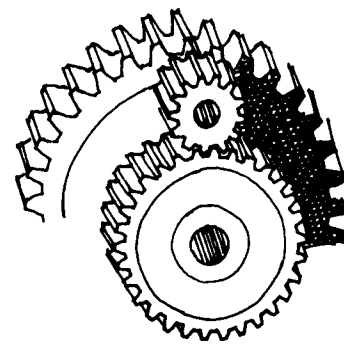


Productivity Reports



Productivity gains continued in many industries during 1985

ARTHUR S. HERMAN

Productivity, as measured by output per employee hour, increased in 1985 in about two-thirds of the industries for which data are presently available. These gains continued the productivity growth recorded in 1983 and 1984 in the industries covered by the Bureau of Labor Statistics. However, the increases in 1985 were smaller than the 1984 gains in many industries. Table 1 shows productivity trends in the industries measured by the BLS and includes new measures introduced for additional industries: poultry dressing and processing; mining machinery; furniture, home furnishings, and equipment stores (including separate measures for furniture and home furnishings stores and appliance, radio, TV, and music stores); and liquor stores.¹

Industry changes

Manufacturing. Among important manufacturing industries, the motor vehicles industry registered an above-average gain of 5.7 percent from 1984 to 1985. Demand for motor vehicles continued to be strong, and output was up 7.1 percent, while employee hours grew 1.3 percent. This increase was the fifth consecutive annual productivity gain in this industry.

Productivity also rose in the steel industry, growing 5.5 percent in 1985, following a 12.4-percent gain in the previous year. Steel industry productivity has risen for 3 consecutive years. The 1985 increase, however, reflected a decline in output of 3.0 percent and a larger drop in employee hours of 8.1 percent. Demand for steel was down sharply in 1985, especially from capital goods markets, and the industry continued shutting down less efficient plants and equipment.

Other important manufacturing industries with significant productivity gains in 1985 included construction machinery and equipment (10.4 percent), machine tools (9.5 percent), petroleum refining (8.4 percent), synthetic fibers (7.6 percent), and major household appliances (5.7 percent). The productivity gains in the construction machinery and equip-

ment, machine tools, and synthetic fibers industries reflected output increases and employee hour decreases while in the petroleum refining industry, output recorded no growth and hours dropped sharply. The gain in productivity in the major household appliance industry can be attributed to a decline in output and an even larger falloff in hours.

A number of other large manufacturing industries posted gains in 1985. These included bottled and canned soft drinks (4.8 percent), sawmills and planing mills (2.8 percent), pharmaceutical preparations (2.7 percent), gray iron foundries (2.2 percent), motors and generators (1.7 percent), and paper, paperboard, and pulp mills (0.2 percent).

Despite the large number of manufacturing industries registering productivity increases, several posted productivity declines in 1985. Some of these industries were farm and garden machinery (-6.3 percent), steel foundries (-4.8 percent), primary aluminum (-4.2 percent), malt beverages (-1.6 percent), household furniture (-0.8 percent), and tires and inner tubes (-0.7 percent). Output fell in all of these industries except for malt beverages in 1985.

Mining. All of the mining industries except for crushed and broken stone recorded productivity gains in 1985. Coal mining experienced a gain of 2.0 percent, following a much larger gain of 11.2 percent in 1984. Coal mining output fell 1.1 percent in 1985 because of moderate weather and depletion of stockpiles built up because of an anticipated strike in 1984, and employee hours declined 3.1 percent. Productivity in the iron mining (usable ore) industry increased 7.8 percent in 1985, compared with a 22.9-percent gain in the previous year. Iron mining (usable ore) output was down 5.3 percent, as demand from the steel industry fell, and hours declined 12.2 percent, as a number of mining operations were shut down temporarily. In the copper mining (recoverable metal) industry, productivity spurted 21.9 percent. Copper mining (recoverable metal) output grew only 1.4 percent in 1985, reflecting a continued drop in the price of copper, while hours fell 16.8 percent, reflecting the closing of marginal mining operations. Nonmetallic mineral mining, except fuels, had a productivity gain of 2.3 percent. Output grew 3.7 percent in this industry as demand continued from the construction industry. In the crushed and broken stone industry, hours were up slightly more than output, resulting in a small productivity decline of 0.9 percent.

