
FEDERAL RESERVE statistical release



G.17 (419) Supplement

**For release at Noon (EST)
January 27, 1997**

INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION: HISTORICAL REVISION

The Board of Governors of the Federal Reserve System has completed a revision of its measures of output, capacity, and capacity utilization for the industrial sector. The primary feature of the revision was to reformulate the indexes and utilization rates back to 1977 based on weights that are updated annually rather than every five years, as had been the practice. The new formulation eliminates an overstatement of the growth of production and capacity in earlier figures and is designed to provide more accurate current estimates of developments in industrial production and capacity utilization. The cyclical profile of the revised statistics is essentially unchanged. Both the production and capacity indexes are now expressed as percentages of output in 1992; the previous reference year was 1987.

The growth in industrial production (IP) in 1996 (fourth quarter 1995 to fourth quarter 1996) was revised down 0.8 percentage point, to 3.7 percent. Capacity growth was also revised down in 1996; capacity utilization for the fourth quarter of 1996 was revised down 0.2 percentage point, to 83.2 percent.

From 1992 onward, the new estimates of IP and capacity also incorporate additional or updated statistics that are typically available for an annual revision. The primary effect of introducing these data was to lower IP growth in 1994 to a still robust 5-3/4 percent rate. The revised estimates show that capacity utilization reached its most recent high at the beginning of 1995, and that pressures on industrial capacity have been lower since then.

The revised indexes of production and capacity show slower growth over the past two decades, on average, than the earlier estimates. From 1977 to 1996, the annual rate of growth of total IP averaged 2.3 percent, about 1/4 percentage point less than previously shown. The rate of growth of industrial capacity was revised down similarly. As a result, capacity utilization rates were generally little changed.

The capacity indexes and capacity utilization rates were recomputed back to 1977 to reflect the new production indexes and updated physical capacity data for recent years and to fully incorporate revised measures of capital input derived from Federal Reserve estimates of manufacturers' real net capital stocks. Aggregate utilization rates between 1967 and 1976 were revised slightly to improve consistency with the new formulation.

Along with the annual updating, additional changes made to selected production and capacity series improve coverage and reliability of the measures. Some of the series and definitional improvements were introduced before 1992, depending on the availability of source data.

The Federal Reserve's accompanying statistics for industrial electric power use also have been revised. These indexes, which begin in 1972, now more fully reflect the increase in cogeneration that took place in the 1980s and incorporate more complete reports from utilities for the past few years.

New Aggregation Methods

As indicated, the most important improvement for this revision is the introduction of new aggregation methods from 1977 onward. In the new formulations, series that measure the actual or capacity output of an

individual industry are still weighted according to their proportion in the total value-added output or capacity of all industries. However, the value-added weights used in the aggregation procedures are now updated annually, and the total IP index and its major industry and market subtotals are constructed using a superlative index formula similar to that recently introduced by the Bureau of Economic Analysis for its featured measure of real output.

If prices and costs were to change uniformly across industries, different weights for different years would not be needed; but relative prices do change. To represent the changing relative price and cost structure of industries, the industrial production index was previously built for the most part in five-year chronological segments, each with value-added weights drawn from the first year of the segment. Chaining the segments together formed a continuous index expressed as a percentage of output in a reference year. The periodic introduction of new weight years for the IP index, as well as for the related capacity statistics, updated the measures so that they reflected the gradual evolution of relative prices over time.

Because of persistent, rapid declines in the relative price of computers, as well as computer peripherals and semiconductors, a quinquennial updating of weights has proved too infrequent to provide the most accurate estimates of current changes in industrial production and capacity. Applying outdated weights to these fast growing industries can also introduce small distortions in current measures of capacity utilization.

In formulating the revised IP measures, the Federal Reserve adapted an approach developed by the Bureau of Economic Analysis (BEA) to create their chain-type annual-weighted quantity indexes. However, rather than follow the BEA practice of applying weights based on the most recently available comprehensive data to all subsequent years (the so-called Laspeyres tail), the Board's adaptation applies estimates of the appropriate annual weights for the most current periods. The estimates are developed from related information or, if required, by extrapolation. As a result, the aggregate industrial production and capacity utilization measures are consistently formulated through the most recent period.

New Methods For Individual Production, Capacity, and Electric Power Use Series

The revision also incorporated improvements in the composition of selected IP market aggregates and enhancements to the structure of selected production and capacity series. As part of the annual updating, from 1992 onward, monthly source data for all IP series—physical product data and measures of inputs to production—were updated to reflect revisions by the data providers and were adjusted to eliminate seasonal, calendar, and holiday variation by the Federal Reserve. The revised IP series reflect further adjustments that control their annual average results to conform to benchmark indexes derived from more comprehensive, and newly available, annual source data.

Measures of industry capital input, which are used in estimating capacity, were updated with Federal Reserve estimates of manufacturers' real net stocks that are now built from investment data expressed in chained 1992 dollars; formerly, the net stocks were derived from investment flows in constant 1987 dollars. No new broad survey results on capacity utilization rates were available for this revision. For the 1997 annual update, the Federal Reserve will have results from the Census Bureau's Survey of Plant Capacity for the fourth quarters of 1995 and 1996.

Modifications to Series

To improve the analytical use of the IP market aggregates, the portion of the output of computer and office equipment (SIC 357) designated as final product is now further split into production of consumer goods, mainly personal computers for home use, and business equipment. Formerly, all of the final product of the computer industry was in business equipment (as in the earlier index, the industry's semi-finished product is allocated to the materials market group).

To improve coverage and reliability, monthly source data for four IP series were modified. With these changes, the monthly IP index now comprises 264 series for the period since 1992, and the proportion that is

derived from physical product data rises 2 percentage points, in 1994 value-added terms, to 42 percent. The output of stone, sand, and gravel mining (SIC 141–2, and 144), formerly an input-based IP series, is now derived from quarterly production data reported by the Department of the Interior. Portions of two equipment series, farm equipment (SIC 352) and construction and allied equipment (SIC 353), which were based on input data, now make up two new series derived from monthly production estimates reported in Stark’s Off-Highway Ledger. Production of original equipment parts for new motor vehicles from 1992 onward now derives from monthly production estimates reported in Stark’s Component Ledger.

Production of medium and heavy trucks, formerly a single component of business trucks, is now represented by separate series for medium-weight (gross vehicle weight of 14,001–33,000 lbs.) and for heavy trucks (33,001 lbs and over) based on the same monthly production figures as previously used (Ward’s Automotive Reports) in combination with information on factory shipments by detailed weight class reported by the American Automobile Manufacturers Association. The compilation of capacity measures for motor vehicles was also improved with a more explicit accounting of the assembly capability for heavy trucks.

Updated Data and New Production Benchmarks

The regular updating of source data for industrial production includes the introduction of annual data from the Annual Survey of Manufactures for 1994 and selected Current Industrial Reports for 1995, both series published by the Bureau of the Census. Available annual data on mining for 1994 and 1995 from the Department of the Interior were also introduced. Individual IP series incorporate revisions to the monthly indicators (either physical product data, production worker hours, or electric power usage) back to 1992. Seasonal factors for electric power and most physical product series were calculated on the basis of data through mid-1996; for production worker hours and the unit counts of motor vehicle assemblies, seasonal factors were updated with data through October. Productivity relationships used to extrapolate input-based IP series beyond 1994 or 1995 were updated using the revised output and input data.

With this revision, from 1992 onward the annual updating of the IP indexes for manufacturing reflects the incorporation of annual benchmarks of real output that are formulated as Fisher indexes. The new or modified series described earlier were adjusted to the newly formulated benchmarks from the initial year of the series. The sources for the basic data used to construct comprehensive output measures used for benchmarking manufacturing IP series in this revision are the same as those used for calculating former benchmarks.

For this revision, the annual IP benchmark quantity indexes for semiconductors and related components and for computers and office equipment were improved from 1977 on. The IP index for semiconductors and related components (SIC 3672–9) was benchmarked to an annual index of real output that incorporated a quality-adjusted price index for domestically-produced integrated microcircuits (the major product of SIC 3674, which is the largest industry covered by the IP series for semiconductors). Board staff constructed this index from detailed price indexes for selected semiconductor components, mainly memory and logic chips, developed by the BEA as part of its recent comprehensive revision of the NIPAs. The BEA also revised its price index for computers for that revision, and the IP benchmark index for computers and office equipment incorporates those results.

