

FEDERAL RESERVE statistical release



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INDUSTRIAL PRODUCTION

Industrial production increased 0.2 percent further in January after a revised 0.4 percent rise in December. Gains were concentrated in the production of consumer-use trucks, nondurable consumer goods, business supplies, and manufacturing equipment; automobile production declined about 7.5 percent over the month. Output of materials, which rose sharply throughout the second half of last year, was little changed in January. At 133.8 percent of the 1977 average, the total index in January was 6 percent higher than a year earlier.

Market Groupings. Production of consumer goods rose 0.4 percent in January as large increases in lightweight truck assemblies and in nondurable consumer goods--particularly food and energy--were only partially offset by continued weakness in auto output. Auto assemblies were reduced in January to an annual rate of 6.0 million units from a 6.5 million unit rate in December. Output of business equipment was little changed, on balance. Production of manufacturing and power equipment advanced strongly, and output of commercial equipment, which includes computers, edged up. However, output of transit equipment fell more than 3.5 percent last month, largely reflecting a decline in assemblies of motor vehicles other than light trucks.

The indices for both durable and nondurable materials were unchanged in January, but were appreciably stronger in December than originally published. In January, output of chemical materials and parts for equipment continued to post strong gains, but production of paper and basic metals registered declines. Production of energy materials was up in January, with electricity generation providing the major impetus.

Industry Groupings. Manufacturing output increased 0.2 percent in January. Although many machinery industries continued to show gains, iron and steel production fell back in January following a sharp rise in December. As a result, durable manufacturing was about unchanged in January. Output of nondurable goods increased 0.4 percent in January, and production at utilities was up an estimated 1.3 percent. However, mining production declined 0.6 percent.

Industrial Production: Summary

Seasonally adjusted

Item	Index, 1977 = 100		Monthly percent change					Current month from a year ago
	1988		SEP	OCT	NOV	DEC	JAN	
	DEC	JAN						
Total	133.6	133.8	-0.2	1.1	.4	.4	.2	6.0
Market Groupings								
Products, total	141.1	141.5	-0.4	1.1	.0	.1	.2	5.2
Final products	139.2	139.5	-0.4	1.1	-0.2	.1	.2	4.7
Consumer goods	129.3	129.8	-1.3	1.1	.1	.1	.4	3.4
Durable goods	120.3	120.8	-2.2	4.8	-0.5	-2.7	.4	1.6
Nondurable goods	132.6	133.1	-1.1	-0.2	.3	1.1	.4	4.0
Business equipment	148.7	148.6	.4	1.6	-0.3	.3	-0.1	7.2
Defense and space	189.7	190.2	.4	.3	-0.3	-0.1	.3	1.5
Intermediate products	147.7	148.2	-0.3	.9	.7	.3	.4	6.8
Construction supplies	134.6	134.6	-0.2	.8	.5	.4	.0	3.3
Materials	123.3	123.4	.2	1.3	.9	.9	.1	7.4
Industry Groupings								
Manufacturing	138.6	138.8	-0.1	1.2	.4	.5	.2	6.2
Durable	137.2	137.1	-0.1	2.3	.0	.3	.0	6.1
Nondurable	140.6	141.2	-0.1	-0.3	1.0	.8	.4	6.4
Mining	103.2	102.6	1.0	1.7	.5	-0.9	-0.6	3.2
Utilities	112.6	114.0	-1.4	.8	.8	-0.3	1.3	5.6

Revisions

Total Industrial Production
(Estimate as shown last month and current estimates)

<u>Month</u>	<u>Index (1977=100)</u>		<u>Percentage change from previous month</u>	
	<u>Previous</u>	<u>Current</u>	<u>Previous</u>	<u>Current</u>
October	132.5	132.5	1.1	1.1
November	133.1	133.0	.4	.4
December	133.3	133.6	.2	.4
January	NA	133.8	NA	.2

NA--not applicable.