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Transportation and utilities. Productivity changes were mixed among transportation and utility industries. In railroads (revenue traffic), productivity was up 6.2 percent, continuing the growth registered in the previous year. Railroad output fell 0.5 percent in 1985 as shipments of coal, grain, metallic ores, forest products, and other commodities were down. However, hours fell by 6.3 percent. Productivity in air transportation grew 3.3 percent, compared with a 3.9-percent gain in the previous year. Output in air transportation increased 8.6 percent in 1985 while the number of actual employees grew 5.1 percent. Petroleum pipelines productivity dropped 0.2 percent compared with a 10.8-percent gain in 1984. Output recorded no change in 1985 (as in petroleum refining), while hours increased slightly. In telephone communications, productivity was up 4.8 percent with output growing 2.5 percent and hours falling 2.2 percent. Productivity declined in both gas and electric utilities. In gas utilities, productivity fell 3.5 percent: output decreased 3.7 percent, due mainly to mild weather in 1985, while hours dropped 0.3 percent. In electric utilities, productivity registered a 0.2-percent decline as output grew 2.0 percent while hours were up 2.2 percent, due partly to growth in the number of residential customers.

Trade and services. Productivity changes also varied among the trade and service industries. Apparel and accessory stores had the largest gain in this group, increasing 5.7 percent, as all the component retail apparel industries recorded productivity gains. Output was up 4.0 percent and hours were down 1.6 percent in the apparel and accessory stores industry. The furniture, home furnishings, and equipment stores industry had the second largest gain at 2.9 percent. The components of this industry recorded opposite productivity changes: appliance, radio, TV, and music stores gained 9.9 percent, while furniture and home furnishings stores fell 1.9 percent. Gasoline service stations had a productivity gain of 2.6 percent. Output grew a low 0.2 percent, while hours continued their long-term decline, falling 2.2 percent. The remaining trade and service industries registered productivity declines. New car dealer productivity dropped 0.5 percent, although there was a significant output gain. Liquor store productivity declined 0.6 percent. In retail food stores, productivity fell 1.0 percent, due in part to the continuing trend toward more service-oriented operations such as delicatessens, in-store bakeries, and salad bars. Productivity dropped 2.2 percent in eating and drinking establishments, 4.1 percent in beauty and barber shops, 4.2 percent in drug stores, and 5.0 percent in both hotels, motels, and tourist courts and laundry and cleaning services.

Table 1. Productivity indexes for selected industries, 1980-85
[1977=100]