Revised Estimates of Industrial Capacity

The capacity utilization estimates fully incorporate the more detailed data from the 1993–94 Survey of Plant Capacity of the Bureau of the Census. At the time of the 1995 annual update, Census survey data on utilization for 1993–94 were generally available only at a two-digit SIC industry level. In early 1996, the detailed Census survey information was incorporated in the models used for the 1995–96 capacity extrapolations. With this revision, the capacity estimates were updated based on the revised production estimates, revised estimates of capital input, and revised or newly available estimates of capacity in physical volume terms for selected industries from 1977 on.

Revised Estimates of Electric Power Use

The Federal Reserve's monthly indexes of industrial electric power use, which begin in 1972, have been revised. The indexes are now expressed as percentages of electric power use in 1992; the comparison base year formerly was 1987. The revisions of the electric power series stem from three sources: more complete reports from utilities and changes in the Federal Reserve's utility reporting panel for recent years; more accurate staff estimates of the increase in cogeneration that took place during the last half of the 1980s; and adjustments of the detailed series on purchased power consumption to annual benchmarks derived from data published in the Annual Surveys of Manufactures from 1972 to 1993. Compared with the previously published data, the revised index of total electric power use in manufacturing and mining shows somewhat stronger growth since 1989 and a slightly greater decline from 1979 to 1982; the overall pattern, however, is quite similar to previous results. The revised cogeneration component grows noticeably faster.

Data Availability

Files containing the revised data and the text and tables from this release are available on the Internet at <http://www.bog.frb.fed.us>, the Board's World Wide Web site. Files will also be available through the Economic Bulletin Board of the Department of Commerce; for information, call 202-482-1986. Diskettes containing either historical data (through 1985) or more recent data (1986 to those most recently published in the G.17 statistical release) are available from Publications Services, Board of Governors of the Federal Reserve System, Washington, DC 20551 (202-452-3245).

More details on the technical aspects of the revision will be published in the February 1997 Federal Reserve Bulletin. Copies of this article will be available at the Board's World Wide Web site. A summary of the new aggregation procedure is presently available in the 1996 revision announcement on the World Wide Web (<http://www.bog.frb.fed.us/releases/G17/rev96.htm>).

A document with printed tables of the revised estimates of major aggregates shown in the G.17 release will be sent to subscribers to the release. This document will also be available at the Board's World Wide Web site.

1. Industrial production, capacity, and utilization

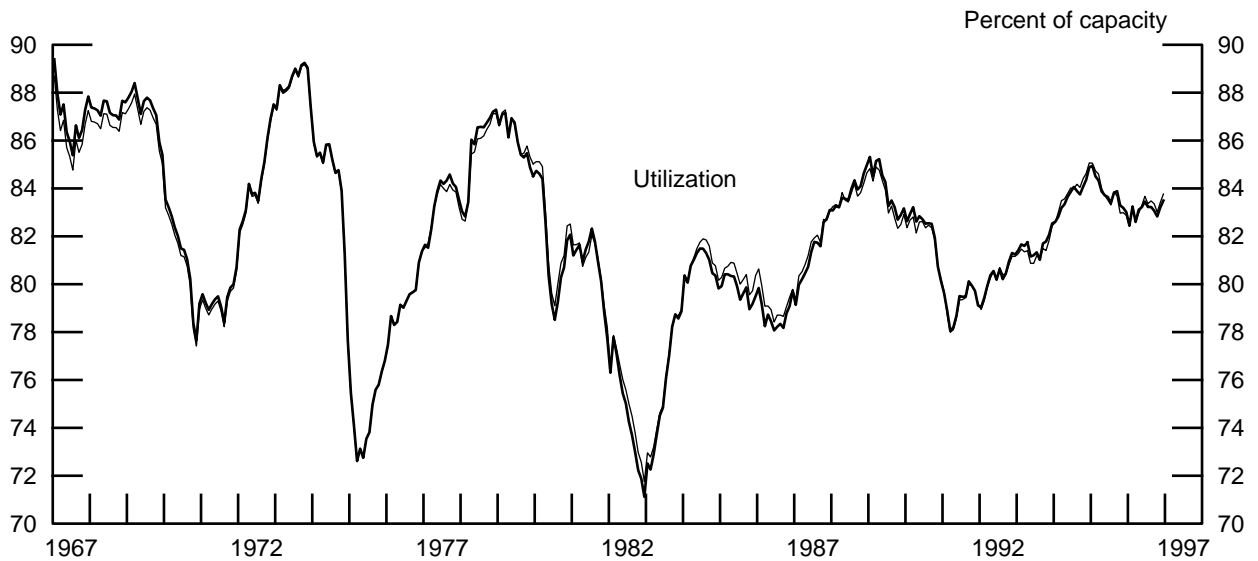
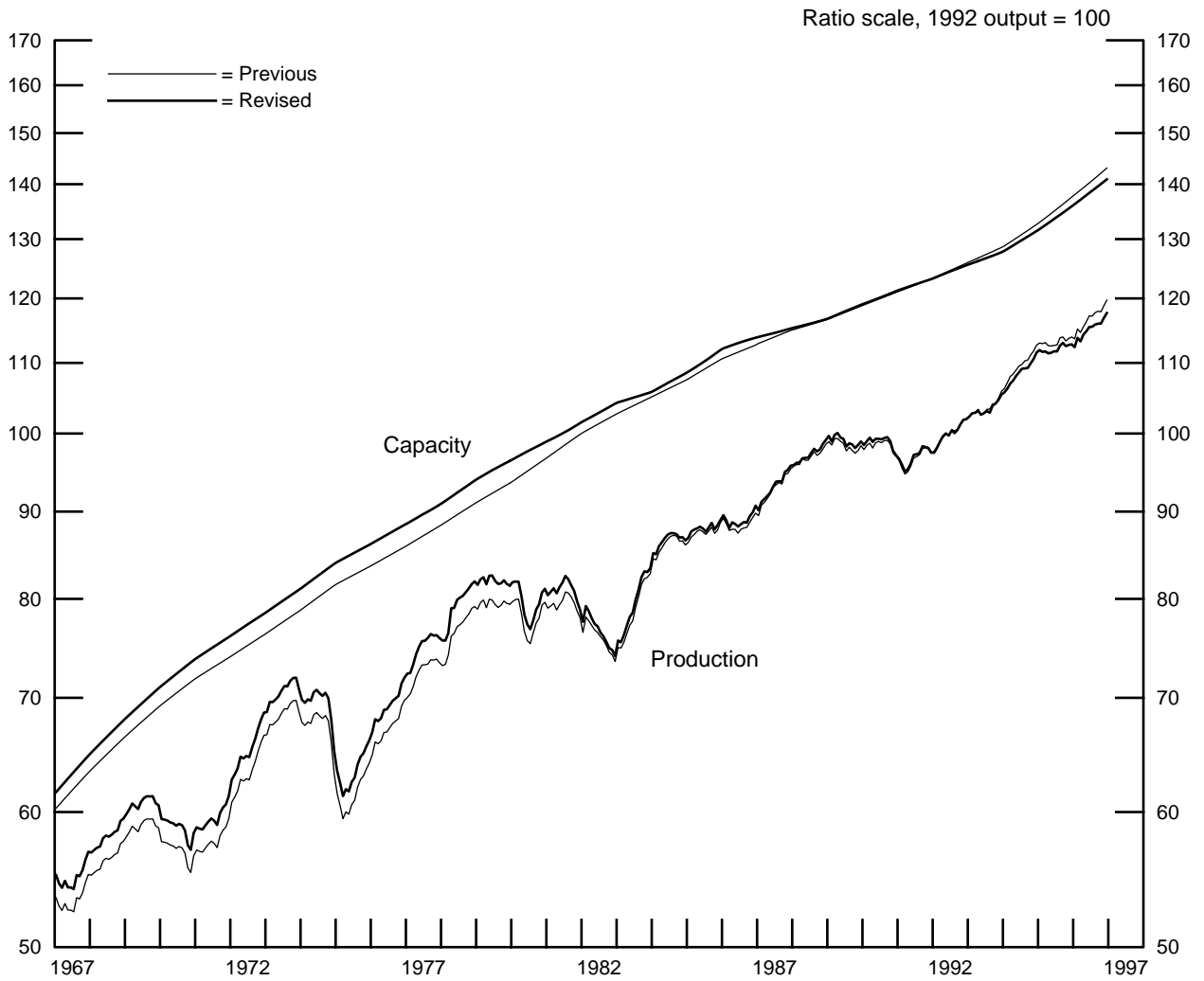