FEDERAL RESERVE



Industrial Production

INDUSTRIAL PRODUCTION

JANUARY DATA

SEASONALLY ADJUSTED, RATIO SCALE, 1977=100

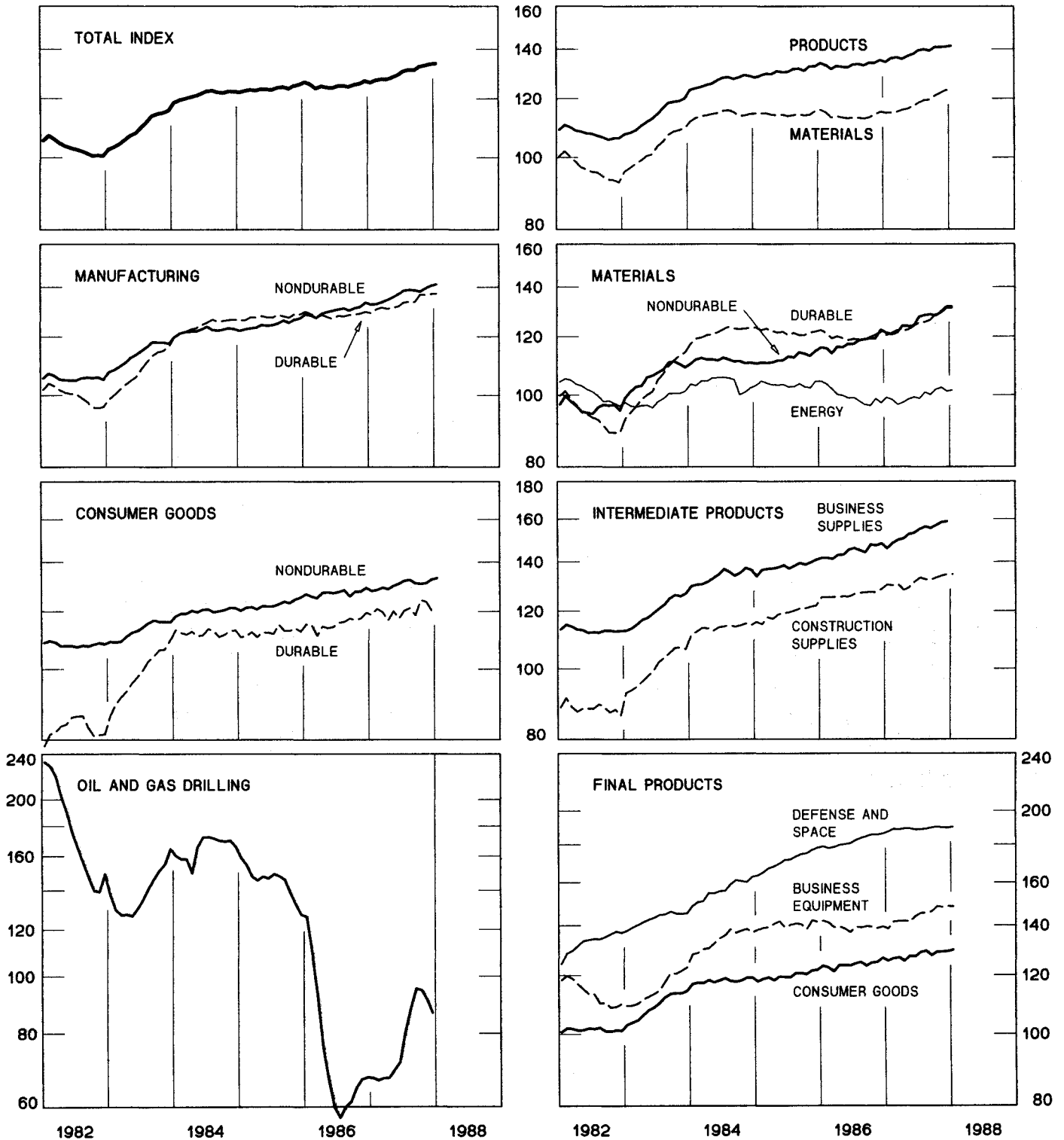


Table 1A

INDUSTRIAL PRODUCTION: MARKET GROUPINGS

Seasonally adjusted, 1977 = 100

Major Market Groupings	1977	1987	1987												1988
	Pro- por- tion	Ann. Avg.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
TOTAL INDEX	100.00	129.8	126.2	127.1	127.4	127.4	128.2	129.1	130.6	131.2	131.0	132.5	133.0	133.6	133.8
PRODUCTS, TOTAL	57.72	138.3	134.5	136.0	136.4	135.8	136.9	137.8	139.5	139.9	139.4	140.9	140.9	141.1	141.5
FINAL PRODUCTS	46.77	136.8	133.3	134.8	135.1	134.5	135.5	136.2	137.9	138.4	137.8	139.3	139.1	139.2	139.5
CONSUMER GOODS	25.52	127.7	125.5	126.4	126.7	125.5	127.3	127.2	128.9	129.4	127.7	129.0	129.1	129.3	129.8
EQUIPMENT, TOTAL	19.25	148.8	143.5	146.0	146.2	146.4	146.3	148.1	149.7	150.2	151.2	153.0	152.4	152.4	152.4
INTERMEDIATE PRODUCTS	12.94	143.5	138.8	139.9	140.9	140.3	141.8	143.3	145.0	145.3	144.9	146.1	147.2	147.7	148.2
MATERIALS	42.28	118.2	114.9	114.9	115.2	115.9	116.3	117.2	118.5	119.4	119.7	121.2	122.2	123.3	123.4
CONSUMER GOODS	25.52	127.7	125.5	126.4	126.7	125.5	127.3	127.2	128.9	129.4	127.7	129.0	129.1	129.3	129.8
DURABLE CONSUMER GOODS	6.89	120.2	118.8	121.0	119.8	116.7	120.1	117.4	120.4	121.2	118.6	124.3	123.7	120.3	120.8
Automotive products	2.98	118.5	116.6	122.6	121.6	115.0	118.8	114.9	117.5	118.0	114.2	124.3	121.4	116.0	117.2
Autos and trucks, consumer	1.79	115.1	116.6	123.7	122.6	110.9	114.6	107.9	112.3	112.4	107.2	122.2	118.7	110.2	112.8
Autos, consumer	1.16	90.7	93.0	104.1	101.7	90.8	92.7	87.4	86.4	76.8	79.1	94.7	91.9	83.7	77.5
Trucks, consumer	.63	160.3	160.0	161.3	148.0	155.3	146.0	160.4	178.4	159.4	173.2	168.5			
Auto parts & allied gds	1.19	123.6	116.7	121.0	120.1	121.2	125.0	125.9	125.3	126.6	124.8	127.5	125.4	124.6	123.9
Home goods	3.91	121.5	120.5	119.8	118.4	118.1	121.2	119.3	122.5	123.6	121.9	124.3	125.4	123.6	123.5
Appliances, TV & air-cond	1.24	141.5	145.4	142.9	134.0	133.9	141.3	133.4	141.7	147.1	141.8	145.7	150.1	143.5	142.5
Appliances and TV	1.19	142.1	147.3	144.5	134.6	135.2	141.6	133.4	142.6	145.5	140.6	146.1	150.5	143.4	
Carpeting & furniture	.96	130.6	124.7	125.4	128.9	128.2	130.5	132.3	134.1	132.0	131.6	132.9	133.0	132.9	
Misc. home goods	1.71	101.9	100.1	100.0	101.2	101.0	101.4	101.8	102.2	102.0	102.2	104.1	103.4	104.0	
NONDURABLE CONSUMER GOODS	18.63	130.5	128.0	128.4	129.3	128.7	130.0	130.9	132.1	132.5	131.0	130.8	131.1	132.6	133.1
Clothing	3.34	99.4	96.9	98.3	97.6	97.8	99.2	100.3	100.9	101.4	100.2	100.6	100.2	99.2	
Consumer staples	15.29	137.3	134.8	134.9	136.3	135.5	136.7	137.6	138.9	139.2	137.8	137.4	137.9	139.9	140.5
Consumer foods & tobacco	7.80	136.2	133.2	134.5	135.6	134.5	136.0	136.0	137.2	137.4	137.0	137.5	137.1	139.0	
Nonfood staples	7.49	138.3	136.4	135.4	137.0	136.5	137.5	139.2	140.6	141.2	138.6	137.2	138.6	140.8	141.2
Consumer chem. products	2.75	162.7	158.9	158.7	161.0	161.2	161.6	164.4	165.7	167.4	163.6	160.0	162.1	166.6	
Consumer paper products	1.88	151.7	149.5	146.7	149.9	149.1	151.8	153.1	153.8	153.9	153.2	151.8	153.0	154.6	
Consumer energy	2.86	106.2	106.3	105.6	105.4	104.9	104.9	105.9	108.0	107.7	105.0	105.8	106.7	107.0	
Consumer fuel	1.44	93.0	95.0	92.8	94.1	94.4	91.4	91.9	92.7	91.4	91.6	92.4	93.2	94.7	
Residential utilities	1.42	117.8	117.8	118.6	117.0	114.7	118.6	120.2	123.6	124.3	118.7	119.4	120.5		
EQUIPMENT, TOTAL	19.25	148.8	143.5	146.0	146.2	146.4	146.3	148.1	149.7	150.2	151.2	153.0	152.4	152.4	152.4
BUSINESS & DEFENSE EQUIP.	18.01	153.5	148.5	151.3	151.4	151.7	151.4	153.2	154.4	154.5	155.2	157.2	156.7	157.0	157.1
BUSINESS EQUIPMENT	14.34	144.4	138.6	141.7	141.9	142.1	141.7	144.2	145.6	145.6	146.3	148.7	148.3	148.7	148.6
Constr, mining, & farm	2.08	62.2	56.0	54.7	57.2	57.4	60.3	63.0	65.0	66.4	66.1	66.5	67.1	67.0	67.1
Manufacturing equipment	3.27	117.8	113.3	115.3	113.9	114.4	114.4	117.2	120.4	120.9	122.0	120.5	120.0	121.3	122.5
Power equipment	1.27	82.7	80.8	82.5	83.2	81.6	82.8	84.0	81.8	82.8	81.1	83.0	83.8	84.7	85.5
Commercial equipment	5.22	226.2	216.7	220.7	222.6	224.8	221.2	226.7	227.9	227.7	229.1	232.4	231.9	232.8	233.3
Transit equipment	2.49	108.4	106.6	113.6	110.6	106.7	108.9	105.4	106.1	104.7	105.1	112.5	111.2	109.5	105.6
DEFENSE & SPACE EQUIPMENT	3.67	189.1	187.3	188.9	188.6	189.2	189.3	188.6	188.7	189.1	189.8	190.3	189.8	189.7	190.2
INTERMEDIATE PRODUCTS	12.94	143.5	138.8	139.9	140.9	140.3	141.8	143.3	145.0	145.3	144.9	146.1	147.2	147.7	148.2
Construction supplies	5.95	131.6	130.3	130.0	130.4	128.2	129.1	131.5	133.1	132.5	132.3	133.3	134.0	134.6	134.6
Business supplies	6.99	153.6	146.0	148.4	149.9	150.6	152.6	153.4	155.2	156.3	155.6	157.1	158.5	158.8	
Gen. business supplies	5.67	158.8	150.7	153.3	154.5	155.8	157.1	158.5	160.5	161.0	160.9	162.3	164.3	164.5	
Commercial energy prod.	1.31	131.4	125.6	127.4	130.2	128.1	133.4	131.1	132.3	135.8	132.7	134.6	133.2	134.2	
MATERIALS	42.28	118.2	114.9	114.9	115.2	115.9	116.3	117.2	118.5	119.4	119.7	121.2	122.2	123.3	123.4
DURABLE GOODS MATERIALS	20.50	125.0	120.5	121.3	122.3	122.2	122.6	124.0	125.2	125.5	126.4	128.7	130.0	131.8	131.9
Consumer durable parts	4.92	100.8	101.8	102.3	101.8	99.3	99.1	99.2	98.5	99.6	99.0	102.3	103.0	103.7	103.0
Equipment parts	5.94	158.9	154.0	155.5	156.0	156.2	156.9	158.3	159.3	159.5	161.1	162.2	163.2	164.8	166.0
Durable materials nec	9.64	116.4	109.6	109.9	112.1	113.0	113.4	115.5	117.7	117.9	118.9	121.6	123.2	125.9	125.7
Basic metal materials	4.64	86.7	78.6	79.6	80.0	80.6	81.3	83.6	86.6	90.4	91.3	95.3	96.3	100.7	99.5
NONDURABLE GOODS MATERIALS	10.09	125.7	121.4	120.8	121.5	124.1	123.9	124.1	127.6	128.3	128.6	128.2	129.4	131.3	131.4
Textile, paper, & chem. mater.	7.53	127.6	122.7	121.7	122.4	125.1	124.9	125.1	129.6	130.6	131.2	131.0	132.4	134.5	134.9
Textile materials	1.52	112.1	104.9	104.4	109.0	112.7	109.7	111.9	117.8	116.7	116.0	113.0	114.2	114.6	
Pulp & paper materials	1.55	140.7	137.3	136.4	135.4	136.4	137.7	139.0	145.4	145.0	143.3	142.0	143.5	146.4	
Chemical materials	4.46	128.3	123.8	122.4	122.5	125.4	125.7	124.9	128.1	130.4	132.2	133.4	134.7	137.2	
Misc. nondurable materials	2.57	117.4	118.4	118.4	118.7	121.0	120.8	120.9	122.0	121.4	120.9	119.7	120.9		
ENERGY MATERIALS	11.69	99.7	99.3	98.6	97.2	97.6	98.7	99.4	99.0	100.9	100.2	101.8	102.4	101.3	101.6
Primary energy	7.57	104.8	106.6	104.8	103.0	103.7	103.5	104.0	102.5	104.6	104.6	106.8	107.8	106.3	
Converted fuel materials	4.12	90.3	85.8	87.2	86.4	86.9	89.9	91.0	92.5	94.1	92.2	92.7	92.6	92.1	

NOTE: Two components--oil and gas well drilling and manufactured homes--are included in total equipment but not shown here. They are shown in Tables 4A and 4B on page 8 and 9.

Table 1B
INDUSTRIAL PRODUCTION: MARKET GROUPINGS
 Not seasonally adjusted, 1977 = 100