sic Code ¹	Industry	1980	1981	1982	1983	1984	1985 ²	Percent change, 1984-85	Average annual percent change, 1980-85
Mining									
1011	Iron mining, crude ore	124.7	132.8	100.9	139.0	172.1	183.7	6.7	9.1
1011	Iron mining, usable ore	123.2	130.6	98.2	138.6	170.4	183.7	7.8	9.4
1021	Copper mining, crude ore	99.5	102.0	106.4	129.9	140.3	159.3	13.5	10.5
1021	Copper mining, recoverable metal	91.6	97.7	116.2	130.9	153.9	187.6	21.9	15.6
111,21	Coal mining	112.5	122.2	119.2	136.1	151.3	154.4	2.0	7.0
121	Bituminous coal and lignite mining	112.6	122.7	120.0	136.9	152.3	155.2	1.9	7.1
14	Nonmetallic minerals, except fuels	96.5	94.7	89.3	98.2	105.3	107.7	2.3	2.8
142	Crushed and broken stone	101.3	96.7	94.1	103.9	105.8	104.9	-0.9	1.6
Manufacturing									
2011,13	Red meat products	107.0	107.9	112.3	115.9	117.0	(3)	(3)	42.5
2011	Meatpacking	108.9	113.9	119.5	123.3	125.6	127.8	1.8	3.3
2013	Sausages and other prepared meats	102.3	95.0	96.5	100.1	99.5	(3)	(3)	(4.5)
2016,17	Poultry dressing and processing	105.7	116.4	125.6	131.7	130.5	(3)	(3)	45.6
2026	Fluid milk	126.5	131.6	140.0	145.5	152.6	(3)	(3)	44.9
203	Preserved fruits and vegetables	100.8	99.2	107.9	110.9	112.4	(3)	(3)	43.3
2033	Canned fruits and vegetables	101.4	100.7	108.6	114.4	114.9	(3)	(3)	43.8
204	Grain mill products	105.3	110.9	121.0	125.5	132.7	(3)	(3)	46.0
2041,2045	Flour (including flour mixes) and other grains	98.1	99.1	112.3	117.9	122.5	(3)	(3)	46.4
2041	Flour and other grain mill products	94.8	96.7	104.1	110.4	114.9	126.5	10.1	5.9
2043	Cereal breakfast foods	105.9	109.3	115.0	118.7	129.0	(3)	(3)	44.9
2044	Rice milling	111.8	117.9	104.5	103.3	93.2	95.2	2.1	-4.3
2046	Corn milling	121.0	137.5	138.8	156.6	191.6	(3)	(3)	411.1
2047,48	Prepared feeds for animals and fowls	105.0	110.7	124.9	127.4	132.5	(3)	(3)	46.2
205	Bakery products	93.7	96.2	103.3	106.9	106.8	(3)	(3)	43.7
2061,62,63	Sugar	100.1	98.8	90.4	98.6	99.7	103.1	3.4	0.8
2061,62	Raw and refined cane sugar	99.3	98.8	87.6	100.0	94.7	102.4	8.1	0.5
2063	Beet sugar	102.1	98.7	94.8	94.6	108.8	105.1	-3.4	1.3
2082	Malt beverages	116.0	118.3	122.6	131.3	137.9	135.7	-1.6	3.8
2086	Bottled and canned soft drinks	109.8	114.3	118.3	127.0	138.3	144.9	4.8	6.0
2111,21,31,61	Total tobacco	102.1	100.5	100.7	105.1	110.3	114.9	4.2	2.6
2111,31	Cigarettes, chewing and smoking tobacco	101.8	99.6	99.5	104.1	107.2	113.1	5.5	2.3
2121	Cigars	106.4	107.3	111.4	112.3	141.4	134.7	-4.7	5.9

See footnotes at end of table.

Table 1. Continued—Productivity indexes for selected industries, 1980–85
[1977=100]