Table 1
RATES OF GROWTH IN INDUSTRIAL PRODUCTION, BY MAJOR MARKET GROUPS, 1992–1996¹

Item	Revised index (percent)					Difference between revised and earlier indexes (percentage points)				
	1992	1993	1994	1995	1996	1992	1993	1994	1995	1996
Total index	3.9	3.0	5.7	1.8	3.7	-.1	-.2	-.9	.2	-.8
Products, total	3.9	1.9	4.3	1.1	3.7	-.2	-.6	-1.3	.1	-.9
Final products	4.0	2.0	4.3	1.4	3.9	-.3	-.6	-1.1	.0	-1.3
Consumer goods	3.7	2.2	3.9	.7	2.1	.3	.3	-.1	.2	.1
Durable	7.4	10.3	6.6	1.1	2.7	.6	-.3	.5	2.0	2.2
Automotive products	11.7	11.6	5.7	-.9	1.0	.3	-2.8	-1.6	.3	-1.0
Other durable goods	4.2	9.4	7.2	2.5	3.9	1.1	2.2	2.3	3.2	4.8
Nondurable	2.7	.1	3.2	.7	2.0	.2	.3	-.3	-.3	-.5
Nonenergy products	2.8	-.4	4.4	-.3	2.4	.2	.2	-.3	-.5	-.2
Energy products	2.5	3.4	-4.0	6.6	-.4	.0	.9	.0	.0	-1.7
Equipment, total	4.6	1.5	4.9	2.4	6.9	-1.1	-2.0	-2.6	-.1	-3.0
Business equipment	6.8	3.4	8.1	4.6	8.0	-1.4	-2.5	-3.3	.1	-3.0
Industrial	3.7	6.8	8.9	7.3	-.2	-.7	.9	.3	3.8	-.1
Information processing & related	13.2	2.0	11.5	12.2	11.2	-1.7	-5.5	-6.3	-1.8	-6.2
Transit	.8	-2.1	1.1	-13.4	21.6	.3	-2.9	-1.4	.8	5.3
Other	3.4	9.6	5.4	-.8	2.4	-1.3	-.4	-2.5	2.8	-1.2
Defense and space equipment	-5.8	-6.5	-8.0	-8.2	-.9	.0	.5	2.3	.9	-2.1
Intermediate products	3.3	1.8	4.3	.1	3.1	.1	-.8	-2.0	.2	.3
Construction supplies	3.7	5.8	6.6	-.8	5.9	-.3	-.2	-1.5	-.4	.6
Business supplies	3.1	-.5	3.0	.7	1.3	.4	-1.1	-2.3	.7	.2
Materials	3.9	4.6	7.9	2.9	3.7	.2	.4	-.2	.5	-.7
Durable	6.5	8.2	10.9	5.7	5.1	.2	1.0	-.3	.4	-.3
Nondurable	2.4	1.7	5.9	-2.3	1.7	.1	-.6	-1.0	.4	-1.4
Energy	.0	-.6	2.1	.9	1.9	.0	-.2	.3	.8	-1.2
SPECIAL AGGREGATES										
Total excluding:										
Computer and office equipment	3.5	2.7	5.3	1.1	2.9	.2	-.1	-.8	.5	-.2
Business equipment excluding:										
Computer and office equipment	4.7	2.4	6.2	1.1	4.4	-.1	-1.1	-2.4	2.3	.7

1. Growth rates are calculated as the percent change in the seasonally adjusted index from the fourth quarter of the previous year to the fourth quarter of the year specified in the column heading.

Table 2
RATES OF GROWTH IN INDUSTRIAL PRODUCTION, BY INDUSTRY GROUPS, 1992–1996¹

Item	SIC	Revised index (percent)					Difference between revised and earlier indexes (percentage points)				
		1992	1993	1994	1995	1996	1992	1993	1994	1995	1996
Total index		3.9	3.0	5.7	1.8	3.7	-.1	-.2	-.9	.2	-.8
Manufacturing		4.4	3.3	6.5	1.6	4.0	-.1	-.4	-1.1	.2	-.8
Primary processing		3.9	4.0	6.2	-.9	2.6	-.1	-.3	-.8	.2	-.4
Advanced processing		4.6	3.0	6.7	2.8	4.7	-.1	-.4	-1.1	.3	-.9
Durable		5.2	5.8	8.2	3.7	5.6	-.3	-.4	-1.1	.3	-.9
Lumber and products	24	5.4	2.2	4.1	-.1	2.5	-.4	-1.7	-1.6	.1	.7
Furniture and fixtures	25	5.1	3.4	3.9	-1.7	3.2	.2	-1.8	-3.4	2.0	.4
Stone, clay, and glass products	32	3.6	4.2	4.7	-.5	2.4	-.2	.0	.7	-.6	-.3
Primary metals	33	1.1	7.2	8.4	-.9	2.9	.1	-.3	-1.4	.8	.8
Iron and steel	331,2	1.3	9.0	7.0	-1.2	2.9	.2	-.1	-1.3	1.2	-1.3
Raw steel		1.3	5.6	6.1	.6	-1.9	-.3	-.2	-.3	-.1	.8
Nonferrous	333-6,9	.9	4.9	10.3	-.7	2.9	.0	-.5	-1.5	.0	3.4
Fabricated metal products	34	4.1	4.6	8.5	.9	3.2	-1.0	.7	.1	.0	.0
Industrial machinery and equipment	35	7.1	12.0	14.7	11.7	10.0	-3.3	-.9	-.2	-.8	-5.2
Computer and office equip.	357	26.8	20.1	31.2	40.7	38.1	-1.2	-6.6	1.6	4.5	-2.5
Electrical machinery	36	13.1	8.6	18.6	15.9	7.2	3.2	.4	.9	4.0	2.8
Semiconductors	3672-9	26.6	16.5	37.3	36.4	15.6	8.9	4.6	8.4	10.4	7.9
Transportation equipment	37	2.8	4.8	1.2	-6.1	5.4	-.1	-.1	-2.0	.1	-1.9
Motor vehicles and parts	371	10.1	18.0	6.8	-3.0	-3.7	-.6	1.2	-1.8	-.4	-6.0
Autos and light trucks		9.1	13.6	5.7	-3.3	-.5	.3	-2.1	-.3	-.6	-2.0
Aerospace and misc.	372-6,9	-4.3	-8.9	-6.0	-10.6	19.3	.0	-1.0	-1.9	1.2	3.5
Instruments	38	1.2	-1.7	1.2	.5	3.0	.2	-.6	-2.8	-.1	.2
Miscellaneous	39	2.1	5.5	2.6	.9	2.5	.0	-.5	-3.6	.3	.9
Nondurable		3.5	.5	4.6	-.9	2.2	.3	-.4	-.9	.1	-.3
Foods	20	1.8	1.6	2.1	.8	2.1	.2	-1.0	-1.5	.4	.1
Tobacco products	21	4.1	-16.3	40.5	-8.8	2.3	-1.5	3.3	15.8	-2.7	-3.6
Textile mill products	22	6.5	5.1	5.9	-5.5	2.0	.2	.5	.9	.2	.2
Apparel products	23	.4	2.2	5.2	-7.6	-2.5	-.5	.9	1.2	1.4	.3
Paper and products	26	.3	6.5	4.7	-2.6	1.4	-.1	-.3	.5	.4	-.6
Printing and publishing	27	2.6	-2.6	1.2	-1.3	1.2	.3	-1.2	-1.4	.6	.5
Chemicals and products	28	4.9	-1.4	4.6	1.6	3.6	.5	-.4	-2.4	-.8	-1.2
Petroleum products	29	3.6	2.8	-.9	.4	3.1	.0	-.3	-.9	.2	-.4
Rubber and plastics products	30	9.0	6.4	9.5	-.5	2.9	.3	-.3	-.9	.0	-.6
Leather and products	31	5.0	-3.8	-8.3	-8.9	-3.4	-.1	-1.2	-5.1	.3	1.5
Mining		.3	-.3	1.6	-1.3	3.9	.0	.2	.4	.5	-.8
Metal mining	10	5.7	2.2	-3.0	4.7	.1	-.4	-.3	-.2	-3.3	3.7
Coal mining	12	-.7	-3.3	8.9	-.2	4.1	-.2	-.1	-.2	2.9	-6.2
Oil and gas extraction	13	-.3	-.6	-.3	-2.5	4.1	.2	.0	.4	.5	-.2
Stone and earth minerals	14	3.4	5.6	7.0	.2	5.6	-1.1	2.7	.6	-1.8	.3
Utilities		1.9	2.0	-.1	6.5	.4	-.1	.5	-.3	.3	-1.2
Electric	491,3pt	2.1	1.0	1.9	5.3	1.1	-.2	.1	.1	.2	-.6
Gas	492,3pt	1.1	5.5	-7.2	10.9	-2.1	-1.0	1.6	-1.2	.4	-3.1
SPECIAL AGGREGATES											
Manufacturing excluding:											
Computer and office equipment		3.9	3.0	6.0	.7	3.1	.2	-.2	-1.0	.4	-.1

1. Growth rates are calculated as the percent change in the seasonally adjusted index from the fourth quarter of the previous year to the fourth quarter of the year specified in the column heading.

