

FEDERAL RESERVE statistical release



G.17 (419) 2005 Historical and Annual Revision

**For release at 10:00 a.m. (EST)
November 7, 2005**

Industrial Production and Capacity Utilization: The 2005 Annual Revision

The Federal Reserve has revised the index of industrial production (IP) and the related measures of capacity and capacity utilization for the period from January 1972 through September 2005. Overall, the revisions to the rates of change for total industrial production are small. Measured from fourth quarter to fourth quarter, industrial output is now reported to have contracted a bit more in 2001 and to have increased slightly faster in 2002, 2003, and 2005 than previously reported.¹ The upward revisions to 2003 and 2005 were relatively small; the gain in 2004 is the same as stated earlier.

In addition to the revisions to the monthly data for IP and capacity utilization starting in 1972, all production and capacity indexes are now expressed as percentages of output in 2002; previously, the comparison base year was 1997. The rebasing affects all series from their start dates: 1919 for total IP and manufacturing IP, 1948 for manufacturing capacity, and 1967 for total industrial capacity.

As of the third quarter of 2005, the rate of industrial capacity utilization—the ratio of production to capacity—was a little higher than previously stated; at 79.8 percent, the rate was 1.2 percentage points below the 1972–2004 average.² For the fourth quarter of 2004, capacity utilization was revised up 0.6 percentage point, to 79.4 percent.³ Upward revisions to the operating rates for manufacturing and mining more than offset a downward revision to the operating rate for utilities.

The revision indicates that industrial capacity increased at a faster rate in 2001, 2002, and 2005 than reported earlier. The rate of change for 2003 was unrevised, and the current estimates for 2004 point to a slower expansion than reported earlier.

The updated measures of production and capacity reflect the incorporation of newly available, more-comprehensive source data and improved methods for compiling a few series. The new annual source data are generally for 2003 and 2004, and the modified methods affect indexes largely from 1997 forward.

The revision introduces a change in the underlying source data for series that had been based primarily on electric power usage. The monthly indicators for these series have been changed to production-worker hours for the period from 1997 forward.

The statistical revisions to the IP index were principally derived from the inclusion of information contained in annual reports issued by the Bureau of the Census—namely, the 2003 Annual Survey of Manufactures, the revised 2002 Census of Manufactures, and selected 2004 Current Industrial Reports. New government source data include annual data on minerals for 2003 and 2004 from the U.S. Geological Survey (USGS) and updated deflators from the Bureau of Economic Analysis. In addition, the new monthly production estimates reflect updated seasonal factors and monthly source data that became available (or were revised) after the closing of the regular four-month reporting window.

-
1. The increase in 2005 is measured as the change in the third quarter relative to the fourth quarter of 2004.
 2. These comparisons use quarterly average data.
 3. The fourth quarter of 2004 is the most recent quarter of available survey data on capacity utilization.

The capacity indexes and capacity utilization rates incorporate the revised production indexes, results from the Census Bureau's 2004 Survey of Plant Capacity for the fourth quarter of the year, and newly available data on industrial capacity from the USGS, the Energy Information Agency of the U.S. Department of Energy, and other organizations.

RESULTS OF THE REVISION

The tables show the summary statistics for the annual revision. Tables 1.A and 1.B show the monthly, quarterly, and annual average levels and rates of change for industrial production and for capacity for 1975 through 2005. Tables 2 and 3 show the revised rates of change of industrial production for market groups, industry groups, special aggregates, and selected detail for 2001 through 2005. Table 4 shows the annual average rates of change for selected detail in industrial production. Table 5 shows the revised figures for capacity. Tables 2–5 also show the difference between the revised and earlier rates of change. Table 6 shows revised utilization rates for the final quarters of recent years (the third quarter was used for 2005) and the difference between revised and previous rates. Tables 7.A, 7.B, 8.A, 8.B, 9.A, and 9.B report the revised production, capacity, and utilization series for manufacturing, for total industry excluding selected high-technology industries, and for manufacturing excluding selected high-technology industries.

Industrial Production

The revision indicates that the overall path of industrial production is much the same as stated earlier. Relative to previous reports, the current estimates for manufacturing IP indicate a marginally steeper decline in 2001 (measured from the fourth quarter of the preceding year to the fourth quarter of the year indicated) and a faster increase in 2002. The increases in 2003, 2004, and 2005 were little changed from earlier estimates.

On an annual average basis (table 4), manufacturing production was unrevised in 2001 and 2004. Manufacturing output in 2002 and 2003 was revised upward about 1/2 percentage point per year; these increases reflect revisions to the 2002 Census of Manufactures and the incorporation of the 2003 Annual Survey of Manufactures.

Across industry groups (table 2), the revision indicates that the output of durable goods declined more in 2001 than stated earlier, but since then it has risen at a faster pace. The overall contour of this index shows solid gains for the past few years—on average more than 5 percent per year from 2002 forward. All major durable goods industries posted gains in 2004, and many showed continued strength in 2005. Primary metals was the only industry with a notable decrease in production so far this year.