Major Market Groupings	1977 Pro- por- tion	1987 Ann- Avg.	1987 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1988 JAN
TOTAL INDEX	100.00	129.8	122.6	126.8	127.1	126.3	127.0	131.9	128.7	134.3	135.3	135.2	132.6	129.5	130.1
PRODUCTS, TOTAL	57.72	138.3	129.4	133.9	134.3	133.4	135.0	141.5	138.7	145.0	146.2	144.8	140.6	136.5	136.2
FINAL PRODUCTS	44.77	136.8	129.1	133.4	133.6	132.0	133.6	139.8	136.4	142.9	144.2	143.0	138.6	134.8	135.3
CONSUMER GOODS	25.52	127.7	120.2	124.5	124.6	122.8	125.1	131.6	127.7	135.3	135.7	133.8	128.3	122.9	124.6
EQUIPMENT, TOTAL	19.25	148.8	140.9	145.2	145.7	144.3	144.8	150.7	147.9	152.9	155.5	155.1	152.3	150.5	149.4
INTERMEDIATE PRODUCTS	12.94	143.5	130.5	135.5	136.6	138.4	140.2	147.5	146.6	152.4	152.9	151.4	147.2	142.6	139.2
MATERIALS	42.28	118.2	113.4	117.3	117.2	116.5	116.1	118.8	115.0	119.7	120.6	122.0	121.6	120.0	121.9
CONSUMER GOODS	25.52	127.7	120.2	124.5	124.6	122.8	125.1	131.6	127.7	135.3	135.7	133.8	128.3	122.9	124.6
DURABLE CONSUMER GOODS	6.89	120.2	114.3	123.8	124.4	119.9	121.7	122.6	105.6	118.2	123.2	133.5	125.0	110.4	117.0
Automotive products	2.98	118.5	115.1	129.1	128.8	121.2	122.8	122.9	95.3	109.3	120.1	131.8	121.6	104.4	115.9
Autos and trucks, consumer	1.79	115.1	115.5	135.3	134.5	120.7	122.8	121.4	78.1	96.5	114.3	130.6	119.4	92.6	112.1
Autos, consumer	1.16	90.7	95.0	114.7	111.5	98.7	98.5	98.2	51.4	65.7	87.0	102.6	93.8	71.6	78.2
Trucks, consumer	.63	153.4	173.4	177.2	161.4	168.0	164.6	127.6	153.8	164.9	182.6	167.0	161.1	161.1	
Auto parts & allied gds	1.19	123.6	114.5	119.7	120.1	122.1	122.7	125.2	121.2	128.6	128.9	133.5	125.0	122.2	121.7
Home goods	3.91	121.5	113.7	119.7	121.1	118.8	121.0	122.4	113.4	124.9	125.6	134.8	127.5	115.0	117.8
Appliances, TV & air-cond	1.24	141.5	137.6	143.7	141.7	136.3	142.8	137.9	125.4	144.9	141.2	167.9	154.5	124.4	139.8
Appliances and TV	1.19	142.1	138.5	143.7	140.0	135.0	140.5	137.0	126.7	147.5	143.3	171.2	157.2	125.2	121.1
Carpeting & furniture	.96	130.6	116.4	128.1	130.9	130.3	128.8	135.9	124.4	134.7	138.1	138.8	134.2	126.5	121.1
Misc. home goods	1.71	101.9	95.0	97.7	100.8	99.8	100.7	103.6	98.5	105.0	107.4	108.6	104.3	101.8	101.8
NONDURABLE CONSUMER GOODS	18.63	130.5	122.4	124.7	124.6	123.8	126.3	134.9	135.9	141.6	140.3	133.9	129.5	127.5	127.4
Clothing	3.34	99.4	91.8	97.6	97.4	97.0	98.7	103.8	98.1	106.2	104.3	102.8	99.7	95.4	95.4
Consumer staples	15.29	137.3	129.1	130.6	130.6	129.7	132.4	141.7	144.1	149.4	148.2	140.7	136.1	134.5	134.8
Consumer foods & tobacco	7.80	136.2	125.5	128.2	130.0	129.5	133.5	141.4	139.6	146.4	147.7	144.1	136.6	132.1	131.1
Nonfood staples	7.49	138.3	132.9	133.2	131.1	129.9	131.2	141.9	148.9	152.4	148.8	137.2	135.5	137.0	137.8
Consumer chem. products	2.75	162.7	148.6	151.7	154.0	152.7	156.1	170.8	176.7	179.5	179.2	164.7	160.1	158.3	158.3
Consumer paper products	1.88	151.7	141.2	142.3	144.1	143.4	147.5	156.0	161.5	169.2	165.1	154.3	150.0	146.4	146.4
Consumer energy	2.86	106.2	112.6	109.5	100.7	99.1	96.6	105.0	113.9	115.4	108.9	99.5	102.4	110.4	110.4
Consumer fuel	1.44	93.0	92.2	87.2	87.2	91.6	93.0	95.0	94.7	93.7	94.0	91.9	96.7	98.8	98.8
Residential utilities	1.42	133.3	132.3	114.4	106.8	106.3	115.2	133.4	137.5	124.0	107.2	108.2	108.2	108.2	108.2
EQUIPMENT, TOTAL	19.25	148.8	140.9	145.2	145.7	144.3	144.8	150.7	147.9	152.9	155.5	155.1	152.3	150.5	149.4
BUSINESS & DEFENSE EQUIP.	18.07	153.5	145.6	150.5	151.0	149.5	150.0	156.1	152.7	157.4	159.7	159.1	156.3	154.6	153.7
BUSINESS EQUIPMENT	14.34	144.4	134.7	140.7	141.4	139.5	139.9	147.7	144.2	149.6	152.0	151.7	147.4	144.6	144.1
Constr., mining, & farm	2.08	62.2	54.9	56.6	57.6	57.1	59.7	63.3	64.6	66.6	67.9	65.6	66.1	66.5	65.5
Manufacturing equipment	3.27	117.8	109.4	116.2	114.5	113.3	113.1	119.5	119.2	123.0	125.1	122.2	119.0	119.1	117.9
Power equipment	1.27	82.7	78.8	81.6	82.6	79.6	81.2	85.0	79.4	83.7	83.5	85.6	84.9	86.4	83.3
Commercial equipment	5.22	226.2	209.2	214.9	217.6	217.3	216.4	231.8	234.2	239.8	240.5	237.2	230.1	225.9	224.6
Transit equipment	2.49	108.4	107.0	118.2	117.2	110.2	112.1	111.3	87.9	98.7	107.2	117.0	111.5	102.6	106.8
DEFENSE & SPACE EQUIPMENT	3.67	189.1	188.2	188.6	188.7	188.7	189.2	188.9	186.3	187.7	189.9	188.3	190.9	193.6	191.1
INTERMEDIATE PRODUCTS	12.94	143.5	130.5	135.5	136.6	138.4	140.2	147.5	146.6	152.4	152.9	151.4	147.2	142.6	139.2
Construction supplies	5.95	131.6	120.8	124.5	127.4	129.6	130.5	136.8	132.6	136.4	137.5	138.5	134.8	129.6	125.3
Business supplies	6.99	153.6	138.8	144.8	144.3	145.9	148.5	156.5	158.6	166.0	166.1	162.3	157.8	153.7	153.7
Gen. business supplies	5.67	158.8	142.3	148.3	149.7	151.9	153.7	161.2	162.4	170.5	171.7	169.5	164.4	159.5	159.5
Commercial energy prod.	1.31	131.4	123.7	130.1	121.2	120.0	125.8	136.3	142.3	146.3	142.3	131.3	129.4	128.2	128.2
MATERIALS	42.28	118.2	113.4	117.3	117.2	116.5	116.1	118.8	115.0	119.7	120.6	122.0	121.6	120.0	121.9
DURABLE GOODS MATERIALS	20.50	125.0	116.6	122.2	124.4	123.6	123.4	126.4	121.7	125.6	128.1	130.3	129.1	128.2	127.6
Consumer durable parts	4.92	100.8	98.7	103.7	104.6	101.1	99.5	100.2	93.5	97.7	100.8	104.0	103.1	102.6	100.2
Equipment parts	5.94	158.9	153.5	154.9	156.7	154.9	155.9	159.4	156.5	159.5	161.5	162.8	164.4	167.1	165.3
Durable materials nec	9.64	116.4	103.1	111.5	114.7	115.8	115.6	119.5	114.7	118.9	121.4	123.7	120.7	117.3	118.4
Basic metal materials	4.64	86.7	76.6	83.1	86.8	87.1	87.3	87.5	80.7	86.4	88.7	93.8	91.5	90.5	97.2
NONDURABLE GOODS MATERIALS	10.09	125.7	119.2	124.4	124.5	125.6	124.5	126.4	121.8	128.2	130.1	130.7	129.5	123.9	129.3
Textile, paper, & chem. mater.	7.53	127.6	120.6	125.6	125.6	127.1	126.4	127.3	123.2	129.9	132.6	132.1	132.7	128.0	133.1
Textile materials	1.52	112.1	104.2	108.8	111.7	113.2	114.0	113.8	102.4	122.2	117.8	119.2	115.3	102.6	102.6
Pulp & paper materials	1.55	140.7	137.3	141.9	139.8	138.2	137.6	141.3	138.8	145.3	143.8	142.2	144.4	138.4	138.4
Chemical materials	4.46	128.3	120.4	125.8	125.4	128.0	126.7	127.1	124.9	127.3	133.8	133.1	134.6	133.1	133.1
Misc. nondurable materials	2.57	115.1	120.7	121.1	121.4	121.4	118.9	123.7	117.6	123.2	123.0	126.6	120.0	120.0	120.0
ENERGY MATERIALS	11.69	99.7	102.6	102.4	98.3	96.2	96.1	99.0	97.2	102.0	99.1	99.7	101.7	102.3	105.5
Primary energy	7.57	104.8	107.8	108.0	105.2	103.3	102.6	103.6	99.1	105.4	103.8	106.3	107.0	106.1	106.1
Converted fuel materials	4.12	90.3	93.0	92.2	85.7	83.3	84.1	90.6	93.7	95.7	90.5	87.7	92.0	95.4	95.4

NOTE: Two components--oil and gas well drilling and manufactured homes--are included in total equipment but not shown here. They are shown in Tables 4A and 4B on page 8 and 9.

Table 2A
INDUSTRIAL PRODUCTION: INDUSTRY GROUPINGS
 Seasonally adjusted, 1977 = 100

Major Industry Groupings	SIC Code	1977	1987	1987												1988
		Pro- por- tion	Ann- Avg.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
MINING AND UTILITIES		15.78	104.2	102.6	102.4	101.9	101.4	103.1	103.0	103.7	105.4	105.4	106.8	107.5	106.8	106.9
MINING		9.83	100.5	99.4	98.8	98.3	98.6	99.2	99.2	100.9	101.9	103.6	104.2	103.2	102.6	102.6
UTILITIES		5.96	110.3	108.0	108.5	107.9	106.0	109.6	109.4	111.2	112.9	111.2	112.1	112.9	112.6	114.0
MANUFACTURING		84.22	134.6	130.7	131.6	132.4	132.4	133.2	134.0	135.6	135.9	135.7	137.3	137.9	138.5	138.9
NONDURABLE		35.11	136.7	132.7	132.9	133.7	134.6	135.7	136.9	138.5	138.8	138.6	138.1	139.4	140.6	141.2
DURABLE		49.10	133.1	129.3	130.8	131.5	130.9	131.4	132.0	133.5	133.8	133.7	136.8	136.7	137.1	137.2
MINING																
Metal mining	10	.50	77.1	74.1	73.6	71.2	65.7	71.7	70.7	71.4	79.3	86.5	85.6	90.0		
Coal	11,12	1.60	131.8	136.4	131.7	122.3	121.9	127.2	128.8	127.9	130.5	133.3	140.3	142.9	140.6	139.0
Oil & gas extraction	13	7.07	92.5	91.2	90.9	92.4	93.1	92.1	91.8	91.8	93.0	93.3	94.1	93.6	92.7	92.3
Stone & earth minerals	14	.66	128.2	116.1	122.1	123.8	125.4	127.6	128.5	130.7	130.3	130.0	131.0	134.1	135.7	
NONDURABLE MANUFACTURES																
Foods	20	7.96	137.7	134.6	136.4	137.3	136.0	137.4	137.7	138.5	138.8	139.5	138.0	138.4	139.4	
Tobacco products	21	.62		89.9	99.9	101.1	99.6	106.6	107.0	106.8	110.4	101.7	103.7	103.4		
Textile mill products	22	2.29	116.0	109.2	110.8	112.6	116.6	115.7	117.2	118.3	119.8	118.2	116.8	118.3	119.2	
Apparel products	23	2.79		106.1	106.5	105.4	105.3	106.4	107.7	109.7	108.4	107.6	108.0	109.3		
Paper & products	26	3.15	144.4	139.7	139.9	139.9	140.5	141.3	142.6	148.8	148.9	147.4	146.0	148.3	149.8	
Printing & publishing	27	4.54	172.0	166.3	164.4	167.6	169.2	171.4	174.1	174.0	174.7	174.9	175.2	175.6	175.9	178.0
Chemicals & products	28	8.05	140.1	136.4	135.7	135.3	137.3	138.1	139.3	140.8	142.3	142.4	141.5	144.2	146.8	
Petroleum products	29	2.40	93.5	95.6	91.6	92.1	94.0	92.6	92.3	94.1	92.9	93.5	94.6	93.3	96.0	97.4
Rubber & plastics prod.	30	2.80	163.5	155.3	156.2	158.6	160.5	162.2	165.4	167.2	164.8	165.2	166.7	169.4	169.9	
Leather & products	31	.53	60.0	58.9	59.8	59.4	60.2	61.4	60.8	59.2	61.3	60.7	59.6	60.7	58.3	
DURABLE MANUFACTURES																
Lumber & products	24	2.30	130.5	128.5	129.6	128.9	127.8	130.3	131.1	132.8	131.1	126.9	129.8	134.0	135.8	
Furniture & fixtures	25	1.27	152.8	143.5	145.0	149.9	148.2	150.5	153.9	156.2	155.2	155.9	156.0	158.1	159.2	
Clay, glass, stone prod.	32	2.72	119.2	121.9	118.8	119.8	120.6	117.2	117.9	118.8	116.5	118.6	118.9	120.5	122.1	
Primary metals																
Iron & steel	33,1,2	3.49	70.8	59.5	62.3	65.4	65.0	65.7	68.3	70.9	76.0	74.6	82.0	79.7	85.0	
Fabricated metal prod.	34	6.46	111.0	108.4	108.3	110.5	109.8	108.5	111.1	111.1	110.1	111.1	113.5	113.8	115.5	116.0
Non-electrical machinery	35	9.54	152.5	143.4	145.5	148.5	150.4	149.7	151.8	155.3	154.3	156.6	158.0	157.3	158.6	159.2
Electrical machinery	36	7.15	172.2	170.4	171.0	168.5	168.4	171.1	170.5	172.5	174.3	173.4	175.5	175.7	176.3	
Transportation equip.																
Motor vehicles & pts.	37	9.13	129.2	129.0	132.7	132.2	127.8	129.4	126.5	127.6	128.1	125.5	132.0	130.4	128.4	128.0
Aerospace & misc.	372-6,9	3.87	152.8	151.9	153.0	153.4	152.3	153.1	152.4	152.3	153.9	152.5	153.7	152.8	153.8	153.8
Instruments	38	2.66	143.8	139.5	142.0	140.3	142.8	142.1	144.5	143.8	146.3	145.6	146.7	147.3	144.8	145.8
Miscellaneous mfrs.	39	1.46	102.4	101.6	101.6	103.9	101.4	101.9	101.2	100.5	102.2	102.1	104.6	104.5	103.6	
UTILITIES																
Electric		4.17	126.7	121.6	122.3	123.6	122.3	128.8	128.8	131.0	132.0	127.5	126.8	127.5	126.9	