Table 3
INDUSTRIAL PRODUCTION, CAPACITY AND UTILIZATION: 1987–1996¹

TOTAL INDUSTRY

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual ²
Industrial Production, Percent Change																	
1987	-.6	1.2	.4	.4	.4	.9	.6	.1	-.1	1.3	.3	.6	4.3	6.7	5.6	6.9	4.6
1988	.1	.3	.0	.6	.1	.0	.7	.5	-.4	.3	.7	.5	3.1	3.0	3.8	3.6	4.4
1989	.5	-.8	.9	.3	-.6	-.2	-1.0	.4	-.2	-.5	.4	.5	3.8	.5	-4.4	.0	1.8
1990	-.5	.5	.5	-.6	.4	.0	-.1	.2	.1	-.5	-1.3	-.6	1.9	.8	.9	-5.7	-2
1991	-.5	-.8	-.9	.3	.8	1.2	.1	.1	.9	-.1	-.1	-.6	-8.2	1.3	6.3	1.1	-2.0
1992	.0	.7	.8	.7	.4	-.3	.7	-.4	.5	.8	.6	.1	1.1	6.7	2.2	5.6	3.2
1993	.4	.5	.1	.3	-.6	.2	.3	-.2	1.0	.3	.5	.7	3.7	.8	1.7	5.8	3.4
1994	.3	.5	.7	.4	.6	.5	.5	.0	.1	.6	.6	.9	6.2	6.7	4.4	5.6	5.0
1995	.3	-.2	.1	-.3	.1	.2	.0	.8	.4	-.4	.2	.1	3.9	-.7	3.2	.8	3.3
1996	-.4	1.3	-.5	.9	.4	.6	.0	.3	.1	.0	.8	.7	1.6	6.2	3.3	3.8	2.7
Industrial Production																	
1987	90.2	91.2	91.5	91.9	92.3	93.1	93.7	93.8	93.7	94.9	95.2	95.8	91.0	92.5	93.7	95.3	93.1
1988	95.8	96.1	96.2	96.7	96.8	96.8	97.4	98.0	97.6	97.9	98.6	99.1	96.0	96.8	97.7	98.5	97.3
1989	99.7	98.9	99.8	100.1	99.5	99.3	98.3	98.7	98.5	98.1	98.5	98.9	99.5	99.6	98.5	98.5	99.0
1990	98.5	99.0	99.4	98.9	99.3	99.3	99.2	99.4	99.5	99.0	97.7	97.1	99.0	99.2	99.4	97.9	98.9
1991	96.7	95.9	95.0	95.3	96.0	97.2	97.2	97.4	98.3	98.2	98.1	97.4	95.8	96.2	97.6	97.9	96.9
1992	97.5	98.1	98.9	99.6	100.0	99.7	100.4	100.1	100.5	101.3	101.9	101.9	98.2	99.8	100.3	101.7	100.0
1993	102.3	102.8	102.8	103.2	102.6	102.8	103.1	102.8	103.9	104.1	104.6	105.4	102.6	102.8	103.3	104.7	103.4
1994	105.7	106.2	107.0	107.4	108.1	108.6	109.1	109.2	109.3	109.9	110.6	111.6	106.3	108.0	109.2	110.7	108.6
1995	111.9	111.6	111.7	111.4	111.5	111.7	111.7	112.6	113.0	112.5	112.7	112.8	111.8	111.6	112.4	112.7	112.1
1996	112.4	113.8	113.2	114.3	114.8	115.5	115.5	115.8	116.0	116.0	116.9	117.7	113.1	114.8	115.8	116.8	115.1
Capacity																	
1987	113.9	114.0	114.1	114.3	114.4	114.5	114.6	114.7	114.8	115.0	115.1	115.2	114.0	114.4	114.7	115.1	114.6
1988	115.3	115.5	115.6	115.7	115.8	115.9	116.0	116.2	116.3	116.4	116.5	116.7	115.5	115.8	116.2	116.5	116.0
1989	116.8	117.0	117.2	117.4	117.6	117.8	118.0	118.2	118.4	118.6	118.8	119.0	117.0	117.6	118.2	118.8	117.9
1990	119.2	119.3	119.5	119.7	119.9	120.0	120.2	120.4	120.6	120.8	121.0	121.2	119.3	119.9	120.4	121.0	120.1
1991	121.4	121.5	121.7	121.9	122.0	122.2	122.4	122.5	122.7	122.8	123.0	123.2	121.5	122.0	122.5	123.0	122.3
1992	123.3	123.6	123.8	124.0	124.2	124.4	124.6	124.7	124.9	125.1	125.3	125.5	123.6	124.2	124.7	125.3	124.4
1993	125.7	125.8	126.0	126.2	126.4	126.6	126.7	126.9	127.1	127.3	127.5	127.7	125.8	126.4	126.9	127.5	126.7
1994	128.0	128.3	128.6	128.9	129.2	129.5	129.8	130.1	130.5	130.8	131.1	131.4	128.3	129.2	130.1	131.1	129.7
1995	131.8	132.1	132.5	132.8	133.2	133.6	134.0	134.3	134.7	135.1	135.5	135.9	132.1	133.2	134.3	135.5	133.8
1996	136.3	136.7	137.1	137.5	137.9	138.4	138.8	139.2	139.6	140.0	140.5	140.9	136.7	137.9	139.2	140.5	138.6
Utilization																	
1987	79.1	80.0	80.2	80.5	80.7	81.3	81.8	81.7	81.6	82.6	82.7	83.1	79.8	80.8	81.7	82.8	81.3
1988	83.1	83.3	83.2	83.6	83.6	83.5	84.0	84.3	84.0	84.1	84.6	85.0	83.2	83.6	84.1	84.6	83.9
1989	85.3	84.5	85.1	85.2	84.6	84.3	83.3	83.5	83.2	82.7	82.9	83.2	85.0	84.7	83.3	82.9	84.0
1990	82.6	82.9	83.2	82.6	82.8	82.7	82.5	82.5	82.5	81.9	80.7	80.1	82.9	82.7	82.5	80.9	82.3
1991	79.6	78.9	78.1	78.2	78.7	79.5	79.5	79.5	80.1	79.9	79.7	79.1	78.9	78.8	79.7	79.6	79.2
1992	79.0	79.4	79.9	80.4	80.6	80.2	80.6	80.2	80.5	81.0	81.3	81.2	79.5	80.4	80.4	81.2	80.4
1993	81.4	81.7	81.6	81.7	81.2	81.2	81.3	81.0	81.7	81.8	82.1	82.5	81.6	81.4	81.3	82.1	81.6
1994	82.6	82.8	83.2	83.3	83.7	83.9	84.1	83.9	83.7	84.1	84.4	84.9	82.9	83.6	83.9	84.4	83.7
1995	84.9	84.5	84.3	83.9	83.7	83.6	83.4	83.8	83.9	83.3	83.2	83.0	84.6	83.7	83.7	83.2	83.8
1996	82.4	83.2	82.6	83.1	83.2	83.5	83.2	83.2	83.1	82.8	83.2	83.5	82.8	83.3	83.2	83.2	83.1

1. Estimates from October 1996 through December 1996 are subject to further revision in the upcoming monthly releases.
2. Annual averages of industrial production are calculated from not seasonally adjusted indexes.

