

# FEDERAL RESERVE



## Industrial Production

G.12.3

For release at 9:30 a.m. (EDT)  
May 13, 1983

Industrial production increased by an estimated 2.1 percent in April following advances of 1.2 percent in March, 0.4 percent in February and 1.6 percent in January; the increases in each of these three recent months were revised upward by 0.1 percent. Gains in output in April were widespread and large advances occurred in the production of durable and nondurable materials, consumer goods other than autos, and construction supplies. The April increase brought the level of the total index to 142.6 percent of the 1967 average, almost 6 percent above the November 1982 low, but still about 7 percent below its high in July 1981.

### Market Groupings

In April, production of durable consumer goods advanced more than 3 percent as home goods, particularly appliances and carpeting and furniture, registered strong gains. Auto assemblies edged up to an annual rate of 5.9 million units from a 5.8 million rate in March. Output of nondurable consumer goods increased 1.6 percent as all major components rose. Business equipment production increased further by almost 2 percent reflecting sizable gains in manufacturing, commercial, and transit equipment; however, building and mining equipment declined again. Defense and space equipment output increased 1.1 percent. Production of construction supplies continued to recover rapidly, rising 2.6 percent in April.

Materials output increased 2.2 percent in April as both durable and nondurable goods materials rose sharply further. Among durable materials, which have advanced more than 13 percent since the trough, substantial gains occurred in all major components. Within the nondurable materials, increases in output were pronounced in chemicals and textiles. Energy materials production increased 1 percent as generation of electricity rose.

### INDUSTRIAL PRODUCTION: MAJOR MARKET GROUPINGS (Seasonally Adjusted)

Item	Index, 1967=100		Monthly percent change					Apr. from year ago, percent
	Mar. '83	Apr. '83	Dec.	Jan.	Feb.	Mar.	Apr.	
Total	139.7	142.6	.2	1.6	.4	1.2	2.1	1.7
Products, total	141.9	144.5	.6	.7	-.3	1.0	1.8	1.1
Final Products	140.3	142.9	.9	.4	-.6	.8	1.9	.2
Consumer Goods	144.7	147.7	.5	1.1	.2	.6	2.1	3.9
Durable	135.0	139.3	1.0	4.5	2.1	.4	3.2	6.6
Nondurable	148.6	151.0	.3	-.1	-.5	.7	1.6	3.0
Business Equipment	144.1	146.7	1.2	-1.0	-2.6	.9	1.8	-11.0
Defense and Space	117.8	119.1	2.0	.4	-.3	1.6	1.1	11.1
Intermediate Products	147.4	150.5	-.2	1.6	1.0	1.6	2.1	4.7
Construction Supplies	132.1	135.5	-.3	3.3	2.0	1.9	2.6	9.6
Materials	136.5	139.5	-.5	3.3	1.7	1.6	2.2	2.4

Note: Latest month estimated, prior month preliminary.

### Industry Groupings

Total manufacturing output advanced 2.1 percent in April and was 6.6 percent above the November 1982 low. Production of durable manufactures continued to increase sharply with the most notable gains in the primary metals, electrical machinery, furniture and lumber industries. Output of nondurable manufactures also rose strongly--almost 2 percent--with sizable increases in the textile, chemical, petroleum products, and rubber and plastics products industries. Mining activity edged down further as oil and gas well drilling declined. The output of electric and gas utilities rose 1.5 percent in April.

#### INDUSTRIAL PRODUCTION: MAJOR INDUSTRY GROUPINGS (Seasonally Adjusted)

Item	Index, 1967=100		Monthly percent change					Apr. from year ago, percent
	Mar. '83	Apr. '83	Dec.	Jan.	Feb.	Mar.	Apr.	
Manufacturing	139.9	142.9	.4	1.6	1.0	1.4	2.1	3.0
Durable	125.9	129.0	.5	2.2	1.0	1.8	2.5	1.8
Nondurable	160.1	163.1	.2	1.2	.8	.9	1.9	4.5
Mining	113.7	113.4	1.4	3.0	-5.3	-1.6	-.3	-15.4
Utilities	164.8	167.3	-1.5	-.7	-.8	1.9	1.5	-2.2

Note: Latest month estimated, prior month preliminary.