Table 3A
INDUSTRIAL PRODUCTION: PERCENT CHANGES
 Based on seasonally adjusted indexes

Series	1987												1988
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
	CHANGE FROM PREVIOUS MONTH												
TOTAL INDEX	-0.4	.7	.3	.0	.6	.7	1.2	.5	-0.2	1.1	.4	.4	.2
Final products	-0.6	1.2	.2	-0.5	.7	.5	1.2	.4	-0.4	1.1	-0.2	.1	.2
Consumer goods	-0.8	.7	.3	-1.0	1.6	-0.1	1.3	.4	-1.3	1.1	.1	.1	.4
Durable consumer goods	-0.6	1.9	-1.0	-2.5	2.9	-2.3	2.5	.7	-2.2	4.8	-0.5	-2.7	.4
Non-durable consumer goods	-0.9	.3	.7	-0.5	1.0	.7	.9	.3	-1.1	-0.2	.3	1.1	.4
Business equipment	-0.7	2.2	.2	.1	-0.3	1.8	1.0	.1	.4	1.6	-0.3	.3	-0.1
Construction Supplies	1.3	-0.2	.3	-1.7	1.7	1.8	1.2	-0.5	-0.2	.8	.5	.4	.0
Materials	-0.3	.0	.2	.6	.3	.8	1.1	.7	.2	1.3	.9	.9	.1
Durable goods materials	-0.9	.6	.9	-0.1	.3	1.2	.9	.3	.6	1.9	.9	1.5	.0
Non-durable goods materials	-0.9	-0.5	.6	2.1	-0.1	.1	2.9	.5	.2	-0.3	1.0	1.5	.0
Manufacturing	-0.4	.7	.6	.0	.5	.6	1.2	.2	-0.1	1.2	.4	.5	.2
Durable manufacturing	-0.4	1.2	.6	-0.4	.3	.4	1.2	.2	-0.1	2.3	.0	.3	.0
Non-durable manufacturing	-0.5	.1	.6	.7	.8	.9	1.1	.2	-0.1	-0.3	1.0	.8	.4
Mining and utilities	1.0	-0.2	-0.5	-0.5	1.7	-0.1	.7	1.6	.0	1.3	.5	-0.6	.1
	CHANGE FROM SAME MONTH A YEAR EARLIER												
TOTAL INDEX	-0.1	1.3	2.9	2.1	3.1	4.1	4.6	5.1	5.2	5.8	5.8	5.4	6.0
Final products	-0.5	1.5	3.2	1.8	2.9	4.0	4.2	4.3	4.3	4.9	4.7	3.8	4.7
Consumer goods	1.6	2.8	4.4	1.4	2.8	2.9	3.6	3.5	3.3	3.4	3.3	2.1	3.4
Durable consumer goods	3.1	5.1	7.6	2.0	5.4	2.7	3.9	4.3	1.0	6.4	5.4	.7	1.6
Non-durable consumer goods	1.0	2.1	3.3	1.2	2.0	2.9	3.5	3.3	4.1	2.4	2.6	2.6	4.0
Business equipment	-2.5	.3	2.0	1.8	2.2	5.1	4.4	4.7	4.8	6.6	6.8	6.6	7.2
Construction Supplies	3.9	3.7	4.0	2.2	2.8	4.7	5.2	4.3	4.0	4.7	5.3	4.7	3.3
Materials	-0.9	-0.1	1.7	2.0	2.7	3.8	4.7	5.6	6.0	7.0	7.0	7.0	7.4
Durable goods materials	-1.6	.0	2.5	1.8	2.6	4.5	5.1	5.6	6.3	7.6	7.7	8.4	9.4
Non-durable goods materials	4.7	4.4	6.6	6.7	6.7	5.8	8.8	8.2	8.1	7.4	8.6	7.2	8.2
Manufacturing	1.1	2.3	4.0	2.9	3.6	4.5	5.0	5.1	5.1	5.9	5.9	5.6	6.2
Durable manufacturing	-0.4	1.4	3.2	1.9	2.9	4.0	4.2	4.6	4.1	6.3	6.0	5.7	6.1
Non-durable manufacturing	3.2	3.6	5.0	4.4	4.6	5.2	6.0	5.9	6.4	5.3	5.9	5.4	6.4
Mining and utilities	-7.2	-5.5	-4.0	-2.9	.5	1.6	1.8	4.7	5.7	5.9	5.3	5.1	4.2

Table 5
INDUSTRIAL PRODUCTION: INDEXES; 1977 = 100
 Quarterly averages, seasonally adjusted

SERIES	Quarterly Averages of Monthly Indexes									
	1985 Q3	Q4	1986 Q1	Q2	Q3	Q4	1987 Q1	Q2	Q3	Q4
Industrial production	124.0	124.7	125.2	124.4	124.8	125.9	126.9	128.2	131.0	133.0
Products, total	131.2	132.1	132.9	132.5	133.3	134.5	135.6	136.8	139.6	141.0
Final products	131.6	132.3	132.6	131.6	132.4	133.3	134.4	135.4	138.0	139.2
Consumer goods	120.3	121.4	122.6	123.8	124.4	125.4	126.2	126.7	128.7	129.1
Durable consumer goods	113.3	113.2	113.9	114.3	116.5	117.9	119.9	118.1	120.1	122.8
Automotive products	116.5	114.7	113.9	115.1	116.9	115.3	120.3	116.2	116.6	120.5
Home goods	110.9	112.0	113.9	113.6	116.2	119.9	119.5	119.5	122.7	124.5
Non-durable consumer goods	122.8	124.4	125.9	127.3	127.3	128.2	128.6	129.9	131.9	131.5
Equipment, total	146.7	146.7	145.8	142.1	143.0	143.7	145.3	146.9	150.4	152.6
Business & defense equipment	147.3	148.1	148.5	146.9	148.4	148.7	150.4	152.1	154.7	157.0
Business equipment	140.6	140.8	140.9	138.4	139.4	139.2	140.7	142.6	146.8	148.5
Defense and space equipment	173.4	176.9	178.5	180.2	183.6	185.8	188.3	189.0	189.2	189.9
Intermediate products	129.9	131.4	134.1	135.5	136.8	138.5	139.9	141.8	145.1	147.0
Construction supplies	120.2	121.6	125.4	125.5	126.9	127.7	130.2	129.6	132.6	134.0
Business supplies	138.2	139.8	141.6	143.9	145.1	147.7	148.1	152.2	155.7	158.1
Commercial energy products	122.2	123.8	125.5	128.7	127.4	129.6	127.7	130.9	133.6	134.0
Materials	114.0	114.5	114.7	113.3	113.0	114.3	115.0	116.5	119.2	122.2
Durable goods materials	120.8	121.3	121.0	119.4	119.0	120.7	121.4	122.9	125.7	130.2
Basic metal materials	84.3	86.5	82.0	79.1	77.5	80.2	79.4	81.8	89.4	97.4
Non-durable goods materials	113.2	113.9	115.2	116.5	118.3	120.3	121.2	124.0	128.2	129.6
Textile, paper, & chem materials	113.3	114.2	115.5	116.7	118.9	120.9	122.3	125.1	130.5	132.6
Textile materials	98.8	102.6	102.4	103.6	105.9	106.2	106.1	111.4	116.8	113.9
Pulp and paper materials	123.4	124.6	128.5	131.0	134.1	137.0	136.4	137.7	144.6	144.0
Chemical materials	114.7	114.5	115.5	116.1	118.1	120.3	122.9	125.3	130.2	135.1
Energy materials	103.0	103.1	103.3	99.7	98.1	97.8	98.3	98.7	100.0	101.9
Manufacturing	126.8	127.4	128.4	128.5	129.2	130.4	131.0	133.2	135.7	137.9
Durable	127.9	128.3	128.7	127.7	128.2	129.1	130.5	131.4	133.7	136.9
Non-durable	125.2	126.3	128.0	129.6	130.7	132.1	133.1	135.7	138.6	139.4
Mining and Utilities	109.2	109.2	108.4	102.8	100.8	101.5	102.3	102.5	104.9	107.0
Mining	108.3	107.5	107.6	100.3	96.8	96.9	98.8	99.0	100.7	103.7
Utilities	110.9	112.2	109.8	107.0	107.3	109.1	108.1	108.3	111.8	112.5