sic Code ¹	Industry	1980	1981	1982	1983	1984	1985 ²	Percent change, 1984–85	Average annual percent change, 1980–85
2251,52	Hosiery	107.4	122.0	114.2	118.0	119.7	115.5	-3.5	1.0
2281	Nonwool yarn mills	99.7	103.1	118.2	126.0	129.7	129.1	-0.5	6.0
2421	Sawmills and planing mills, general	104.2	107.9	115.1	125.0	131.9	135.6	2.8	5.9
2431	Millwork	93.6	96.4	86.1	86.3	88.7	(3)	(3)	4-2.2
2434	Kitchen cabinets	98.2	94.8	96.1	93.5	93.8	(3)	(3)	4-1.0
2435,36	Veneer and plywood	102.8	106.9	114.4	120.6	120.3	(3)	(3)	44.4
2435	Hardwood veneer and plywood	104.1	100.3	101.4	110.1	105.0	(3)	(3)	41.1
2436	Softwood veneer and plywood	102.7	111.8	122.1	126.5	129.5	(3)	(3)	46.0
251	Household furniture	99.9	103.0	104.7	109.6	111.3	110.4	-0.8	2.2
2511,17	Wood household furniture	97.3	97.4	98.3	103.2	104.4	(3)	(3)	42.0
2512	Upholstered household furniture	102.3	110.5	115.9	121.4	122.0	(3)	(3)	44.6
2514	Metal household furniture	93.6	98.7	107.5	109.1	120.3	(3)	(3)	46.2
2515	Mattresses and bedsprings	112.1	114.0	104.3	108.3	109.2	(3)	(3)	4-1.0
252	Office furniture	112.1	108.8	107.4	110.7	116.7	(3)	(3)	41.0
2521	Wood office furniture	109.2	99.5	90.3	92.9	94.5	(3)	(3)	4-3.5
2522	Metal office furniture	113.9	114.0	116.6	120.5	129.6	(3)	(3)	43.2
2611,21,31,61	Paper, paperboard, and pulp mills	105.2	104.4	111.3	119.6	121.9	122.2	0.2	3.7
2643	Paper and plastic bags	94.6	92.3	95.3	102.2	105.0	(3)	(3)	43.2
2651	Folding paperboard boxes	101.3	104.4	104.2	104.1	102.0	103.2	1.2	0.1
2653	Corrugated and solid fiber boxes	111.0	109.8	111.9	114.0	118.9	118.9	0.0	1.7
2823,24	Synthetic fibers	115.7	120.9	103.6	126.2	125.3	134.8	7.6	3.1
2834	Pharmaceutical preparations	106.0	104.2	107.0	114.4	112.6	115.6	2.7	2.1
2841	Soaps and detergents	109.6	107.3	100.9	98.2	101.0	(3)	(3)	4-2.5
2844	Cosmetics and other toiletries	83.6	76.1	84.0	86.0	84.6	(3)	(3)	41.5
2851	Paints and allied products	100.8	99.8	106.5	111.5	114.8	120.6	5.1	4.0
2911	Petroleum refining	94.2	83.7	79.4	81.8	92.5	100.3	8.4	1.9
3011	Tires and inner tubes	102.4	118.1	128.2	136.1	146.8	145.7	-0.7	7.3
3079	Miscellaneous plastics products	95.7	98.5	110.1	107.1	109.9	(3)	(3)	43.7
314	Footwear	99.1	95.6	106.4	103.9	105.7	104.8	0.9	1.6
3221	Glass containers	105.2	110.1	105.8	108.5	128.0	132.1	3.2	4.7
3241	Hydraulic cement	87.0	91.1	94.0	108.4	125.3	132.1	5.4	9.5
325	Structural clay products	97.6	100.7	102.6	104.0	109.9	107.8	-1.9	2.2
3251,53,59	Clay construction products	94.0	97.3	103.3	100.4	108.5	106.6	-1.8	2.7
3251	Brick and structural clay tile	84.9	84.3	88.6	84.9	92.2	93.5	1.4	2.0
3253	Ceramic wall and floor tile	119.8	125.9	128.1	125.5	140.2	(3)	(3)	43.2
3255	Clay refractories	109.6	111.1	100.0	119.9	116.3	113.4	-2.5	1.4
3271,72	Concrete products	90.4	88.5	91.0	96.4	98.3	(3)	(3)	42.6
3273	Ready-mixed concrete	93.1	95.4	90.6	93.7	96.3	(3)	(3)	40.5
331	Steel	102.9	112.0	90.9	116.8	131.3	138.5	5.5	6.5
