	64.5	–32.2	–7.2
3542	Metal forming machine tools	99.9	98.4	92.4	88.0	87.6	67.9	–22.5	–6.4
3545	Machine tool accessories	104.0	101.7	100.3	103.7	91.5	( <sup>3</sup> )	( <sup>3</sup> )	4–2.3
3561, 63	Pumps and compressors	103.3	102.5	101.3	102.7	97.7	( <sup>3</sup> )	( <sup>3</sup> )	4–1.1
3561	Pumps and pumping equipment	101.1	100.7	99.2	100.6	94.9	( <sup>3</sup> )	( <sup>3</sup> )	4–1.3
3562	Ball and roller bearings	105.6	105.3	94.7	93.4	82.8	87.6	5.8	–4.7
3563	Air and gas compressors	106.1	106.1	105.5	106.8	107.3	( <sup>3</sup> )	( <sup>3</sup> )	40.3
3585	Refrigeration and heating equipment	100.6	102.2	95.0	101.1	101.7	( <sup>3</sup> )	( <sup>3</sup> )	40.1
3612	Transformers	103.4	108.5	110.8	107.1	102.6	99.3	–3.2	–1.1
3613	Switchgear and switchboard apparatus	102.4	102.7	102.6	98.4	103.5	101.8	–1.6	–0.1
3621	Motors and generators	98.6	97.9	94.9	97.7	100.1	94.4	–5.7	–0.3
3631, 32, 33, 39	Major household appliances	100.5	108.9	105.9	108.1	110.5	129.9	17.6	3.9
3631	Household cooking equipment	100.3	108.5	103.4	104.9	114.8	144.3	25.7	5.9
3632	Household refrigerators and freezers	98.4	112.2	114.3	117.2	115.2	127.5	10.7	4.1
3633	Household laundry equipment	102.3	108.2	102.2	104.0	106.1	118.0	11.2	1.9
3639	Household appliances, n.e.c.	104.0	104.3	101.6	103.9	101.3	121.1	19.5	2.0
3641	Electric lamps	103.0	106.2	104.7	108.8	111.0	124.2	11.9	3.2
3645, 46, 47, 48	Lighting fixtures	100.6	95.0	93.9	89.4	92.6	( <sup>3</sup> )	( <sup>3</sup> )	4–2.2
3651	Radio and television receiving sets	113.1	118.2	116.4	132.8	157.9	( <sup>3</sup> )	( <sup>3</sup> )	48.2
371	Motor vehicles and equipment	99.7	98.5	92.2	95.0	99.7	113.9	14.2	2.1
3825	Instruments to measure electricity	100.3	99.0	106.3	109.1	114.7	( <sup>3</sup> )	( <sup>3</sup> )	43.7
<b>Other</b>									
401	Railroad transportation-revenue traffic	104.5	104.7	107.3	111.5	115.8	142.4	23.0	5.5
401	Railroad transportation-car miles	102.8	102.9	107.9	107.6	110.1	128.9	17.1	3.9
4111, 31, 414 PT	Class I bus carriers	96.7	98.3	100.8	90.9	90.0	84.1	–6.6	–3.0
4213 PT	Intercity trucking <sup>6</sup>	99.8	98.6	94.3	98.7	93.3	( <sup>3</sup> )	( <sup>3</sup> )	4–1.3
4213 PT	Intercity trucking—general freight <sup>6</sup>	98.6	96.6	87.9	92.5	86.8	( <sup>3</sup> )	( <sup>3</sup> )	4–2.9
4511, 21, PT	Air transportation <sup>6</sup>	109.3	113.1	106.2	104.9	114.7	126.0	9.9	2.1
4612, 13	Petroleum pipelines	101.7	101.7	93.0	86.0	89.2	91.2	2.2	–2.9
4811	Telephone communications	105.8	110.8	118.1	124.4	129.1	145.5	12.7	6.2
491, 492, 493	Gas and electric utilities	98.2	97.6	96.2	94.4	89.5	88.4	–1.2	–2.3
491, 493 PT	Electric utilities	96.8	95.4	94.0	93.0	89.3	90.8	1.7	–1.5
492, 493 PT	Gas utilities	101.4	103.4	102.1	98.1	89.9	82.6	–8.1	–4.2
54	Retail food stores <sup>7</sup>	95.7	98.0	100.8	98.2	96.9	97.1	0.2	( <sup>5</sup> )
5511	Franchised new car dealers	98.6	94.6	99.5	96.6	97.4	102.2	4.9	0.7
5541	Gasoline service stations <sup>7</sup>	104.3	109.5	107.9	110.8	118.0	121.5	3.0	2.9
56	Apparel and accessory stores <sup>7</sup>	110.0	112.0	116.4	122.0	123.8	125.2	1.1	2.9
5611	Men's and boys' clothing stores <sup>7</sup>	105.4	110.0	110.0	120.9	121.3	125.2	3.2	3.6
5621	Women's ready-to-wear stores <sup>7</sup>	111.3	115.0	116.2	125.5	139.0	147.8	6.3	6.1
5651	Family clothing stores <sup>7</sup>	96.4	99.6	109.6	113.3	116.2	118.1	1.6	4.4
5661	Shoe stores <sup>7</sup>	108.7	111.2	107.7	110.8	106.0	104.6	–1.3	–0.9
58	Eating and drinking places <sup>7</sup>	99.3	99.2	99.4	96.8	96.1	98.4	2.4	–0.5
5912	Drug and proprietary stores <sup>7</sup>	102.3	102.9	105.6	105.8	105.6	104.8	–0.8	0.6
602	Commercial banking	101.2	99.3	92.7	91.8	96.2	( <sup>3</sup> )	( <sup>3</sup> )	4–1.8
7011	Hotels, motels, and tourist courts <sup>7</sup>	103.1	102.4	98.6	96.2	93.6	94.3	0.7	–2.1
721	Laundry and cleaning services <sup>7</sup>	100.6	94.1	87.8	85.1	88.6	88.1	–0.6	–2.5

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

<sup>2</sup>Preliminary data.