Table 6
INDUSTRIAL PRODUCTION: GROSS VALUE OF PRODUCTS
 Billions of 1982 dollars at annual rates, seasonally adjusted

SERIES	Billions of 1982 Dollars at Annual Rates													
	1982 Dollars	1987 Ann. Avg.	1986 Q3	Q4	Quarters 1987				Months 1987				1988 JAN	
					Q1	Q2	Q3	Q4	AUG	SEP	OCT	NOV	DEC	
Products, total	1376.8	1735.7	1675.0	1691.6	1715.2	1717.8	1736.7	1772.1	1741.7	1735.9	1774.1	1771.1	1771.0	1780.2
Final products	1084.5	1333.5	1289.9	1300.3	1323.5	1320.4	1330.6	1358.3	1334.9	1330.3	1360.9	1358.5	1355.3	1363.1
Consumer goods	703.7	865.7	842.6	849.0	864.5	858.3	862.2	877.6	866.4	850.9	876.6	877.9	878.2	885.5
Durable consumer goods	133.3	208.2	202.2	202.3	209.8	203.8	206.4	212.4	209.0	203.1	216.6	214.3	206.3	208.7
Automotive products	65.9	113.1	111.3	108.5	116.2	110.0	110.5	115.1	112.5	107.6	119.3	116.2	109.7	112.2
Home goods	67.4	95.1	90.9	93.8	93.5	93.8	95.9	97.4	96.5	95.4	97.3	98.1	96.6	96.5
Non-durable consumer goods	570.4	657.5	640.3	646.7	654.7	654.6	655.7	665.1	657.3	653.9	659.9	663.6	671.8	676.8
Equipment, total	380.8	467.8	447.3	451.2	459.0	462.1	468.5	480.7	468.5	473.4	484.4	480.6	477.1	477.6
Business & defense equipment	345.4	449.2	432.0	434.7	442.4	445.3	448.2	460.1	448.3	451.9	463.0	460.0	457.5	458.1
Business equipment	278.0	352.0	338.6	338.8	345.4	348.3	351.4	362.2	351.6	354.7	365.0	362.2	359.5	360.1
Defense and space equipment	67.4	97.2	93.4	95.9	97.0	97.0	96.8	97.9	96.7	97.2	98.0	97.8	98.0	98.0
Intermediate products	292.2	402.2	385.2	391.3	391.7	397.4	406.1	413.8	406.8	405.6	413.2	412.6	415.7	417.1
Construction supplies	108.3	159.8	154.9	155.4	158.0	157.2	161.2	162.9	161.4	160.3	161.9	162.7	164.0	163.8
Business supplies	183.9	242.5	230.3	235.9	233.7	240.2	244.9	250.9	245.4	245.2	251.2	249.9	251.7	
Commercial energy products	63.4		74.8	77.7	73.9	77.2	78.6		78.9	79.1	83.5	79.5		

Table 7

INDUSTRIAL PRODUCTION: DIFFUSION INDEXES
 Percent of component series higher than in earlier months

	ONE MONTH EARLIER	THREE MONTHS EARLIER	SIX MONTHS EARLIER
1977-87			
AVERAGE	53.6	56.3	58.2
HIGH	76.6	79.4	88.3
LOW	26.4	23.2	23.0
1985			
DECEMBER	56.3	57.3	60.7
1986			
JANUARY	58.9	67.1	69.0
FEBRUARY	44.6	59.7	61.5
MARCH	41.7	46.8	52.4
APRIL	65.1	47.6	62.7
MAY	44.0	49.8	53.2
JUNE	46.0	55.4	51.2
JULY	54.0	45.8	48.8
AUGUST	53.6	53.4	53.4
SEPTEMBER	42.3	49.2	55.4
OCTOBER	58.7	54.8	48.0
NOVEMBER	58.1	55.0	56.5
DECEMBER	58.1	65.3	64.3
1987			
JANUARY	43.8	56.9	55.8
FEBRUARY	60.9	58.5	61.7
MARCH	49.4	56.2	69.2
APRIL	49.6	59.5	63.7
MAY	59.5	58.1	63.9
JUNE	51.4	57.7	56.9
JULY	64.7	67.7	66.1
AUGUST	52.8	64.9	65.9
SEPTEMBER	45.6	61.5	64.3
OCTOBER	59.5	56.2	73.4
NOVEMBER	59.1	64.3	70.8
DECEMBER	57.9	71.8	73.6

NOTE: THE DIFFUSION INDEXES SHOW THE PERCENT OF THE INDUSTRIAL PRODUCTION INDEX'S 252 SEASONALLY ADJUSTED COMPONENT SERIES THAT IN THE MONTH INDICATED WERE HIGHER THAN THEY WERE ONE MONTH EARLIER, THREE MONTHS EARLIER, AND SIX MONTHS EARLIER. IN CALCULATING THE DIFFUSION INDEXES HALF OF THE UNCHANGED COMPONENTS ARE COUNTED AS BEING HIGHER AND NO ALLOWANCE IS MADE FOR THE RELATIVE IMPORTANCE OF THE INDIVIDUAL COMPONENTS IN TOTAL INDUSTRIAL PRODUCTION. DIFFUSION INDEXES BASED ON CHANGES OVER A SIX-MONTH PERIOD GENERALLY SHOW MORE PRONOUNCED CYCLICAL PATTERNS THAN DIFFUSION INDEXES BASED ON CHANGES OVER SHORTER PERIODS.

Table 8

AUTO ASSEMBLIES AT ANNUAL RATES
 Seasonally adjusted

	1987 Ann. Avg.	Millions of Units												1988 JAN
		1987 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Autos, total	7.1	7.3	8.2	8.0	7.1	7.3	6.8	6.7	6.0	6.1	7.3	7.1	6.5	6.0