3321	Gray iron foundries	90.8	92.7	93.7	98.7	106.8	109.2	2.2	4.1
3324,25	Steel foundries	99.8	91.6	89.0	90.6	97.4	92.7	-4.8	-0.5
3331,32,33	Primary copper, lead, and zinc	103.7	118.6	128.0	141.8	148.9	190.9	28.2	11.6
3331	Primary copper	105.3	124.4	128.5	138.3	151.9	208.5	37.3	12.4
3334	Primary aluminum	100.0	103.8	103.0	111.5	125.4	120.1	-4.2	4.6
3351	Copper rolling and drawing	94.1	97.9	106.0	121.2	128.3	128.9	0.5	7.5
3353,54,55	Aluminum rolling and drawing	100.0	96.8	99.2	110.4	116.2	117.1	0.8	4.2
3411	Metal cans	102.6	108.1	118.5	120.5	122.6	125.8	2.6	4.1
3423	Hand and edge tools	98.4	95.2	92.8	90.5	89.4	(3)	(3)	4-2.4
3441	Fabricated structural metal	102.1	98.5	98.4	103.3	106.8	(3)	(3)	41.4
3442	Metal doors, sash, and trim	90.6	90.4	96.0	96.9	102.5	(3)	(3)	43.4
3465,55,69	Metal stampings	99.9	101.4	98.1	104.1	109.3	(3)	(3)	42.1
3465	Automotive stampings	101.6	105.0	106.7	121.5	127.1	(3)	(3)	46.1
3469	Metal stampings, n.e.c.	98.1	98.0	88.3	88.8	93.7	(3)	(3)	4-1.9
3494	Valves and pipe fittings	102.8	105.4	101.3	104.6	104.7	(3)	(3)	40.3
3498	Fabricated pipe and fittings	90.1	93.5	89.5	89.6	100.1	(3)	(3)	41.7
3519	Internal combustion engines, n.e.c.	94.3	93.2	82.0	88.3	98.7	(3)	(3)	40.4
352	Farm and garden machinery	93.3	95.1	94.9	95.1	104.9	98.3	-6.3	1.6
3523	Farm machinery and equipment	91.3	94.1	92.6	92.1	104.7	96.8	-7.5	1.8
3524	Lawn and garden equipment	106.5	101.0	106.9	109.9	109.7	104.8	-4.5	0.6
3531	Construction machinery and equipment	97.4	96.1	88.9	95.3	103.4	114.2	10.4	3.1
3532	Mining machinery and equipment	98.6	97.8	91.0	96.1	98.9	(3)	(3)	4-0.1
3533	Oilfield machinery and equipment	104.0	104.7	98.4	100.9	89.7	(3)	(3)	4-3.3
3542	Machine tools	98.8	96.5	88.1	86.8	93.0	101.8	9.5	0.1
3541	Metal cutting machine tools	100.6	98.9	89.4	85.0	92.9	99.7	7.3	-0.8
3542	Metal forming machine tools	93.5	89.4	85.0	91.6	93.5	106.9	14.3	2.5
3545	Machine tool accessories	99.2	102.0	89.1	85.4	95.2	(3)	(3)	4-2.6
3561,63	Pumps and compressors	100.2	102.4	95.5	101.8	106.0	(3)	(3)	41.1
3561	Pumps and pumping equipment	97.7	101.7	92.7	99.6	104.0	(3)	(3)	41.0
3562	Ball and roller bearings	95.4	94.3	83.3	87.2	92.7	92.6	-0.1	-0.4
3563	Air and gas compressors	105.5	106.8	101.7	106.1	110.0	(3)	(3)	40.8
3585	Refrigeration and heating equipment	93.8	99.4	100.1	101.2	104.1	(3)	(3)	42.3
3612	Transformers	110.6	106.9	99.6	100.7	96.1	97.0	0.3	-2.7
3613	Switchgear and switchboard apparatus	103.2	99.5	101.3	105.7	106.5	105.1	-1.3	1.0
3621	Motors and generators	96.7	100.4	102.4	104.2	106.4	108.2	1.7	2.2
3631,32,33,39	Major household appliances	105.8	107.6	108.6	116.5	121.7	128.6	5.7	4.1
3631	Household cooking equipment	103.9	105.7	112.6	118.2	127.9	137.2	7.3	5.9
3632	Household refrigerators and freezers	114.4	117.4	116.1	128.1	127.5	134.0	5.1	3.3
3633	Household laundry equipment	102.1	103.9	105.4	110.5	117.0	124.9	6.8	4.1