# FEDERAL RESERVE

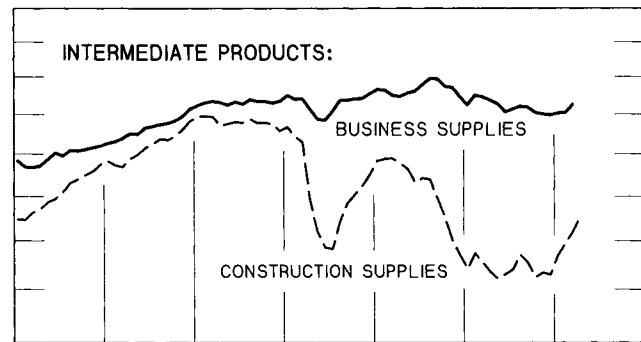
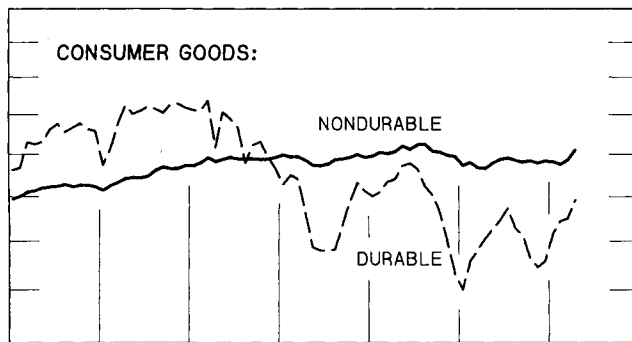
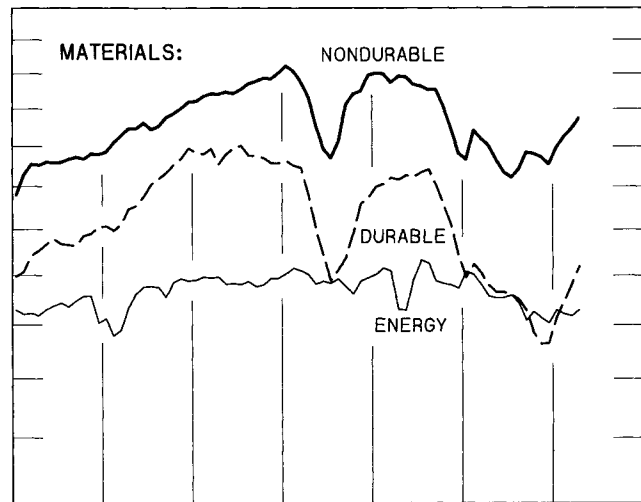
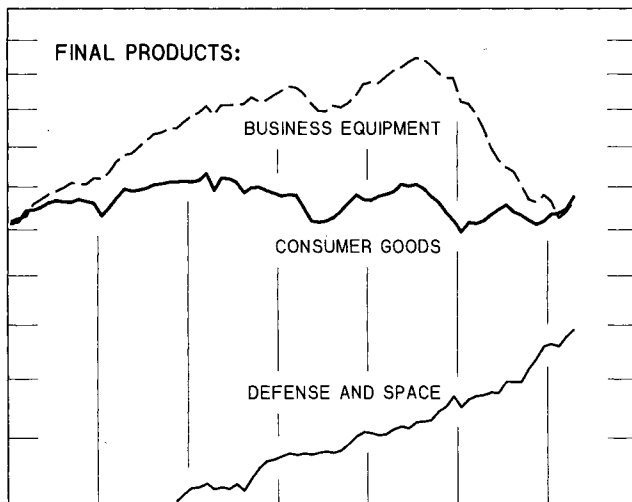
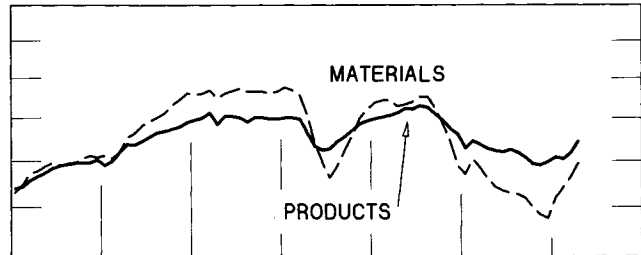
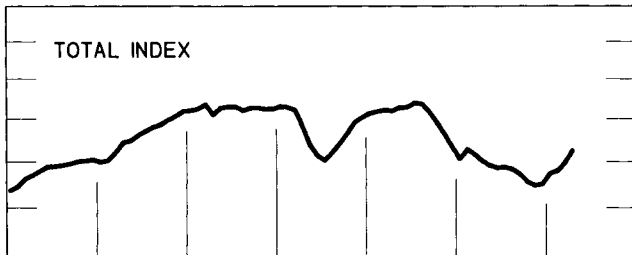