Table 9B

ELECTRIC POWER USE BY INDUSTRIES

Not seasonally adjusted, 1977 = 100

Series	SIC code	1977 (bil. KWH)	Indexes							Percentage change from				Indexes		
			1986 Avg.	1986 Q4	1987 Q1	Q2	Q3	Q4	previous quarter				1986 Q4	1987 NOV	DEC	
									1987 Q1	Q2	Q3	Q4				1986 Q4
TOTAL	10-14,20-39	785.8	99.8	99.2	98.4	102.8	106.9	105.0	-0.7	4.4	4.0	-1.8	5.9	104.7	103.3	
MAJOR INDUSTRY DIVISIONS																
MINING	10-14	59.4	111.8	104.1	109.8	109.5	111.8	117.9	5.5	-0.2	2.1	5.5	13.3	118.3	118.7	
MANUFACTURING	20-39	726.4	99.0	98.8	97.7	102.3	106.6	104.1	-1.2	4.8	4.2	-2.3	5.4	103.8	102.2	
DURABLE	20,25,32-39	344.3	96.3	95.0	94.9	99.8	102.4	103.4	.0	5.1	2.6	1.0	8.9	103.2	102.3	
NONDURABLE	20-23,26-31	382.1	101.5	102.3	100.1	104.6	110.5	104.8	-2.1	4.5	5.6	-5.1	2.4	104.4	102.2	
INDUSTRY GROUPS AND SERIES																
METAL MINING	101	15.1	93.2	77.1	92.3	95.6	107.8	113.1	19.7	3.6	12.7	5.0	46.7	115.3	112.2	
Iron ore	101	6.1	86.8	61.2	81.6	92.1	105.6	113.1	33.5	12.9	14.6	7.1	84.9	117.8	110.0	
Copper ore	102	5.9	108.8	110.5	120.5	113.6	132.2	132.1	9.0	-5.7	16.4	-0.1	19.5	133.6	131.4	
COAL	11,12	10.3	133.1	127.3	145.7	132.9	118.8	141.3	14.4	-8.8	-10.6	19.0	11.0	139.6	148.0	
OIL AND GAS EXTRACTION	13	23.0	123.3	116.4	115.3	113.2	117.5	118.5	-1.0	-1.7	3.7	.9	1.8	117.5	120.2	
Crude oil and natural gas	131	18.2	126.2	119.3	118.1	115.6	119.9	121.3	-1.0	-2.1	3.7	1.1	1.6	121.2	122.4	
Natural gas liquids	132	3.4	100.7	93.2	93.7	93.1	97.5	98.5	.5	-0.7	4.7	1.1	5.7	93.6	100.9	
STONE AND EARTH MINERALS	14	11.0	93.3	94.3	86.4	97.9	98.5	98.8	-8.4	13.3	.7	.3	4.7	101.4	94.2	
Crushed stone	142	2.4	140.9	144.5	118.5	143.3	147.4	150.1	-18.0	21.0	2.8	1.9	3.9	155.2	143.8	
Sand and gravel	144	2.0	96.3	107.1	81.8	102.0	111.0	108.7	-23.6	24.7	8.9	-2.1	1.5	110.1	99.3	
Chemical & fertilizer mat.	147	5.0	72.2	69.4	68.6	75.8	73.7	72.2	-1.2	10.4	-2.8	4.0	4.0	75.2	67.3	
FOODS	20	42.4	121.7	123.3	114.0	121.6	137.0	128.2	-7.5	6.7	12.7	-6.4	4.0	127.5	124.5	
Meat products	201	6.9	113.4	115.2	105.3	116.6	133.5	122.9	-8.6	10.8	14.5	-7.9	6.7	121.3	119.7	
Dairy products	202	5.3	124.7	121.2	116.8	130.0	140.7	123.0	-3.6	11.3	8.2	-12.6	1.5	120.3	119.7	
Canned and frozen foods	203	5.7	136.9	142.8	127.0	137.5	163.2	147.0	-11.1	8.3	18.7	-9.9	2.9	142.0	135.0	
Grain mill products	204	7.4	110.0	111.8	105.6	105.4	112.1	115.8	-5.6	-0.2	6.4	3.3	3.6	116.4	115.8	
Bakery products	205	2.5	141.5	139.9	131.5	139.5	155.9	138.6	-6.0	6.1	11.8	-11.1	-0.9	136.3	133.7	
Sugar and confectionery	206	3.3	176.9	204.4	174.3	163.4	187.5	217.3	-14.7	-6.3	14.8	15.9	6.3	220.3	217.8	
Fats and oils	207	3.4	110.9	110.1	100.1	88.3	88.5	100.5	-9.1	-11.8	.2	13.6	-8.8	103.3	104.2	
Beverages	208	4.8	123.9	120.0	112.7	126.6	146.8	126.5	-6.1	12.3	16.0	-13.8	5.4	127.1	121.5	
Misc. food preparations	209	3.1	116.2	115.9	107.5	116.8	130.3	120.2	-7.2	8.7	11.5	-7.7	3.7	121.3	117.7	
TOBACCO PRODUCTS	21	1.3	98.3	101.1	96.3	106.1	119.4	114.7	-4.7	10.2	12.5	-3.9	13.5	112.7	108.1	
TEXTILE MILL PRODUCTS	22	28.3	99.0	101.5	93.9	107.0	113.6	104.3	-7.5	14.0	6.1	-8.1	2.8	103.2	99.7	
Fabrics	221-4	12.1	91.7	93.0	85.6	97.4	103.8	94.6	-7.9	13.8	6.5	-8.8	1.8	93.2	90.4	
Knit goods	225	3.7	82.6	80.1	75.6	90.2	97.8	86.0	-5.6	19.4	8.4	-12.1	7.5	85.4	81.0	
Fabric finishing	226	2.2	123.6	128.4	120.8	135.5	137.7	135.2	-6.2	12.2	1.6	-1.8	5.0	133.4	128.8	
Yarn and thread	228	6.7	113.3	120.4	109.3	124.1	132.2	120.8	-9.2	12.6	7.4	-8.6	4.4	119.3	114.6	
Miscellaneous textiles	229	2.1	99.1	100.4	98.1	110.8	113.4	107.1	-2.3	12.9	2.4	-5.6	6.6	107.9	107.9	
APPAREL PRODUCTS	23	6.6	120.9	119.0	118.1	133.8	155.6	127.2	-0.7	13.3	16.2	-18.2	7.0	126.2	117.4	
Men's outerwear	231,2	2.1	115.7	113.3	118.8	143.6	170.6	138.8	4.9	20.9	18.8	-18.6	22.6	138.3	125.9	
Women's outerwear	233	1.9	111.9	109.0	101.8	114.0	136.1	107.6	-6.5	12.0	19.4	-20.9	-1.2	106.9	100.4	
LUMBER AND PRODUCTS	24	16.4	129.1	131.9	136.5	137.8	137.2	139.6	3.5	.9	-0.4	1.7	5.9	141.1	139.6	
Lumber	242	6.9	107.3	110.7	112.9	112.6	111.7	114.6	1.9	-0.2	-0.8	2.7	3.5	116.4	113.6	
Millwork and plywood	243	4.4	139.1	141.2	151.7	148.7	148.7	151.4	7.4	-1.9	.0	1.8	7.3	151.9	153.1	
FURNITURE AND FIXTURES	25	4.2	130.4	134.5	134.3	138.5	144.5	144.2	-0.1	3.2	4.3	-0.2	7.2	143.4	141.9	
Home furniture	251	2.8	120.3	124.0	123.1	126.6	127.8	128.6	-0.8	2.9	1.0	.6	3.7	128.1	125.7	
PAPER AND PRODUCTS	26	71.9	120.6	121.1	121.2	125.0	125.9	125.2	.1	3.1	.8	-0.6	3.4	125.1	125.1	
Wood pulp	261	5.9	125.5	133.7	132.3	138.4	124.7	121.7	-1.0	4.6	-9.9	-2.4	-9.0	116.2	131.7	
Paper	262	34.4	129.1	126.7	130.5	134.4	135.2	134.5	3.1	2.9	.6	-0.5	6.2	133.5	134.5	
Paperboard	263	22.1	101.4	102.1	101.4	101.3	102.3	102.8	-0.7	-0.1	1.0	.5	.7	106.7	101.8	
Converted paper	264	5.0	110.6	112.0	108.5	116.2	115.5	116.7	-3.2	7.2	-0.6	1.0	4.1	116.5	109.5	
Paperboard containers	265	3.4	117.8	122.5	121.6	126.8	132.5	125.9	-0.8	4.3	4.5	-5.0	2.7	124.9	125.2	
Building paper and board	266	1.1	158.2	160.6	155.4	162.0	166.1	170.8	-3.2	4.2	2.6	2.8	6.3	174.0	174.8	
PRINTING AND PUBLISHING	27	10.6	149.3	151.0	142.7	157.2	184.5	160.9	-5.5	10.2	17.4	-12.8	6.6	157.6	154.7	
Newspapers	271	2.6	126.7	125.6	119.5	131.9	152.6	132.5	-4.8	10.4	15.7	-13.2	5.5	129.4	130.2	
Commercial Printing	275	4.8	169.8	175.3	164.6	181.6	215.4	194.1	-6.1	10.4	18.6	-9.9	10.7	189.7	185.1	
CHEMICALS AND PRODUCTS	28	162.1	84.8	84.7	84.9	86.5	90.0	84.7	.3	1.9	4.0	-5.9	.0	84.8	81.6	
Basic chemicals	281	85.6	70.7	70.3	71.1	71.6	75.4	69.2	1.1	.6	5.3	-8.2	-1.6	69.6	64.9	
Alkalies and chlorine	2812	13.3	97.2	90.4	96.3	99.9	103.6	101.5	6.5	3.8	3.7	-2.1	12.2	99.0	100.5	
Inorganic chemicals, nec	2819	58.1	51.0	50.6	49.7	49.8	53.4	46.0	-1.8	.2	7.3	-14.0	-9.2	48.0	40.8	
Acid and fertilizer mat.	1	13.0	70.9	73.0	71.3	70.2	71.1	69.9	-2.3	-1.5	1.2	-1.7	-4.2	69.6	70.2	
Nuclear mats., nondefense	1	44.6	42.6	41.3	40.7	41.3	46.1	36.0	-1.5	1.5	11.6	-21.9	-12.9	39.0	28.5	
Synthetic materials	282	19.3	118.9	120.9	120.3	123.7	128.6	123.0	-0.5	2.8	3.9	-4.3	1.7	123.4	120.6	
Plastics materials	2821	9.2	153.8	163.0	160.3	152.2	154.2	146.3	-1.7	-5.1	1.3	-5.1	-10.3	144.2	144.9	
Drugs	283	4.1	152.2	153.3	142.6	156.1	178.4	152.1	-7.0	9.5	14.3	-14.8	-0.8	147.4	151.6	
Soaps and toiletries	284	2.1	125.9	124.1	121.9	124.4	140.2	128.0	-1.8	2.1	12.7	-8.7	3.2	128.7	125.6	
Industrial organic chem.	286	35.8	98.3	97.9	100.5	99.5	95.5	96.4	2.6	-1.0	-4.0	.9	-1.5	95.9	96.1	
Farm chemicals	287	10.5	86.8	85.1	85.2	86.9	81.4	89.4	.1	2.0	-6.4	9.8	5.0	89.0	90.7	