<sup>3</sup>Not available.

<sup>4</sup>Percent change, 1978–82.

<sup>5</sup>Rate of change is less than 0.05 percent.

<sup>6</sup>Output per employee.

<sup>7</sup>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.

decline of 8.1 percent, as output dropped 10.5 percent in 1983.

*Trade and services.* Productivity changes were varied among the trade and service industries. Productivity was up 4.9 percent for new car dealers, as output grew 8.5 percent, aided by a sharp increase in new car sales. Productivity grew 3.0 percent in gasoline service stations, as output increased 2.4 percent and hours were down 0.6 percent. Eating and drinking places had a productivity gain of 2.4 percent based on a significant gain in output of 5.9 percent. Although the overall apparel store industry had a productivity gain of 1.1 percent in 1983, one of the component industries, shoe stores, had a decline in productivity of 1.3 percent. Small productivity gains were posted by the hotel and motel industry (0.7 percent) and the retail food store industry (0.2 percent). Conversely, productivity declines occurred in drug stores (-0.8 percent) and laundry and cleaning services (-0.6 percent).

### Trends, 1978-83

Except for metal forming machine tools and bus carriers, all the industries measured have recorded average annual gains in productivity over the long term (1947-83 for many of the industries). Over the more recent period (1978-83), however, about 40 percent of the industries recorded declining rates of productivity. In addition, almost three quarters of the industries had lower rates of productivity change during 1978-83 than in the preceding long-term period (1947-78 for many industries). The slowdown in productivity in the more current period matches the trend in the nonfarm business sector of the economy, where productivity grew at the low rate of 0.5 percent per year from 1978 to 1983, compared with a 2.3-percent rate from 1947 to 1978.

*Gains.* The tires and tubes industry had the highest rate (6.8 percent per year) of productivity gain of all the industries measured during the 1978-83 period. Although output declined 3.6 percent per year in this industry, employee hours fell even more, dropping at a rate of 9.7 percent in the period. The introduction of new, more automatic equipment for tiremaking as well as the closing of a number of old and inefficient plants during the period, allowed the

industry to increase productivity significantly despite the drop in output. The telephone communications industry had the second highest rate of gain at 6.2 percent. Output was up 5.7 percent while hours fell off slightly during the period. Continuing adoption of electronic switching equipment, fiber optic cables, automatic testing equipment, and increasing computerization have aided productivity growth in this industry. Other industries with high rates of growth from 1978 to 1983 include: primary copper, lead, and zinc and women's ready-to-wear clothing stores (both 6.1 percent); fluid milk (6.0 percent); household cooking equipment (5.9 percent); railroad transportation (5.5 percent); and coal mining (5.4 percent).

*Declines.* Among the many industries with declining productivity rates, the machine tool industries have recorded the largest drops over the 1978-83 period. Metal cutting machine tools declined at a rate of 7.2 percent, as output averaged a 13.9-percent decline and hours fell at a rate of 7.2 percent. Productivity in the metal forming machine tool industry fell at a 6.4-percent rate based on an average decline of 15.7 percent in output and a 9.9-percent drop in hours. These industries were significantly affected by the economic slowdowns and by increasing imports during the 1978-83 period. Output fell off sharply, leading to steep declines in productivity, because machine tool manufacturers tend to retain highly skilled workers during cyclical downturns. In addition, because demand for machine tools tends to lag in economic recoveries, these industries did very poorly in 1983.

The next largest productivity falloff from 1978 to 1983 was in the ball and roller bearings industry—4.7 percent. Output fell at a 9.9-percent rate as the economic slowdowns cut sharply into industry demand and hours declined at a rate of 5.5 percent. The gas utilities industry also had a large productivity decline of 4.2 percent per year over this period. Although the number of customers in this industry increased, output actually declined at a 2.7-percent rate, due in part to conservation and introduction of more energy efficient equipment, while employee hours increased at a 1.5-percent rate. Other industries with declining rates from 1978 to 1983 included petroleum refining (-3.7 percent), bus carriers (-3.0 percent), and petroleum pipelines (-2.9 percent). □

#### FOOTNOTE

<sup>1</sup> For a detailed report on these industries, see Horst Brand and Clyde Huffstutler, "Productivity in making air conditioners, refrigeration equipment and furnaces," *Monthly Labor Review*, December 1984, pp. 11-17; Horst Brand and Norman Bennett, "Productivity trends in kitchen cabinet

manufacturing," this issue, pp. 24-30; and articles on the internal combustion engine and machine tool accessory industries which will appear in forthcoming issues of the *Review*.