## Industrial Production

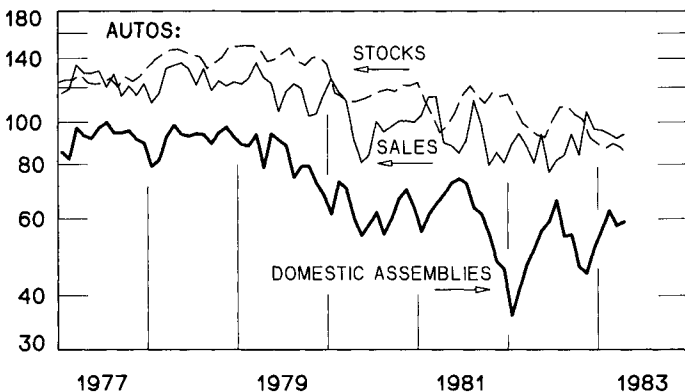
### INDUSTRIAL PRODUCTION

APRIL DATA

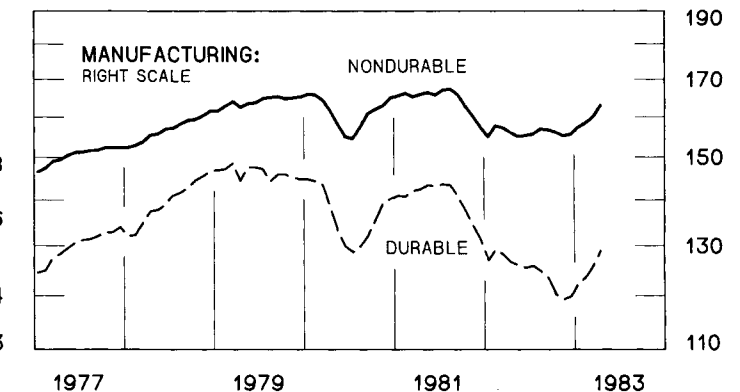
SEASONALLY ADJUSTED, RATIO SCALE, 1967=100