See footnotes at end of table.

Table 1. Continued—Productivity indexes for selected industries, 1980–85
[1977=100]

src Code ¹	Industry	1980	1981	1982	1983	1984	1985 ²	Percent change, 1984–85	Average annual percent change, 1980–85
3639	Household appliances, n.e.c.	99.1	100.4	94.7	102.8	108.1	110.4	2.1	2.4
3641	Electric lamps	103.2	106.9	108.4	124.7	132.0	126.4	-4.2	5.2
3645,46,47,48	Lighting fixtures	93.3	88.7	91.0	95.3	101.1	105.0	3.9	3.0
3651	Radio and television receiving sets	116.9	133.6	163.9	196.7	228.9	(3)	(3)	418.9
371	Motor vehicles and equipment	90.8	93.1	96.9	109.6	115.9	122.5	5.7	6.7
3825	Instruments to measure electricity	108.4	111.9	119.2	120.7	131.2	(3)	(3)	44.7
Other									
401	Railroad transportation, revenue traffic	107.3	111.5	115.8	141.9	152.6	162.1	6.2	9.6
401	Railroad transportation, car miles	107.9	107.6	110.1	128.9	137.7	138.9	0.9	6.4
4111,31,14 pts	Class I bus carriers	100.9	90.7	98.8	95.4	90.9	(3)	(3)	4-1.6
4213 pt	Intercity trucking ⁶	94.3	98.7	93.3	101.0	102.5	97.2	-5.2	1.0
4213 pt	Intercity trucking, general freight ⁶	87.9	92.5	86.8	92.5	94.2	90.5	-3.9	0.8
4511,4521, pt	Air transportation ⁶	106.2	104.9	114.9	126.8	131.7	136.1	3.3	5.9
4612,13	Petroleum pipelines	93.0	86.0	89.2	94.3	104.5	104.3	-0.2	3.5
4811	Telephone communications	118.1	124.4	129.1	145.7	144.0	150.9	4.8	5.2
491,92,93	Gas and electric utilities	96.2	94.4	89.3	88.1	91.4	90.4	-1.1	-1.2
491,493 pt	Electric utilities	94.0	93.0	89.5	90.9	94.4	94.2	-0.2	0.2
492,493 pt	Gas utilities	102.1	98.1	89.0	81.1	83.6	80.7	-3.5	-4.9
54	Retail food stores ⁷	98.9	95.2	93.5	93.9	93.6	92.7	-1.0	-1.1
5511	Franchised new car dealers	99.6	98.1	100.4	109.4	110.4	109.8	-0.5	2.7
5541	Gasoline service stations ⁷	104.3	105.8	110.7	118.1	121.0	124.1	2.6	3.9
56	Apparel and accessory stores ⁷	120.1	127.1	130.9	137.8	146.8	155.2	5.7	5.2
5611	Men's and boys' clothing stores ⁷	106.4	115.6	115.7	120.1	127.2	130.5	2.6	3.9
5621	Women's ready-to-wear stores ⁷	125.5	139.0	158.2	169.7	178.4	178.6	0.1	7.7
5651	Family clothing stores ⁷	122.6	131.4	139.6	149.8	150.2	154.8	3.1	4.8
5661	Shoe stores ⁷	109.3	113.0	108.9	110.0	116.5	126.3	8.4	2.4
57	Furniture, home furnishings, and equipment stores ⁷ ..	107.4	112.6	109.2	118.4	122.4	125.9	2.9	3.3
571	Furniture and home furnishings stores ⁷	98.0	101.2	97.6	104.1	110.3	108.2	-1.9	2.4
572,3	Appliance, radio, TV, and music stores ⁷	124.0	132.5	128.7	143.3	143.4	157.6	9.9	4.5
58	Eating and drinking places ⁷	99.5	97.0	96.6	97.1	94.9	92.8	-2.2	-1.2
5812	Drug and proprietary stores ⁷	107.0	107.6	107.9	110.1	105.0	100.6	-4.2	-1.0
592	Liquor stores ⁷	101.6	103.2	107.8	101.2	101.6	101.0	-0.6	-0.4
602	Commercial banking	92.7	90.5	93.2	101.7	104.7	(3)	(3)	43.7
7011	Hotels, motels, and tourist courts ⁷	95.0	91.6	88.8	95.4	102.1	97.0	-5.0	1.4
721	Laundry and cleaning services ⁷	90.6	88.1	90.2	90.1	92.1	87.5	-5.0	-0.1
723,724	Beauty and barber shops ⁷	102.9	109.2	108.3	114.1	103.9	99.6	-4.1	-0.7
723	Beauty shops ⁷	106.2	114.7	113.1	120.0	112.3	107.7	-4.1	0.2