Table 4
INDUSTRIAL PRODUCTION, CAPACITY AND UTILIZATION: 1987–1996¹

MANUFACTURING

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual ²
Industrial Production, Percent Change																	
1987	-.8	1.6	.2	.5	.3	1.0	.7	-.2	.1	1.3	.5	.6	5.0	7.0	5.5	7.6	5.3
1988	-.2	.4	-.1	1.0	-.1	.0	.7	.3	.2	.2	1.0	.6	2.4	4.1	3.7	5.2	4.7
1989	.9	-1.2	.8	.1	-.7	.0	-1.1	.4	-.3	-.6	.4	.1	4.3	-.7	-4.5	-1.4	1.9
1990	-.2	.9	.3	-.8	.4	-.1	.0	.3	.0	-.6	-1.3	-.6	2.9	-.1	.8	-6.3	-.5
1991	-.9	-.7	-1.1	.3	.7	1.4	.2	.2	1.1	-.1	-.2	-.5	-9.7	1.2	7.8	1.7	-2.4
1992	.2	.8	.9	.6	.4	-.1	.7	-.3	.4	.7	.6	-.1	2.3	7.3	2.8	5.1	4.0
1993	.8	.3	.1	.5	-.5	.0	.3	-.3	1.1	.2	.5	.8	4.5	1.4	1.2	6.2	3.7
1994	.1	.6	.9	.7	.7	.2	.8	.1	.2	.7	.7	.9	6.3	8.1	5.0	6.7	5.5
1995	.4	-.4	.1	-.3	-.1	.2	-.1	.7	.7	-.4	-.1	.1	4.2	-1.4	2.6	1.0	3.5
1996	-.4	1.3	-.8	1.1	.4	.7	.5	.1	.2	.0	.6	1.0	1.1	6.3	5.0	3.7	2.7
Industrial Production																	
1987	89.6	91.0	91.2	91.6	91.9	92.8	93.4	93.3	93.4	94.6	95.0	95.6	90.6	92.1	93.4	95.1	92.8
1988	95.4	95.8	95.7	96.7	96.6	96.6	97.2	97.5	97.7	97.9	98.9	99.4	95.7	96.6	97.5	98.7	97.1
1989	100.3	99.1	99.9	100.0	99.4	99.4	98.3	98.7	98.4	97.9	98.2	98.3	99.8	99.6	98.5	98.1	99.0
1990	98.1	99.0	99.3	98.6	99.0	98.9	98.8	99.1	99.1	98.5	97.2	96.6	98.8	98.8	99.0	97.4	98.5
1991	95.8	95.1	94.1	94.4	95.0	96.3	96.6	96.8	97.8	97.8	97.6	97.1	95.0	95.2	97.0	97.5	96.2
1992	97.2	98.0	98.9	99.5	100.0	99.9	100.5	100.2	100.6	101.4	102.0	101.8	98.0	99.8	100.5	101.7	100.0
1993	102.6	102.9	103.0	103.6	103.0	103.0	103.4	103.0	104.2	104.4	105.0	105.9	102.9	103.2	103.5	105.1	103.7
1994	106.0	106.6	107.5	108.2	109.0	109.2	110.0	110.1	110.3	111.1	111.9	112.9	106.7	108.8	110.2	111.9	109.4
1995	113.3	112.9	113.1	112.7	112.6	112.9	112.7	113.4	114.2	113.8	113.6	113.8	113.1	112.7	113.4	113.7	113.2
1996	113.4	114.8	113.9	115.2	115.7	116.4	117.0	117.2	117.4	117.4	118.1	119.3	114.0	115.8	117.2	118.3	116.3
Capacity																	
1987	113.2	113.4	113.6	113.8	113.9	114.1	114.2	114.4	114.6	114.7	114.9	115.0	113.4	113.9	114.4	114.9	114.1
1988	115.1	115.3	115.4	115.5	115.7	115.8	116.0	116.1	116.3	116.5	116.6	116.8	115.3	115.7	116.1	116.6	115.9
1989	117.0	117.3	117.5	117.8	118.0	118.3	118.5	118.7	119.0	119.2	119.5	119.7	117.3	118.0	118.7	119.5	118.4
1990	119.9	120.1	120.3	120.5	120.7	120.9	121.1	121.3	121.5	121.7	121.9	122.2	120.1	120.7	121.3	121.9	121.0
1991	122.4	122.6	122.7	122.9	123.1	123.3	123.5	123.6	123.8	124.0	124.2	124.3	122.6	123.1	123.6	124.1	123.4
1992	124.5	124.7	125.0	125.2	125.4	125.7	125.9	126.1	126.3	126.5	126.8	127.0	124.7	125.4	126.1	126.8	125.8
1993	127.2	127.4	127.6	127.8	128.0	128.2	128.4	128.6	128.9	129.1	129.3	129.5	127.4	128.0	128.7	129.3	128.3
1994	129.8	130.1	130.5	130.8	131.2	131.5	131.9	132.2	132.6	132.9	133.3	133.6	130.1	131.2	132.2	133.3	131.7
1995	134.0	134.4	134.8	135.2	135.6	136.0	136.5	136.9	137.3	137.8	138.2	138.7	134.4	135.6	136.9	138.2	136.3
1996	139.1	139.6	140.1	140.5	141.0	141.5	142.0	142.5	142.9	143.4	143.9	144.4	139.6	141.0	142.5	143.9	141.7
Utilization																	
1987	79.1	80.2	80.3	80.6	80.7	81.4	81.8	81.5	81.5	82.5	82.8	83.1	79.9	80.9	81.6	82.8	81.3
1988	82.9	83.1	82.9	83.7	83.5	83.4	83.8	84.0	84.0	84.1	84.8	85.1	83.0	83.5	83.9	84.7	83.8
1989	85.7	84.5	85.0	84.9	84.2	84.1	83.0	83.1	82.7	82.1	82.2	82.2	85.1	84.4	82.9	82.1	83.6
1990	81.8	82.4	82.6	81.8	82.0	81.8	81.6	81.7	81.5	80.9	79.7	79.1	82.3	81.9	81.6	79.9	81.4
1991	78.2	77.6	76.6	76.8	77.2	78.1	78.2	78.3	79.0	78.9	78.6	78.1	77.5	77.4	78.5	78.5	78.0
1992	78.1	78.6	79.1	79.5	79.7	79.5	79.9	79.5	79.7	80.1	80.4	80.2	78.6	79.5	79.7	80.2	79.5
1993	80.7	80.8	80.7	81.0	80.5	80.4	80.5	80.1	80.9	80.9	81.2	81.7	80.7	80.6	80.5	81.3	80.8
1994	81.6	81.9	82.4	82.7	83.1	83.0	83.4	83.3	83.2	83.6	84.0	84.5	82.0	83.0	83.3	84.0	83.1
1995	84.6	84.0	83.9	83.4	83.0	83.0	82.6	82.9	83.2	82.6	82.2	82.0	84.2	83.1	82.9	82.3	83.1
1996	81.5	82.2	81.3	82.0	82.0	82.3	82.4	82.3	82.1	81.8	82.1	82.6	81.7	82.1	82.3	82.2	82.1

1. Estimates from October 1996 through December 1996 are subject to further revision in the upcoming monthly releases.

2. Annual averages of industrial production are calculated from not seasonally adjusted indexes.

Table 5
RATES OF GROWTH IN INDUSTRIAL PRODUCTION, BY MARKET GROUPS, 1977–1996

Item	SIC	Revised index (percent)				Difference between revised and earlier indexes (percentage points)			
		1977– 1982	1982– 1987	1987– 1992	1992– 1996	1977– 1982	1982– 1987	1987– 1992	1992– 1996
Total index		.5	4.0	1.4	3.6	-.5	-.1	-.1	-.4
Products, total		1.2	4.1	1.0	2.9	-.7	-.6	-.2	-.6
Final products		1.6	3.6	1.4	3.0	-.9	-.8	-.3	-.6
Consumer goods		-.2	3.5	1.3	2.5	.0	.1	.1	.1
Durable		-4.3	8.5	1.3	6.0	.0	.7	.7	1.1
Automotive products		-7.5	11.2	-.1	5.9	-.2	-.5	-.3	-1.0
Other durable goods		-2.2	6.7	2.3	6.0	.1	1.6	1.4	2.8
Nondurable		1.1	2.1	1.3	1.6	-.1	-.1	.0	-.2
Nonenergy products		1.5	2.2	1.3	1.4	-.1	-.1	.0	-.2
Energy products		-.6	1.7	1.5	2.7	-.1	-.1	-.1	-.2
Equipment, total		3.9	3.6	1.5	4.0	-1.7	-1.7	-.8	-1.8
Business equipment		2.6	3.8	3.3	6.1	-2.5	-2.7	-1.0	-2.0
Industrial		-2.6	-1.7	1.0	6.1	.0	.0	-.2	1.0
Information processing & related		14.5	9.1	4.8	9.4	-3.7	-5.3	-1.8	-4.5
Transit		-1.2	4.0	5.8	.0	-.4	-.6	-.5	.1
Other		-2.4	3.2	.3	3.8	-.1	-.1	-.3	-.7
Defense and space equipment		6.0	10.1	-3.2	-6.3	.0	1.3	.1	.5
Intermediate products		.0	5.9	-.1	2.3	.0	.0	.0	-.5
Construction supplies		-2.7	6.7	-.9	4.0	-.1	.0	.1	-.3
Business supplies		2.1	5.3	.3	1.2	-.1	.0	-.1	-.6
Materials		-.5	3.8	2.0	4.7	.0	.5	.2	.0
Durable		-.6	6.9	2.7	7.6	-.1	.6	.3	.2
Nondurable		-1.1	4.0	1.9	1.5	.0	.0	.0	-.5
Energy		-.3	-.1	.8	1.0	-.2	.1	.0	.0
<u>SPECIAL AGGREGATES</u>									
Total excluding:									
Computer and office equipment		-.1	3.6	1.3	3.1	.0	.3	.1	-.1
Business equipment excluding:									
Computer and office equipment		-.2	1.6	2.8	3.7	-.2	-.1	-.1	-.2