1969-70=100 ANNUAL RATE, MILLIONS OF UNITS



1967=100



AUTOS: SALES AND STOCKS INCLUDE IMPORTS





Table 2A

## INDUSTRIAL PRODUCTION: INDUSTRY GROUPINGS

Seasonally adjusted, 1967=100

MAJOR INDUSTRY GROUPINGS	SIC CODE	1982				1983										
		PRO-TION	1982 AVG.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.
<b>MINING AND UTILITIES</b>																
MINING		12.05	146.3	151.6	148.8	145.2	142.6	141.3	139.7	140.4	140.4	140.1	141.3	137.4	137.8	138.9
UTILITIES		6.36	126.1	134.1	128.9	123.5	120.1	116.9	114.7	115.9	116.8	118.4	121.9	115.5	113.7	113.4
<b>MANUFACTURING</b>																
NONDURABLE		87.95	137.6	138.7	137.9	137.7	138.1	138.0	137.1	135.0	134.0	134.5	136.7	138.0	139.9	142.9
DURABLE		35.97	156.2	156.1	155.0	155.3	155.7	156.9	156.7	156.2	155.3	155.6	157.4	158.6	160.1	163.1
<b>MINING</b>																
METAL MINING	10	5.69	168.7	171.0	170.9	169.4	167.7	168.5	167.5	167.8	166.7	164.2	163.1	161.8	164.8	167.3
COAL	11,12															
OIL AND GAS EXTRACTION	13															
STONE AND EARTH MINERALS	14															
<b>NONDURABLE MANUFACTURES</b>																
FOODS	20															
TOBACCO PRODUCTS	21															
TEXTILE MILL PRODUCTS	22															
APPAREL PRODUCTS	23															
PAPER AND PRODUCTS	26															
PRINTING AND PUBLISHING	27															
CHEMICALS AND PRODUCTS	28															
PETROLEUM PRODUCTS	29															
RUBBER & PLASTICS PRODUCTS	30															
LEATHER AND PRODUCTS	31															
<b>DURABLE MANUFACTURES</b>																
ORDNANCE, PVT & GOVT	19,91															
LUMBER AND PRODUCTS	24															
FURNITURE AND FIXTURES	25															
CLAY, GLASS, STONE PROD	32															
<b>PRIMARY METALS</b>																
IRON AND STEEL	33,2															
FABRICATED METAL PROD	34															
NONELECTRICAL MACHINERY	35															
ELECTRICAL MACHINERY	36															
<b>TRANSPORTATION EQUIP</b>																
MOTOR VEHICLES & PTS	371															
AEROSPACE & MISC	372-9															
INSTRUMENTS	38															
MISCELLANEOUS MPERS	39															
<b>UTILITIES</b>																
ELECTRIC																