Table 9A—continued

ELECTRIC POWER USE BY INDUSTRIES

Seasonally adjusted indexes, 1977 = 100

Series	SIC code	Indexes								Percentage change from				Indexes	
		1977 (bil. KWH)	1986 Avg.	1986 Q4	1987 Q1	1987 Q2	1987 Q3	1987 Q4	previous quarter				1986 Q4	1987 NOV	1987 DEC
									1987 Q1	1987 Q2	1987 Q3	1987 Q4			
PETROLEUM PRODUCTS	29	34.7	117.5	120.7	117.5	121.0	123.6	123.9	-2.7	3.0	2.2	.2	2.6	123.6	123.2
RUBBER & PLASTICS PRODUCTS	30	23.1	132.5	135.8	136.6	142.0	146.1	147.4	-.6	3.9	2.9	-.9	8.5	147.6	149.5
Tires	3011	5.4	74.8	73.7	73.0	75.7	77.1	75.7	-1.0	3.8	1.8	-1.7	2.8	74.5	78.8
Rubber products, nec	3061	2.2	96.6	98.8	99.3	101.4	104.9	106.3	.5	2.0	3.5	1.3	7.6	106.7	106.4
Plastics products, nec	3071	14.2	175.8	182.0	183.0	191.0	195.8	198.9	.6	4.4	2.5	1.6	9.3	199.9	200.7
LEATHER AND PRODUCTS	31	1.4	92.9	94.9	93.5	98.9	102.1	99.8	-1.5	5.7	3.2	-2.2	5.2	101.6	98.3
Shoes	3141	.7	79.2	81.1	82.1	88.4	92.5	91.2	1.3	7.7	4.5	-1.4	12.5	94.2	91.1
CLAY, GLASS, AND STONE	32	31.4	105.6	105.3	106.1	106.9	105.8	107.6	-.7	.7	-1.0	1.8	2.2	108.3	109.1
Flat glass	3211	1.3	108.8	106.5	111.2	120.1	124.7	130.5	4.3	8.1	3.9	4.6	22.5	127.4	138.5
Pressed and blown glass	3221	6.8	104.3	104.2	103.2	107.8	103.6	101.6	-1.0	4.4	-3.9	-2.0	-2.6	101.9	101.4
Cement	3241	10.2	98.8	99.2	98.3	98.2	96.2	98.3	-1.0	-0.1	-2.0	2.2	-1.0	99.8	100.4
Structural clay products	3251	1.5	102.6	106.8	113.8	112.5	115.3	116.8	6.5	-1.2	2.5	1.3	9.3	114.7	119.7
Concrete products	3271	3.6	111.9	111.5	112.0	103.5	107.7	111.4	.5	-7.6	4.0	3.4	-0.1	111.9	112.2
PRIMARY METALS	33	171.3	75.2	73.7	73.5	77.3	80.8	86.6	-0.2	5.1	4.6	7.1	17.5	86.2	86.9
Basic steel and mill prod.	3311	65.7	71.0	68.3	64.6	67.8	72.4	77.3	-5.5	5.0	6.8	6.8	13.2	78.2	77.9
Iron and steel foundries	3321	12.0	70.1	71.6	72.4	71.5	72.8	77.3	1.1	-1.3	1.9	6.2	8.0	78.7	79.0
Primary nonferrous metals	3331	78.1	85.9	85.4	86.1	103.6	100.4	103.0	.8	20.3	-3.1	2.6	20.7	97.9	103.1
Aluminum	3334	70.3	72.4	72.0	77.7	76.1	81.1	88.1	7.8	-2.0	6.6	8.6	22.3	87.4	87.1
Nonferrous foundries	3361	2.1	124.8	124.3	122.6	122.1	125.9	129.4	-1.4	-0.4	3.1	2.8	4.1	129.2	129.0
FABRICATED METAL PRODUCTS	34	26.4	116.2	118.9	118.1	120.6	123.9	127.5	-0.6	2.1	2.8	2.9	7.3	128.0	128.6
Metal cans	3411	2.2	119.5	122.3	119.1	124.8	126.9	126.8	-2.6	4.7	1.7	-0.1	3.7	131.8	124.6
Hardware	3421	2.3	103.8	105.0	105.1	106.1	106.1	106.8	.0	1.0	.0	.7	1.7	104.9	109.3
Structural metal products	3441	.8	112.1	115.4	112.7	116.6	120.0	122.7	-2.3	3.4	2.9	2.3	6.4	124.1	124.9
Fasteners	3451	1.6	105.2	107.7	102.2	113.6	116.4	119.3	-5.1	11.2	2.4	2.5	10.7	116.2	119.5
Metal stampings	3461	6.2	111.2	113.8	110.2	106.6	105.3	113.5	-3.1	-3.3	-1.3	7.8	-0.3	109.4	116.2
NONELECTRICAL MACHINERY	35	28.6	114.9	113.9	113.8	117.5	121.6	122.0	.0	3.2	3.6	.3	7.1	121.5	123.0
Engines and turbines	3511	2.4	63.1	62.4	63.0	63.4	64.9	67.2	.9	.7	2.3	3.5	7.7	63.4	69.5
Farm equipment	3521	2.1	53.4	53.7	50.6	52.9	58.2	59.6	-5.8	4.5	9.9	2.3	10.8	59.6	60.7
Construction equipment	3531	5.1	76.6	73.4	69.7	74.0	80.0	80.3	-5.1	6.2	8.1	.3	9.3	80.6	80.0
Metalworking machinery	3541	3.8	116.3	117.2	114.1	118.3	123.4	119.6	-2.6	3.6	4.3	-3.0	2.1	119.7	119.2
Special industry machinery	3551	2.0	101.6	101.4	103.4	103.5	110.0	106.9	1.9	.1	6.3	-2.8	5.4	105.7	107.5
General industrial mach.	3561	4.6	108.6	107.5	109.1	110.8	115.5	114.9	1.5	1.6	4.2	-0.5	7.0	111.5	118.6
Office and computing mach.	3571	2.8	201.6	202.5	207.6	212.8	211.2	214.6	2.5	2.5	-0.7	1.6	5.9	208.3	219.4
Service industry machinery	3581	2.8	104.4	108.0	105.2	110.9	115.4	120.5	-2.6	5.5	4.0	4.4	11.6	122.2	120.3
ELECTRICAL MACHINERY	36	25.0	127.8	129.8	128.4	131.6	133.4	133.5	-1.1	2.6	1.3	.1	2.9	132.9	136.0
Elect. distribution equip.	3611	1.5	99.1	96.4	100.1	102.5	99.4	101.6	3.8	2.4	-3.0	2.2	5.4	99.8	103.0
Elect. indust. apparatus	3621	4.3	82.5	82.9	83.5	85.9	87.3	88.2	.7	2.8	1.7	1.1	6.4	87.2	89.6
Household appliances	3631	2.7	93.2	94.3	94.5	94.0	97.2	92.1	.2	-0.5	3.3	-5.2	-2.4	93.8	92.0
Lighting and wiring prod.	3641	2.3	100.4	98.8	102.8	107.6	107.7	107.0	4.1	4.6	.1	-0.7	8.3	106.8	107.8
Radio and TV sets	3651	.9	119.0	120.8	114.8	114.4	109.0	104.0	-4.9	-0.4	-4.7	-4.6	-13.9	107.7	101.0
Communication equipment	3661	4.6	169.9	173.7	170.0	168.3	168.8	175.4	-2.1	-1.0	.2	3.9	1.0	170.3	181.8
Electronic components	3671	6.0	179.5	181.9	179.7	183.6	187.1	189.3	-1.2	2.1	1.9	1.2	4.1	189.1	193.4
TRANSPORTATION EQUIPMENT	37	31.4	114.4	117.0	116.4	115.5	114.6	117.4	-0.5	-0.8	-0.7	2.4	.3	116.5	118.0
Motor vehicles and parts	3711	19.3	101.1	103.4	102.1	98.9	97.3	101.5	-1.2	-3.1	-1.7	4.3	-1.8	98.9	103.3
Aircraft and parts	3721	6.5	149.8	152.6	155.8	160.0	161.2	159.8	2.1	2.7	.7	-0.9	4.7	160.1	157.9
Ships and boats	3731	2.1	111.1	113.8	123.0	123.1	132.9	122.1	8.1	.1	7.9	-8.1	7.3	121.7	110.1
INSTRUMENTS	38	5.5	150.0	151.0	151.5	156.1	161.2	162.9	.3	3.1	3.3	1.0	7.8	164.5	161.3
Copiers and related equip.	3861	1.4	134.2	130.5	131.0	133.9	143.2	145.0	.5	2.2	7.0	1.2	11.1	148.3	142.5
MISCELLANEOUS MANUFACTURES	39	4.1	105.7	106.9	107.4	103.5	100.5	102.9	.5	-3.7	-2.9	2.4	-3.7	103.8	102.9
SUPPLEMENTARY GROUPINGS															
TOTAL, LESS NUCLEAR NONDEFENSE		740.7	104.6	105.2	105.1	106.9	109.9	112.0	-0.1	1.8	2.8	1.9	6.5	111.6	112.9
UTILITY SALES TO INDUSTRY		715.7	100.7	101.4	101.1	102.5	106.3	107.5	-0.3	1.3	3.7	1.1	6.0	107.2	107.9
INDUSTRIAL GENERATION		70.1	84.3	85.9	83.8	82.8	86.4	89.4	-2.6	-1.2	4.4	3.5	4.0	89.8	88.8

Note—The electric power use data by industry, shown in billions of kilowatt hours for 1977, are from the Census of Manufactures of that year and from other sources. They are provided for information and are not used as weights to compile the electric power use indexes. All index aggregations, with their detailed components, are calculated from the kilowatt hour data collected in the Federal Reserve survey of electric power use by industry. The electric power total includes only those major divisions of industries—mining and manufacturing—for which data are collected in this Federal Reserve survey. The total does not include gas or electric utility kilowatt hour use. The supplementary grouping, "Total, less nondefense, nuclear" is shown separately because the nondefense nuclear materials series (part of SIC 2819) accounts for a disproportionately large part of total electric power use. Since the value added proportion for this industry is a considerably smaller part of total IP than its share of total electric power use, excluding this component from total power use facilitates comparisons with total IP.

Table 9B—continued
ELECTRIC POWER USE BY INDUSTRIES
 Not seasonally adjusted, 1977 = 100