Note— Growth rates are calculated as the average annual percent change from the first to the last period indicated.

Table 6
RATES OF GROWTH IN INDUSTRIAL PRODUCTION, BY INDUSTRY GROUPS, 1977–1996

Item	SIC	Revised index (percent)				Difference between revised and earlier indexes (percentage points)			
		1977– 1982	1982– 1987	1987– 1992	1992– 1996	1977– 1982	1982– 1987	1987– 1992	1992– 1996
Total index		.5	4.0	1.4	3.6	–.5	–.1	–.1	–.4
Manufacturing		.3	5.2	1.5	3.9	–.6	–.3	–.1	–.4
Primary processing		–2.7	4.7	1.0	2.9	–.1	.0	.0	–.3
Advanced processing		1.9	5.4	1.8	4.3	–.8	–.5	–.1	–.5
Durable		.0	6.2	1.7	5.9	–1.1	–.4	–.1	–.5
Lumber and products	24	–4.0	8.3	–1.0	2.3	.0	.1	.0	–.8
Furniture and fixtures	25	–.1	6.2	–.2	2.2	.0	.0	.0	–.7
Stone, clay, and glass products	32	–3.1	4.5	–.9	2.7	–.1	.0	.0	.0
Primary metals	33	–7.5	4.0	.5	4.0	–.2	.2	.1	–.1
Iron and steel	331,2	–10.2	3.5	.9	3.9	–.3	.5	.0	–.4
Raw steel		–9.8	3.5	.2	2.9	.0	.0	.0	.0
Nonferrous	333–6,9	–2.8	4.6	–.2	4.1	.3	.0	.2	.2
Fabricated metal products	34	–2.1	3.7	–.4	4.4	.0	.0	–.2	.1
Industrial machinery and equipment	35	3.1	5.5	3.1	11.8	–4.2	–3.9	–1.3	–1.6
Computer and office equip.	357	33.4	23.9	10.0	31.3	–1.6	–4.5	–1.6	–.9
Electrical machinery	36	6.3	7.9	5.7	13.0	.9	2.3	1.4	1.8
Semiconductors	3672–9	23.1	15.8	14.6	26.7	6.9	9.5	5.2	7.4
Transportation equipment	37	–2.6	8.8	.8	1.4	–.1	–.3	–.1	–.7
Motor vehicles and parts	371	–9.2	10.8	1.0	6.0	–.1	–.4	–.4	–1.1
Autos and light trucks		–8.4	12.6	.3	5.6	–.2	–.1	–.1	–.7
Aerospace and misc.	372–6,9	4.2	7.4	.5	–3.8	.0	–.1	.1	.1
Instruments	38	4.9	4.2	1.3	.7	.0	.1	.1	–.8
Miscellaneous	39	–1.6	1.8	1.3	3.0	.0	.1	.0	–.7
Nondurable		.5	3.9	1.3	1.5	–.1	–.1	.0	–.3
Foods	20	2.0	2.6	1.3	1.5	–.1	–.1	.0	–.5
Tobacco products	21	.6	–.3	–.9	1.4	.0	.0	–.1	2.6
Textile mill products	22	–1.9	3.7	.8	1.7	.0	.0	.0	.5
Apparel products	23	–.3	1.8	–1.1	–.4	.0	–.3	.0	.9
Paper and products	26	1.2	4.1	1.9	1.9	.2	.0	.0	.1
Printing and publishing	27	3.2	5.7	–.5	–.3	.0	–.1	–.1	–.3
Chemicals and products	28	–.4	4.1	2.8	2.1	.0	.0	.1	–1.0
Petroleum products	29	–3.1	2.3	.6	1.6	.0	.0	.1	–.3
Rubber and plastics products	30	.3	8.7	3.1	4.8	–.1	.0	.0	–.3
Leather and products	31	–4.1	–7.2	–2.3	–5.3	.0	.0	.0	–1.3
Mining		1.5	–1.7	–.3	.8	.0	.1	–.1	.2
Metal mining	10	–2.2	2.5	10.1	.4	.9	–.3	–.3	.1
Coal mining	12	3.7	1.8	1.6	1.4	.0	.0	.0	–.1
Oil and gas extraction	13	1.5	–2.8	–1.5	.1	–.3	–.2	–.1	.2
Stone and earth minerals	14	–4.6	5.1	–.2	4.3	.0	.3	.0	.3
Utilities		.1	1.7	2.3	3.0	–.3	–.1	.0	–.1
Electric	491,3pt	1.6	3.1	2.3	3.0	.0	.0	.0	.0
Gas	492,3pt	–3.2	–2.8	2.4	2.7	–.6	.3	–.1	–.4
SPECIAL AGGREGATES									
Manufacturing excluding:									
Computer and office equipment		–.4	4.7	1.3	3.3	–.1	.2	.1	–.2

Note— Growth rates are calculated as the average annual percent change from the first to the last period indicated.