Table 3A

## INDUSTRIAL PRODUCTION: PERCENT CHANGES

Based on seasonally adjusted indexes

CHANGE FROM PREVIOUS MONTH	1982									1983			
	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	
TOTAL INDEX	-0.7	-0.4	-0.1	-0.3	-0.8	-1.2	-0.6	-0.2	1.6	0.4	1.2	2.1	
FINAL PRODUCTS	-0.3	-0.1	-0.3	-0.9	-0.9	-0.9	-0.3	-0.9	0.4	-0.6	-0.8	1.9	
CONSUMER GOODS	1.1	0.8	0.7	-1.2	-0.5	-0.8	-0.6	-0.5	1.1	0.2	0.6	2.1	
DURABLE CONSUMER GOODS	1.5	1.5	2.0	-3.2	-1.2	-3.7	-1.5	1.0	4.5	2.1	0.4	3.2	
NONDURABLE CONSUMER GOODS	0.9	0.6	0.2	-0.3	-0.3	-0.2	-0.4	-0.3	-0.1	-0.5	-0.7	1.6	
BUSINESS EQUIPMENT	-3.0	-2.0	-1.1	-0.6	-2.2	-2.3	-0.5	1.2	-1.0	-2.6	-0.9	1.8	
INTERMEDIATE PRODUCTS	-0.8	-0.5	0.6	1.3	-0.7	-1.5	0.1	-0.2	1.6	1.0	1.6	2.1	
MATERIALS	-1.4	-0.6	-0.4	-0.2	-0.6	-1.5	-1.2	-0.5	3.3	1.7	1.6	2.2	
DURABLE GOODS MATERIALS	-1.2	0.0	-0.5	-0.7	-1.7	-3.7	-1.8	-1.1	4.3	2.6	2.7	3.0	
NONDURABLE GOODS MATERIALS	-2.3	-2.0	-0.8	1.4	2.6	-0.2	-0.6	-1.1	2.6	1.8	1.3	1.7	
<b>MANUFACTURING</b>													
NONDURABLE	-0.6	-0.1	-0.3	-0.1	-0.7	-1.5	-0.7	-0.4	1.6	1.0	1.4	2.1	
DURABLE	-0.7	-0.2	-0.3	-0.8	-0.1	-0.3	-0.6	-0.2	1.2	0.8	0.9	1.9	
MINING AND UTILITIES	-0.5	-0.5	0.3	-0.8	-1.1	-2.6	-0.8	-0.5	2.2	1.0	1.8	2.5	
<b>CHANGE FROM SAME MONTH A YEAR AGO</b>													
TOTAL INDEX	-8.8	-9.3	-9.8	-9.9	-9.4	-9.0	-7.8	-5.7	-2.3	-3.4	-1.4	1.7	
FINAL PRODUCTS	-6.0	-6.1	-6.3	-6.8	-6.7	-6.9	-6.0	-4.6	-1.9	-3.4	-2.1	0.2	
CONSUMER GOODS	-4.7	-3.7	-3.3	-3.7	-3.0	-2.9	-4.9	-0.1	2.9	1.5	2.3	3.9	
DURABLE CONSUMER GOODS	-10.0	-9.0	-6.3	-6.7	-6.5	-7.2	-3.9	2.2	9.6	6.8	5.4	6.6	
NONDURABLE CONSUMER GOODS	-2.8	-1.6	-2.1	-2.6	-1.7	-1.3	-1.2	-0.7	0.6	-0.3	1.2	3.0	
BUSINESS EQUIPMENT	-12.1	-14.7	-16.2	-16.5	-17.6	-18.5	-18.2	-17.3	-14.9	-16.8	-14.7	-11.0	
INTERMEDIATE PRODUCTS	-8.6	-8.4	-8.6	-7.7	-7.1	-6.5	-4.6	-3.0	0.2	0.8	1.5	4.7	
MATERIALS	-12.5	-13.3	-14.4	-14.4	-13.4	-12.5	-11.2	-8.1	-3.8	-4.3	-1.4	2.4	
DURABLE GOODS MATERIALS	-17.1	-16.9	-18.0	-18.9	-18.2	-18.6	-17.4	-13.1	-6.3	-5.8	-2.0	3.0	
NONDURABLE GOODS MATERIALS	-12.5	-13.2	-13.7	-11.9	-9.7	-7.3	-4.5	-1.7	1.8	-1.0	1.7	4.5	
<b>MANUFACTURING</b>													
NONDURABLE	-9.8	-9.6	-9.9	-9.9	-9.3	-8.8	-7.6	-5.3	-1.3	-2.1	-0.1	3.0	
DURABLE	-6.9	-6.3	-6.8	-6.2	-5.5	-4.1	-3.1	-1.1	1.5	0.5	1.8	4.5	
MINING AND UTILITIES	-12.1	-12.4	-12.3	-12.9	-12.4	-12.7	-11.2	-8.7	-3.6	-4.3	-1.8	1.8	
<b>CHANGE FROM SAME MONTH A YEAR AGO</b>													
MINING AND UTILITIES	-2.2	-7.1	-10.4	-10.7	-10.3	-10.1	-9.7	-9.4	-10.2	-11.7	-10.0	-8.4	



















Table 8  
**INDUSTRIAL PRODUCTION: DIFFUSION INDEXES**  
 Percent of component series higher than in earlier months