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

²Preliminary.

³Not available.

⁴Percent change, 1980–84.

⁵Rate of change is less than 0.05 percent.

⁶Output per employee.

⁷Output 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.

Trends

Over the recent 5-year period (1980–85), a large majority of the industries registered growth in productivity. Only about 17 percent of the industries had declining rates over this period.

Among the industries with average annual increases during the 1980–85 period, the radio and television receiving sets industry had the highest rate of gain, 18.9 percent per year from 1980 to 1984. (Data for 1985 are not yet available.) Output in this industry grew at a rate of 9.1 percent per year while employee hours declined in every year, averaging -8.3 percent. Productivity growth in this industry was aided by the widespread use of automatic production techniques and equipment and the closing of less efficient plants. The copper mining (recoverable metal) industry recorded the second highest rate of productivity gain, 15.6

percent per year. This gain, however, reflected a drop in output of 4.0 percent and a decline in hours of 17.0 percent. This industry was hit hard by falling copper prices and the closing of many less efficient mines. The third highest rate of gain was registered by the primary copper, lead, and zinc industry, which grew at a rate of 11.6 percent from 1980 to 1985. This industry also was affected by low copper prices. It had a large drop in output and an even larger drop in hours. Other industries with significant gains in productivity during this period include wet corn milling (11.1 percent, 1980–84), railroad transportation (revenue traffic) (9.6 percent), hydraulic cement (9.5 percent), and iron mining (usable ore) (9.4 percent).

Among the industries with average annual declines in productivity, the gas utilities industry posted the largest drop, falling at a rate of 4.9 percent from 1980 to 1985. Output fell 4.1 percent in this industry due in part to a

decrease in average use per customer. At the same time, the number of customers increased, resulting in growth in employee hours. The industry with the next largest decline in output per hour was rice milling, in which the rate fell 4.3 percent. Output declined at the high rate of 6.6 percent from 1980 to 1985, as exports contracted and hours were down at a 2.5-percent rate. Other industries with significant declines were wood office furniture (3.5 percent), oilfield machinery (3.3 percent, 1980–84), transformers (2.7 percent), and machine tool accessories (2.6 percent, 1980–84). □

—FOOTNOTE—

¹ For a detailed report on these industries, see James D. York, "Retail liquor stores experience flat trend in productivity," *Monthly Labor Review*, February 1987, pp. 25–29; and Z.Z. Ahmed and M. Sieling, "Two decades of productivity growth in poultry dressing and processing," *Monthly Labor Review*, April 1987, pp. 34–39. Also, an article by Arthur S. Herman and J. Edwin Henneberger, "Productivity trends in the furniture and home furnishings industry," and an article on mining machinery will appear in forthcoming issues of the *Monthly Labor Review*.

Geographic segmentation

In most occupations, the geographical area in which employers recruit new workers is a commuting area around the workplace. The methods used to find workers—word-of-mouth publicizing of vacancies through their employees, posting of vacancies at the gate, notifying union hiring halls or State or private employment agencies, or placing want ads in newspapers—are focused locally. On the supply side the same is true; workers look for jobs within commuting distance from their homes.

—*Using Labor Market Information in Career Exploration and Decision Making: A Resource Guide*
(Garrett Park, MD, Garrett Park Press, 1986), p. 56.