Table 7
RATES OF GROWTH IN CAPACITY, BY INDUSTRY GROUPS, 1992–1996¹

Item	SIC	Revised index (percent)					Difference between revised and earlier indexes (percentage points)				
		1992	1993	1994	1995	1996	1992	1993	1994	1995	1996
Total index		1.9	1.8	2.8	3.3	3.7	-2	-4	-3	-4	-3
Manufacturing		2.1	2.0	3.1	3.7	4.1	-3	-5	-4	-5	-3
Primary processing		1.0	1.2	2.0	2.1	2.4	-3	-3	-2	-5	-1
Advanced processing		2.6	2.4	3.7	4.6	4.9	-3	-6	-4	-3	-4
Durable		2.0	2.5	4.1	5.5	6.1	-5	-6	-5	-5	-5
Lumber and products	24	.1	.3	2.4	2.1	2.8	-5	-8	1.6	-1.2	.4
Furniture and fixtures	25	.5	1.3	1.4	1.3	2.3	-5	-6	-6	-4	-1
Stone, clay, and glass products	32	.1	.1	.9	1.2	2.2	-6	-1	.0	-5	-5
Primary metals	33	-1.1	-.1	1.4	1.8	3.3	.1	.2	-5	-3	.2
Iron and steel	331,2	-2.3	-1.0	2.8	1.9	4.5	.0	.0	.0	.0	.9
Raw steel		-3.0	-4.2	.9	3.1	1.1	.0	.0	.0	.0	-2.8
Nonferrous	333-6,9	.5	.9	-.3	1.6	1.8	.2	.4	-1.0	-7	-6
Fabricated metal products	34	-.1	1.5	1.5	2.7	2.9	-.4	.4	-.4	.5	.9
Industrial machinery and equipment	35	3.8	4.7	6.3	9.0	11.4	-.3	-1.1	-2.4	-2.4	-1.1
Computer and office equip.	357	14.4	19.0	22.8	29.0	36.1	.4	.4	-2.2	2.2	6.8
Electrical machinery	36	6.5	8.1	11.7	16.6	16.5	.1	.8	2.0	1.8	.9
Semiconductors	3672-9	15.9	20.6	27.3	35.1	29.7	1.8	8.0	9.0	10.0	4.2
Transportation equipment	37	1.4	.7	3.0	2.8	1.3	-.6	-1.3	-.4	.7	-.3
Motor vehicles and parts	371	3.2	2.9	7.5	7.2	3.4	-.5	-1.6	-.9	1.6	-.6
Autos and light trucks		.8	.0	5.5	5.9	1.8	-1.6	-2.7	-.3	2.7	.0
Aerospace and misc.	372-6,9	.1	-1.9	-2.1	-2.5	-1.5	-.2	-1.1	-1.8	-.3	.2
Instruments	38	1.1	.5	.2	.0	.0	-.1	-.4	-.8	-.9	-1.0
Miscellaneous	39	1.5	1.5	1.4	1.4	1.4	-3.4	-2.3	-2.4	-2.5	-2.5
Nondurable		2.2	1.4	1.8	1.6	1.7	-.1	-.4	-.3	-.3	.1
Foods	20	2.6	1.8	2.0	2.1	1.9	.4	-.2	.0	.4	.3
Textile mill products	22	1.7	2.5	3.5	4.1	2.4	-.8	-.8	.4	.4	.6
Apparel products	23	.2	.5	.4	2.9	1.3	-1.9	-2.1	-.6	.8	.8
Paper and products	26	1.8	2.3	1.5	1.9	1.6	-.5	.1	-.6	-1.3	-1.2
Printing and publishing	27	.6	-.8	-.1	-.2	-.5	-.3	.0	-1.7	-.2	.0
Chemicals and products	28	3.8	2.2	3.0	2.0	3.5	-.1	-.4	.7	-.4	.9
Petroleum products	29	-1.5	-.6	1.9	-.2	.3	-.3	.0	1.6	-.8	-.5
Rubber and plastics products	30	3.8	3.3	4.3	2.3	1.6	-.4	-.9	-.4	-1.2	-1.5
Leather and products	31	-2.6	-2.1	-1.7	-1.9	-1.4	.1	.1	.8	.9	1.0
Mining		-1.2	-.6	.7	-.4	-.4	.0	.4	.8	-.4	-.2
Metal mining	10	2.5	1.8	-1.5	.9	1.2	.0	.1	-1.2	-.1	.2
Coal mining	12	-.3	1.4	4.3	-.9	.8	-1.2	.3	3.2	-2.0	-.2
Oil and gas extraction	13	-1.8	-1.6	-.2	-.8	-1.1	.3	.3	.4	.0	-.2
Stone and earth minerals	14	.0	1.9	1.0	1.9	1.8	-.5	1.0	-.5	-1.1	-.7
Utilities		1.4	.8	1.2	1.8	2.1	.3	.2	.8	.8	.7
Electric	491,3pt	1.5	1.4	1.0	2.2	2.6	.0	.7	.6	1.1	1.0
Gas	492,3pt	.0	.2	.4	.5	.7	.0	.0	-.1	-.2	-.3
SPECIAL AGGREGATES											
Total excluding:											
Computer and office equipment		1.7	1.5	2.5	2.8	3.0	-.2	-.3	-.1	-.2	-.1
Manufacturing excluding:											
Computer and office equipment		1.9	1.7	2.7	3.1	3.3	-.3	-.4	-.3	-.3	-.1

1. Growth rates are calculated as the percent change in the seasonally adjusted index from the fourth quarter of the previous year to the fourth quarter of the year specified in the column heading.

Note—Primary processing manufacturing includes textile mill products, paper and products, industrial chemicals, synthetic materials, and fertilizers, petroleum products, rubber and plastics products, lumber and products, primary metals, fabricated metals, and stone, clay, and glass products. Advanced processing manufacturing includes foods, tobacco products, apparel products, printing and publishing, chemical products and other agricultural chemicals, leather and products, furniture and fixtures, industrial and commercial machinery and computer equipment, electrical machinery, transportation equipment, instruments, and miscellaneous manufactures.

Table 8
REVISED AND EARLIER CAPACITY UTILIZATION RATES, BY INDUSTRY GROUPS

Percent of capacity, seasonally adjusted

Item	SIC	Revised rate						Difference between revised and earlier rates (percentage points)		
		1967-1995 Ave.	1988-1989 High	1990-1991 Low	1994 Q4	1995 Q4	1996 Q4	1994 Q4	1995 Q4	1996 Q4
Total index		82.0	85.3	78.1	84.4	83.2	83.2	-.3	.2	-.2
Manufacturing		81.1	85.7	76.6	84.0	82.3	82.2	-.3	.2	-.1
Primary processing		82.0	88.9	77.8	88.7	86.2	86.4	-.6	.1	-.1
Advanced processing		80.6	84.2	76.1	81.9	80.5	80.4	-.2	.2	-.2
Durable		79.3	84.5	73.2	83.5	82.0	81.6	-.4	.3	-.1
Lumber and products	24	82.6	93.6	75.5	86.6	84.7	84.5	-4.0	-2.8	-2.6
Furniture and fixtures	25	81.7	86.6	72.5	83.8	81.3	82.0	-2.1	-.1	.3
Stone, clay, and glass products	32	77.9	83.6	69.7	80.7	79.3	79.5	-.1	-.2	.0
Primary metals	33	80.1	92.7	73.7	93.6	91.1	90.8	-1.7	-.7	-.1
Iron and steel	331,2	80.0	95.2	71.8	93.5	90.7	89.3	-1.4	-.2	-2.1
Raw steel		79.7	92.7	71.5	94.8	92.5	89.7	-.7	-.8	2.4
Nonferrous	333-6,9	80.5	89.3	74.2	93.9	91.8	92.7	-1.9	-1.2	2.5
Fabricated metal products	34	77.7	82.0	72.2	85.8	84.3	84.6	1.0	.5	-.2
Industrial machinery and equipment	35	80.9	85.4	72.4	88.0	90.2	89.1	.8	2.1	-1.2
Computer and office equip.	357	80.9	86.9	66.9	82.2	89.7	91.0	-.3	1.1	-5.4
Electrical machinery	36	80.8	84.0	75.1	87.8	87.3	80.3	.1	1.7	3.1
Semiconductors	3672-9	79.4	81.0	75.5	87.3	88.2	78.6	1.9	2.2	4.7
Transportation equipment	37	76.0	85.8	68.5	76.0	69.4	72.2	-1.3	-1.6	-2.8
Motor vehicles and parts	371	76.6	89.1	55.9	82.5	74.7	69.5	-2.5	-3.7	-7.6
Autos and light trucks ¹			92.2	53.3	85.1	77.7	76.0	-.1	-2.6	-4.2
Aerospace and misc.	372-6,9	75.7	87.3	79.2	68.1	62.5	75.7	.4	1.4	3.6
Instruments	38	82.1	81.4	77.2	77.2	77.6	79.9	-.8	-.2	.7
Miscellaneous	39	75.1	79.0	71.7	78.0	77.6	78.5	2.2	4.3	6.7
Nondurable		83.5	87.3	80.7	84.7	82.6	82.9	-.1	.3	-.1
Foods	20	83.1	85.4	82.7	82.5	81.5	81.7	-.4	-.3	-.5
Textile mill products	22	85.6	90.4	77.7	92.2	83.6	83.3	1.6	1.3	1.0
Apparel products	23	81.4	85.1	75.5	86.3	77.5	74.5	5.1	5.1	4.5
Paper and products	26	89.3	93.5	85.0	93.1	89.0	88.8	-.8	.8	1.4
Printing and publishing	27	86.2	91.7	79.6	82.3	81.4	82.8	.3	1.0	1.4
Chemicals and products	28	79.6	86.2	79.3	79.2	78.9	79.0	-1.5	-1.8	-3.5
Petroleum products	29	85.8	88.5	85.1	91.2	91.7	94.3	-1.6	-.6	-.5
Rubber and plastics products	30	84.5	89.6	77.4	93.5	91.0	92.1	-.3	.8	1.6
Leather and products	31	81.7	83.3	76.1	78.6	73.0	71.5	-6.2	-6.2	-5.7
Mining		87.3	86.8	86.1	88.7	88.0	91.8	-.6	.2	-.3
Metal mining	10	77.9	89.4	79.9	84.5	87.7	86.8	.1	-2.6	.6
Coal mining	12	87.0	91.5	83.4	84.4	84.9	87.6	-2.2	1.9	-2.9
Oil and gas extraction	13	88.3	86.6	87.5	89.8	88.3	92.9	-.4	.0	.0
Stone and earth minerals	14	84.9	89.1	79.4	92.7	91.2	94.5	2.4	1.6	2.5
Utilities		87.1	92.6	83.4	86.4	90.4	88.9	-.6	-1.1	-2.8
Electric	491,3pt	88.9	95.0	87.1	89.1	91.8	90.5	-.4	-1.2	-2.7
Gas	492,3pt	82.3	85.0	67.1	77.2	85.2	82.8	-1.1	-.7	-3.0
SPECIAL AGGREGATES										
Total excluding:										
Computer and office equipment		82.1	85.4	78.2	84.5	83.0	83.0	-.2	.3	.2
Manufacturing excluding:										
Computer and office equipment		81.1	85.8	76.8	84.1	82.1	81.9	-.1	.5	.5

1. Series begins in 1977.

Note—The "high" columns refer to periods in which utilization in most industries peaked; the "low" columns refer to recession years in which utilization generally bottomed out. The monthly highs and lows are specific to each series, and all did not occur in the same month.