Series	SIC code	Indexes								Percentage change from				Indexes	
		1977 (bill. kwh)	1986 Avg.	1986 Q4	1987				previous quarter				1986 Q4	1987 NOV	DEC
					Q1	Q2	Q3	Q4	1987 Q1	Q2	Q3	Q4			
PETROLEUM PRODUCTS	29	34.7	117.5	120.3	114.1	119.5	129.1	123.4	-5.1	4.7	8.0	-4.4	2.6	121.0	124.8
RUBBER & PLASTICS PRODUCTS	30	23.1	132.5	135.3	133.9	143.3	148.2	146.9	-1.0	7.0	3.4	-0.9	8.6	148.1	142.2
Tires	301	5.4	74.8	73.5	70.2	76.0	79.8	75.5	-4.6	8.3	4.9	-5.4	2.7	74.8	73.9
Rubber products, nec	306	2.2	96.6	98.1	98.8	102.6	104.9	105.6	.7	3.9	2.2	.8	7.6	106.6	102.1
Plastics products, nec	307	14.2	175.8	181.0	180.0	192.7	198.2	197.9	-0.5	7.1	2.8	-0.2	9.4	199.8	191.5
LEATHER AND PRODUCTS	31	1.4	92.9	92.6	93.3	99.2	104.4	97.4	.7	6.3	5.2	-6.7	5.2	98.2	93.7
Shoes	314	.7	79.2	78.1	82.4	87.7	96.4	87.8	5.6	6.4	9.9	-9.0	12.4	90.0	84.9
CLAY, GLASS, AND STONE	32	31.4	105.6	107.2	98.9	107.9	109.8	109.6	-7.8	9.1	1.7	-0.1	2.2	111.2	107.5
Flat glass	321	1.3	108.8	106.7	110.0	119.0	126.8	130.8	3.1	8.2	6.6	3.1	22.5	129.0	134.9
Pressed and blown glass	322	6.8	104.3	104.7	99.8	107.8	106.3	102.0	-4.7	8.0	-1.4	-4.0	-2.6	104.3	97.7
Cement	324	10.2	98.8	103.8	83.0	100.7	104.1	102.9	-20.1	21.4	3.4	-1.2	-0.9	106.0	98.9
Structural clay products	325	1.5	102.6	108.5	110.9	113.0	115.9	118.6	2.2	1.9	2.5	2.4	9.3	117.3	121.0
Concrete products	327	3.6	111.9	111.8	106.9	105.5	110.2	111.8	-4.4	-1.3	4.4	1.5	-0.1	113.2	109.4
PRIMARY METALS	33	171.3	75.2	72.3	74.7	79.1	79.1	84.9	3.3	5.9	.0	7.3	17.5	84.5	85.2
Basic steel and mill prod.	331	65.7	71.0	65.5	66.8	71.0	69.6	74.1	2.0	6.3	-2.0	6.5	13.2	75.9	73.8
Iron and steel foundries	332	12.0	70.1	70.4	72.0	74.2	71.5	76.0	2.2	3.1	-3.6	6.3	7.9	77.7	74.7
Primary nonferrous metals	333	78.1	85.9	87.8	84.5	103.2	99.7	105.9	-3.8	22.1	-3.4	6.2	20.6	101.2	108.4
Aluminum	3334	70.3	72.4	71.2	76.9	77.2	81.2	87.1	8.0	.4	5.2	7.2	22.3	84.4	87.8
Nonferrous foundries	336	2.1	124.8	124.5	123.7	121.9	124.7	129.6	-0.6	-1.4	2.3	3.9	4.1	129.9	125.6
FABRICATED METAL PRODUCTS	34	26.4	116.2	117.0	117.8	120.8	125.9	125.5	.6	2.6	4.2	-0.3	7.2	125.7	123.0
Metal cans	341	2.2	119.5	118.4	115.3	127.0	132.9	122.7	-2.6	10.1	4.6	-7.6	3.7	128.1	116.3
Hardware	342	2.3	103.8	104.3	104.5	105.7	107.8	106.0	.2	1.2	2.0	-1.7	1.7	104.2	105.4
Structural metal products	344	.8	112.1	114.7	114.7	114.6	120.5	122.0	.0	-0.1	5.1	1.2	6.3	123.1	122.3
Fasteners	345	1.6	105.2	105.2	103.5	114.0	117.2	116.4	-1.6	10.1	2.8	-0.6	10.7	114.8	111.4
Metal stampings	346	6.2	111.2	111.6	112.6	107.8	103.8	111.3	.9	-4.3	-3.7	7.2	-0.3	107.8	110.1
NOELECTRICAL MACHINERY	35	28.6	114.9	112.6	111.1	116.6	126.8	120.7	-1.4	5.0	8.7	-4.8	7.1	119.5	118.6
Engines and turbines	351	2.4	63.1	61.5	62.2	62.4	67.5	66.2	1.2	.2	8.3	-1.9	7.7	63.2	67.5
Farm equipment	352	2.1	53.4	52.1	52.7	53.0	57.7	57.7	1.1	.7	8.7	.1	10.8	57.4	59.5
Construction equipment	353	5.1	76.6	72.8	68.6	73.2	82.9	79.6	-5.8	6.7	13.4	-4.1	9.3	78.6	79.4
Metalworking machinery	354	3.8	116.3	115.1	114.1	117.5	126.4	117.5	-0.9	3.0	7.6	-7.1	2.1	116.2	113.9
Special industry machinery	355	2.0	101.6	100.3	102.2	103.2	112.7	105.7	1.9	1.0	9.2	-6.2	5.4	104.6	104.6
General industrial mach.	356	4.6	108.6	105.8	107.1	111.4	118.7	113.1	1.2	4.0	6.6	-4.7	6.9	110.9	112.8
Office and computing mach.	357	2.8	201.6	201.2	198.1	208.0	226.7	213.1	-1.6	5.0	9.0	-6.0	5.9	208.9	207.9
Service industry machinery	358	2.8	104.4	105.0	101.9	111.6	121.5	117.3	-3.0	9.5	8.8	-3.5	11.7	119.0	111.8
ELECTRICAL MACHINERY	36	25.0	127.8	127.9	124.2	131.4	139.8	131.7	-2.9	5.8	6.4	-5.8	2.9	131.2	128.8
Elect. distribution equip.	361	1.5	99.1	96.2	97.6	101.7	102.8	101.4	1.4	4.3	1.1	-1.4	5.4	98.4	101.1
Elect. indust. apparatus	362	4.3	82.5	81.0	82.8	87.0	88.8	86.2	2.1	5.2	2.1	-2.9	6.4	86.1	84.9
Household appliances	363	2.7	93.2	92.5	94.3	95.8	97.4	90.3	1.9	1.6	1.6	-7.3	-2.4	92.1	83.9
Lighting and wiring prod.	364	2.3	100.4	99.1	102.1	107.8	107.9	107.3	3.0	5.7	.0	-0.5	8.3	107.0	104.2
Radio and TV sets	365	.9	119.0	117.6	110.6	112.8	117.2	101.3	-6.0	2.0	3.9	-13.5	-13.8	103.9	95.6
Communication equipment	366	4.6	169.9	170.8	159.0	166.9	183.8	172.6	-6.9	5.0	10.2	-6.1	1.0	170.2	168.5
Electronic components	367	6.0	179.5	179.9	171.0	183.2	198.5	187.2	-4.9	7.1	8.4	-5.7	4.0	186.2	184.3
TRANSPORTATION EQUIPMENT	37	31.4	114.4	114.5	113.2	116.5	119.2	114.9	-1.2	2.9	2.3	-3.6	.3	114.1	111.4
Motor vehicles and parts	371	19.3	101.1	100.8	100.2	101.0	99.5	99.0	-0.6	.7	-1.5	-0.5	-1.8	96.5	96.8
Aircraft and parts	372	6.5	149.8	152.0	148.4	159.1	170.5	159.2	-2.3	7.2	7.2	-6.6	4.8	160.7	152.2
Ships and boats	373	2.1	111.1	112.0	127.5	121.4	131.5	120.1	13.9	-4.8	8.2	-8.7	7.2	121.2	109.6
INSTRUMENTS	38	5.5	150.0	147.4	145.6	154.9	172.6	159.0	-1.3	6.4	11.4	-7.9	7.8	159.1	152.6
Copiers and related equip.	386	1.4	134.2	129.1	128.1	133.5	148.3	143.5	-0.8	4.2	11.1	-3.3	11.1	145.7	138.3
MISCELLANEOUS MANUFACTURES	39	4.1	105.7	104.5	105.2	103.1	105.0	100.6	.6	-2.0	1.9	-4.2	-3.8	101.0	96.5
SUPPLEMENTARY GROUPINGS															
TOTAL, LESS NUCLEAR NONDEFENSE		740.7	104.6	104.0	103.2	107.9	112.0	110.8	-0.7	4.5	3.8	-1.1	6.5	110.2	109.5
UTILITY SALES TO INDUSTRY		715.7	100.7	100.0	99.1	103.9	108.2	106.0	-0.9	4.8	4.1	-2.0	6.0	105.8	104.1
INDUSTRIAL GENERATION		70.1	84.3	83.9	85.9	83.0	85.8	87.3	2.4	-3.4	3.3	1.8	4.0	86.5	88.6

Explanatory Note

Coverage. The index is a measure of industrial production expressed as a percentage of output in a reference period (currently 1977). The changes in the physical output of the nation's factories, mines, and electric and gas utilities are represented by 252 individual series in the index, covering 27 pertinent two-digit codes of the *Standard Industrial Classification* (SIC). For each individual series, index series relatives are calculated first and are then aggregated in the following two ways: (1) market groupings, such as consumer goods, equipment, intermediate products, and materials, from which the seasonally adjusted total index is derived (tables 1A and 1B), and (2) industry groupings, such as SIC two-digit industries, and major aggregates of these groupings, such as durable and nondurable manufacturing, mining, and utilities (tables 2A and 2B).

Market groupings. For purposes of analysis the individual industrial output series are grouped into materials, intermediate products, and final products; together, the latter two form the products category. Materials are industrial output requiring further processing within industry; intermediate products are expected to become inputs in nonindustrial sectors such as construction, farming, and services; and final products are assumed to enter final use as items of private consumption, government use, or capital formation. In the index, final products are subdivided into consumer goods and equipment.

Timing. A first estimate of output for a month is published about the 15th of the following month. This estimate may be revised in each of the next three months as new data become available. After the fourth month, indexes are not revised further until the time of an annual revision or a benchmark revision. The last three benchmark revisions were published in 1971, 1976, and 1985. Such revisions are derived mainly from the quinquennial *Census of Manufactures*, the quinquennial *Census of Mineral Industries*, and the *Annual Survey of Manufactures*, all prepared by the Bureau of the Census, and the *Minerals Yearbook* of the Bureau of Mines.

Source data. The indexes of industrial production are constructed from monthly data of two types: (1) directly measured output in physical units; and (2) estimates of output derived from data on input, expressed in physical units, adjusted by conversion factors that relate these inputs to physical output. The data on directly measured physical product (pounds, yards, barrels, and the like) are obtained from reports of the Bureau of the Census, the Bureau of Mines, other government agencies, and trade associations. When suitable monthly data on physical product are unavailable, estimates of physical output based on input data (kilowatt hours, production-worker hours) are used. The hours worked by production workers are collected in the monthly establishment survey of the Bureau of Labor Statistics, while data on the kilowatt hours used in industry are collected from electric utilities by the Federal Reserve Banks. The estimates of input conversion are based mainly on historical relationships that were derived from censuses and annual surveys and, when appropriate, on more recent cyclical, technological and statistical developments. Users of the index should bear in mind that, especially for the first and second estimates of a given month's indexes, the available source data are limited and are subject to change in the months following their initial receipt as well as in benchmark revisions.

Seasonal adjustment. Individual series are seasonally adjusted by the X-11 Method II of the Bureau of the Census with the intervention analysis technique applied to the series. The seasonal factors currently being used are based on data through 1985. The individual series and the major aggregate series are seasonally adjusted independently, and the factors for the aggregate series in the summary table and in tables 1 and 2 are reviewed monthly. The seasonally adjusted total index is aggregated from the seasonally adjusted market groupings of the index and may not precisely equal an aggrega-

tion of the seasonally adjusted industry groupings. A simple aggregation of the seasonally adjusted individual series within groupings may not precisely equal the seasonally adjusted groupings, primarily because aggregates are adjusted independently.

Weights. The total index and the various groupings of the component series are currently aggregated on the basis of 1977 value-added weights, which are shown in the first column of the index tables under the heading proportions. Value-added weights for 1972 are used for the 1972-77 period, while 1967 weights are used for the 1967-72 period. The weight years for earlier periods after World War II are 1963, 1958, 1954, and 1947. The indexes for the various periods are linked to provide the continuous final results expressed in relation to the 1977 comparison year taken as 100. The gross-value-weighted product series are expressed in terms of 1982 dollars.

Formula. The symbolic expression for the total index (I) is

$$I_t = \sum \left(\frac{q_{77}p_{77}}{\sum q_{77}p_{77}} \right) \cdot \left(\frac{q_t}{q_{77}} \right) \cdot 100 = \frac{\sum q_t p_{77}}{\sum q_{77} p_{77}} \cdot 100,$$

where q is quantity, p is Census value added per unit of output, t represents the t th period, and 77 denotes base-year values.

Reliability. The median of the revisions in total industrial production, without regard to sign, between the first and fourth estimates is 0.3 percent: that is, in about half of the cases the absolute value of the revision from the first to the fourth estimate was less than 0.3 percent. (This calculation used data for the period from January 1972 to January 1985.) Over the same period, positive changes in the first estimate were confirmed in the fourth estimate (available three months later) about 94 percent of the time. Negative changes in the first estimate were confirmed in the fourth estimate about 85 percent of the time. Thus the likelihood is high that the first estimate for a month will indicate the direction of change in the total index in a reliable manner. However, the magnitude of change as first estimated typically is revised during the next three months; these revisions are based on revised and more complete data sources. The estimates for the higher aggregates generally are considered more reliable than the estimates for their individual components. Revisions to the components often offset each other and thereby reduce the size of revisions to the aggregates.

Rounding. Changes shown for index components may not aggregate to changes for totals because of independent rounding. Percentage changes are calculated from indexes expressed in more digits following the decimal point than shown in their rounded form in the present release. Therefore, percentage changes calculated from the rounded indexes may not entirely coincide with the percentage changes calculated from unrounded indexes.

Literature. *Industrial Production—1986 Edition* contains a more detailed description of the index and the procedures used in compiling it, plus a history of its development, a glossary of terms, and a bibliography. The new edition was published in December 1986. To obtain copies of *Industrial Production—1986 Edition*, write to the Publication Services, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. The price of this volume of about 440 pages is \$9.00 per copy. Selected data on industrial production are also published monthly in the Financial and Business Statistics section of the *Federal Reserve Bulletin*.

Release date. The industrial production index is released in mid-month. For the specific date, phone 202-452-3206 about the 11th of the month.