	ONE MONTH EARLIER	THREE MONTHS EARLIER	SIX MONTHS EARLIER
<b>1967-82</b>			
AVERAGE	53.7	56.3	58.1
HIGH	71.7	78.7	82.8
LOW	22.6	15.7	14.7
<b>1981</b>			
MARCH	53.4	61.7	75.7
APRIL	44.5	47.4	67.7
MAY	50.9	52.8	57.0
JUNE	50.4	48.3	52.1
JULY	67.4	59.1	56.0
AUGUST	46.6	58.9	53.2
SEPTEMBER	31.9	45.3	43.2
OCTOBER	31.5	25.3	36.0
NOVEMBER	33.0	24.7	28.9
DECEMBER	32.8	25.7	25.1
<b>1982</b>			
JANUARY	38.7	24.9	21.1
FEBRUARY	64.3	35.5	26.4
MARCH	37.9	45.5	21.9
APRIL	36.2	46.6	23.6
MAY	44.3	34.0	30.2
JUNE	46.4	44.0	39.8
JULY	53.0	48.9	46.2
AUGUST	45.5	53.8	40.4
SEPTEMBER	45.5	44.7	42.8
OCTOBER	35.1	39.6	43.8
NOVEMBER	48.1	39.8	43.8
DECEMBER	46.2	38.7	36.0
<b>1983</b>			
JANUARY	64.9	63.0	46.0
FEBRUARY	47.7	61.5	50.4
MARCH	67.7	67.2	59.1

NOTE: THE DIFFUSION INDEXES SHOW THE PERCENT OF THE INDUSTRIAL PRODUCTION INDEX'S 235 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.











## Explanatory Note

**Coverage.** The industrial production index is a measure of the physical output of the Nation's factories, mines, and electric and gas utilities expressed as a percentage of production in a base period, currently 1967. The 235 individual series representing Standard Industrial Classification (SIC), 1967 edition, codes 10-14, 19-39, 49, and 91 (part) are calculated first as index series relatives. These relatives are aggregated into: (1) market groupings (such as consumer goods, equipment, intermediate products, and materials) from which the total is derived and (2) industry groupings (for example, SIC 2-digit industries) and major aggregates of these groupings, such as manufacturing, mining, and utilities.

**Timing.** A first estimate of output for a month is published about the 15th of the following month. This estimate may revise in each of the next 3 months as new data become available. After the fourth month, indexes are not further revised until an annual or a benchmark revision.

**Source data.** The monthly indexes of industrial production are built up from data of two types: (1) directly-measured physical product data, (2) estimates of physical product output derived from input data adjusted by conversion factors that relate these inputs to physical output. The directly measured physical product data (lbs., tons, etc.) are obtained from reports of the Bureau of the Census, Bureau of Mines, other Government agencies, and trade associations. Estimates of physical output based on input data are used when appropriate monthly physical product data are not available. The major input data are (1) hours worked by production workers as indicated by the monthly establishment survey of the Bureau of Labor Statistics, and (2) industrial electric power use as ascertained from utilities by the Federal Reserve Banks. The input conversion estimates are based mainly on their historical trends and recent developments.

**Seasonal adjustment.** Individual series are seasonally adjusted by the X-11 version of the Method II seasonal adjustment procedure developed by the Bureau of the Census. The seasonal adjustment factors for the basic aggregate series in the summary table and in Tables 1 and 2 are reviewed and edited monthly. The seasonal factors currently being used were developed from data through 1978, edited to minimize the effect of the sharp cyclical decline and recovery in industrial production in 1974 and 1975.

**Weights.** The total index and various groupings of component series are combined on the basis of 1967 value-added weights (shown in the first column of the index tables). The gross-value-weighted product series are expressed in terms of 1972 dollars.

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

$$I_t = \Sigma \left( \frac{q_{67} p_{67}}{\Sigma q_{67} p_{67}} \right) \cdot \left( \frac{q_t}{q_{67}} \right) \cdot 100 = \frac{\Sigma q_t p_{67}}{\Sigma q_{67} p_{67}} \cdot 100$$

where  $q$  is quantity,  $p$  is Census value-added per unit of output, and  $t$  represents the  $t$ -th period.

**Reliability.** The median of the revisions in total IP, without regard to sign, between the first and fourth estimates is 0.25 per cent; that is, in about half of the cases, the absolute value of the revision from the first to the fourth estimate was less than 0.25 per cent. (Calculated on the basis of data for the August 1971 to July 1976 period.)

**Rounding.** Changes shown for index components may not aggregate to changes for totals due to independent rounding.