Table 9
VALUE ADDED AND ANNUAL PROPORTIONS IN INDUSTRIAL PRODUCTION, BY INDUSTRY GROUPS

Item	SIC	Previous			Revised			
		1992 value-added proportion	1994 IP proportion	1995 IP proportion	1992 value-added proportion	1994 IP proportion	1995 IP proportion	1996 IP proportion
Total index		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing		85.4	86.2	86.5	85.4	86.6	86.6	86.4
Primary processing		26.6	26.7	26.3	26.5	28.2	28.3	27.7
Advanced processing		58.9	59.6	60.1	58.9	58.4	58.4	58.7
Durable		45.0	47.2	48.1	45.0	46.3	46.5	46.8
Lumber and products	24	2.0	2.0	1.9	2.0	2.2	2.0	2.1
Furniture and fixtures	25	1.4	1.4	1.4	1.4	1.4	1.3	1.3
Stone, clay, and glass products	32	2.1	2.0	2.0	2.1	2.2	2.1	2.1
Primary metals	33	3.1	3.2	3.2	3.1	3.6	3.6	3.5
Iron and steel	331,2	1.7	1.8	1.8	1.7	2.0	1.9	1.9
Raw steel		.1	.1	.1	.1	.1	.1	.1
Nonferrous	333-6,9	1.4	1.4	1.4	1.4	1.6	1.7	1.6
Fabricated metal products	34	5.0	5.1	5.1	5.0	5.2	5.3	5.3
Industrial machinery and equipment	35	8.0	9.2	10.1	8.0	8.6	9.1	9.5
Computer and office equip.	357	1.8	2.5	3.3	1.8	1.7	2.1	2.5
Electrical machinery	36	7.2	8.2	9.1	7.3	7.7	8.3	8.6
Semiconductors	3672-9	2.6	3.3	4.0	2.6	4.2	4.6	4.8
Transportation equipment	37	9.5	9.5	9.1	9.5	9.3	8.6	8.4
Motor vehicles and parts	371	4.8	5.7	5.6	4.9	5.4	5.1	4.8
Autos and light trucks		2.5	3.0	2.9	2.6	2.7	2.4	2.3
Aerospace and misc.	372-6,9	4.7	3.8	3.5	4.6	3.8	3.5	3.6
Instruments	38	5.4	5.0	4.9	5.4	5.0	4.8	4.7
Miscellaneous	39	1.3	1.4	1.3	1.3	1.3	1.3	1.3
Nondurable		40.5	39.1	38.3	40.4	40.3	40.2	39.5
Foods	20	9.4	9.1	9.0	9.4	9.3	9.3	9.4
Tobacco products	21	1.6	1.4	1.4	1.6	1.2	1.2	1.2
Textile mill products	22	1.8	1.8	1.7	1.8	1.8	1.7	1.6
Apparel products	23	2.2	2.1	1.9	2.2	2.1	1.9	1.8
Paper and products	26	3.6	3.6	3.5	3.6	3.7	3.7	3.3
Printing and publishing	27	6.8	6.3	6.1	6.7	6.6	6.5	6.5
Chemicals and products	28	9.9	9.5	9.5	9.9	10.0	10.2	10.1
Petroleum products	29	1.4	1.4	1.3	1.4	1.6	1.6	1.8
Rubber and plastics products	30	3.5	3.8	3.7	3.5	3.8	3.8	3.8
Leather and products	31	.3	.2	.2	.3	.2	.2	.2
Mining		6.9	6.3	6.1	6.9	5.9	5.6	5.6
Metal mining	10	.5	.4	.4	.5	.5	.5	.4
Coal mining	12	1.0	1.0	1.0	1.0	.9	.9	.9
Oil and gas extraction	13	4.8	4.4	4.2	4.8	3.9	3.7	3.7
Stone and earth minerals	14	.6	.6	.6	.6	.6	.6	.6
Utilities		7.7	7.4	7.4	7.7	7.5	7.7	8.0
Electric	491,3pt	6.1	5.9	5.9	6.2	5.9	6.0	6.3
Gas	492,3pt	1.6	1.5	1.5	1.6	1.6	1.7	1.8

Note— The IP proportion data are estimates of the industries' relative contributions to overall IP growth in the following year. For example, a 1 percent increase in durable goods manufacturing in 1997 would account for a 0.468 percent increase in total IP.

Table 10
RATES OF GROWTH IN ELECTRIC POWER USE, 1973–1996

Item	SIC	1992 Billion KWH ¹	Revised index (percent)			Difference between revised and earlier indexes (percentage points)		
			1973– 1979	1979– 1989	1989– 1996	1973– 1979	1979– 1989	1989– 1996
Total		934.1	2.4	.5	1.3	-.1	.0	.1
Utility sales to industry		835.3	2.6	.5	1.2	-.2	-.1	.2
Industrial generation		98.8	-1.6	1.0	2.4	2.8	1.7	1.1
MAJOR INDUSTRY GROUPS								
Manufacturing		854.0	2.2	.6	1.3	-.1	.0	.2
Durable		365.8	1.9	.1	.6	.1	.0	.1
Nondurable		488.3	2.5	1.0	2.0	-.2	-.1	.2
Mining		80.1	5.6	.4	1.0	-.2	.2	.0
INDUSTRY GROUPS								
Chemicals and products	28	171.7	2.4	-.5	1.5	-.5	-.5	.0
Primary metals	33	150.9	1.9	-1.8	-.6	.3	.1	.0
Paper and products	26	113.3	3.2	2.7	1.6	.6	.5	-.1
Foods	20	58.8	2.7	2.4	2.6	-.3	.0	.1
Petroleum products	29	47.0	3.5	1.9	2.9	.1	1.3	1.5
Transportation equipment	37	39.6	.4	2.0	.6	.1	.3	.4
Rubber and plastics products	30	38.0	4.8	3.0	4.3	.0	-.5	.0
Oil and gas extraction	13	36.0	3.1	.5	.2	.2	-.1	.2
Stone, clay, & glass products	32	33.8	2.7	.0	1.0	.0	.1	.0
Industrial machinery & equipment	35	33.2	3.1	1.8	.6	.2	-.1	-.2
Electrical machinery	36	33.0	1.4	1.6	2.2	.1	-.3	.8
Textile mill products	22	31.5	.4	1.0	1.4	.0	.0	.1
Fabricated metal products	34	31.4	2.1	1.4	1.4	-.5	-.4	.2
Lumber and products	24	19.8	2.3	2.0	2.5	-2.2	-1.2	-.1
Metal mining	10	18.6	9.3	.1	2.9	-.3	1.0	-.5
Printing and publishing	27	17.3	2.2	4.9	2.6	-.7	-.2	-.1
Instruments	38	13.7	2.3	4.7	.8	.0	.0	1.3
Stone and earth minerals	14	12.8	4.5	-.1	1.4	-.7	.2	-.4
Coal mining	12	12.7	7.6	1.2	-.2	.1	-.3	.3
Apparel products	23	8.2	-1.9	.7	.0	-3.1	-1.7	-.5
Furniture and fixtures	25	6.0	1.0	3.3	1.8	-1.0	.2	-.4
Miscellaneous manufactures	39	4.5	2.3	1.0	4.1	-.6	-.1	-.6
Tobacco products	21	1.5	2.5	1.9	.5	2.3	2.4	-3.0

1. Billions of kilowatt hours sold in 1992 to each category as reported by the Bureau of the Census.
 Note— Growth rates are calculated as the average annual percent change from the first to the last period indicated.
 1996 estimate is average through November.