Overall, the index for nondurable manufacturing is little changed from earlier estimates. The output of nondurables declined notably in 2001 and advanced strongly in 2004; the swings in other recent years were less pronounced. On balance, the output indexes for textile and product mills and for apparel and leather have registered sharp declines in recent years, whereas the indexes for food, beverage, and tobacco products; petroleum and coal products; chemicals; and plastics and rubber products all posted gains.

Regarding a few special aggregates (table 3), the revision shows little change to the aggregate for selected high-technology industries—computers and peripheral equipment, communications equipment, and semiconductors and related electronic components. However, the small revisions to the aggregate mask somewhat larger revisions to each of the components. The production of computers is now estimated to have declined in 2002 and to have risen less in 2003 and 2004 than was reported earlier; the output gain in 2005 is nearly the same as earlier estimates. For communications equipment, the revision shows a steeper drop in production in 2002 and a more moderate recovery in 2003 than previously stated; output is now estimated to have risen more rapidly in 2004 and 2005. The index for semiconductors has risen rapidly since a small decline in 2001; the revision shows a slower increase in 2004 than reported earlier but a more rapid increase in other recent years, particularly in 2003.

Production by Market Group

Among major market groups, the revision shows little change in the production index for final products and nonindustrial supplies for recent years; this index declined in 2001, posted moderate gains in 2002 and 2003, and increased more rapidly in 2004 and 2005. Overall, the revisions to consumer goods were small for recent years, and the index still shows a general climb since dropping back in 2001. Most of the revisions within consumer goods were small;

however, new data yielded a notable downward revision to home electronics for 2003, which resulted in less of an increase than stated earlier.

The production of business equipment is now reported to have been somewhat weaker, on balance, in the 2001–05 period than in earlier estimates; a downward revision to information processing equipment is largely responsible for the lower 2003 estimate. The index declined in 2001 and 2002 but has risen since then. Production of defense and space equipment has increased in recent years, particularly in 2004 and 2005; however, the revision indicates smaller gains in 2002 and 2005 than stated previously and a larger gain in 2004. The indexes for construction and business supplies were revised little for recent years; output in these two market groups dropped in 2001 but has risen in each year since. From 2002 through 2004, the gains in the output of materials were revised up about 0.7 percentage point per year; 2005 showed a smaller upward revision, and 2001 showed a downward revision of 1/2 percentage point. Production of materials has advanced in every year since the end of 2001; the largest increases were in 2002 and 2004. The production of non-energy materials was revised up, overall, in the 2001–05 period; within this group, the index for durable materials was revised a bit more than the index for nondurable materials. The output of energy materials was nearly unchanged for 2001–03; the index was revised up a bit in 2004 and down a similar amount in 2005.

Capacity

The revision did not change the overall contour of manufacturing capacity. Capacity still shows a rapid acceleration in the second half of the 1990s, followed by a deceleration through 2004 (including a small decline in 2003) and a moderate pickup in 2005. The expansion in 2004 is now reported to have been less than estimated earlier, and the increase in 2005 is somewhat stronger. Among selected high-technology industries, the revision suggests a slower expansion of capacity in 2003 and 2004 than reported earlier; however, for 2005, high-technology capacity expanded more rapidly than stated previously—20.8 percent.

Capacity in mining is now estimated to have decreased in each of the past four years and has declined, on balance, more than previously estimated. In contrast, capacity at electric and gas utilities accelerated sharply from 2001 to 2004 and flattened out in 2005; the current estimates for 2005 are lower than previously reported.

By stage of process, capacity in the crude stage, which has contracted since 2001, is now estimated to have been somewhat weaker, on balance, in the 2001–05 period than reported earlier. Relative to previous reports, the capacity index for the primary and semifinished stages increased more in 2001, 2002, and 2005, declined less in 2003, and increased less in 2004. Among finished goods producers, capacity expanded throughout the 2001–05 period. Relative to earlier reports, the current estimates suggest more acceleration in 2002, 2004, and 2005 and a little less in 2001; the estimates for 2003 were unrevised.

Capacity Utilization

Capacity utilization for total industry revised up in recent years, although the revisions were relatively small; for the third quarter of 2005, utilization stood at 79.8 percent, a rate 0.4 percentage point higher than previous estimates suggested but 1.2 percentage points below its long-term (1972–2004) average.

The factory operating rate reached 78.6 percent in the third quarter of 2005 after an upwardly revised reading of 78.2 percent in the fourth quarter of 2004 and an unrevised 74.7 percent in the fourth quarter of 2003. Within manufacturing, the current revision places the overall utilization rates in recent years for durable goods manufacturers somewhat higher than previously stated, especially in the fourth quarter of 2004 and the third quarter of 2005. The utilization rates for manufacturers of nondurables were relatively unchanged from earlier estimates. Capacity utilization in the other (non-NAICS) manufacturing industries is now lower than previously reported, and the recent increases are smaller than those stated earlier.

Among selected high-technology industries, utilization is now reported to have been lower in the fourth quarter of 2003 but higher in the last available quarters of 2004 and 2005. The lower estimate for 2003 is largely attributable to a downward revision to utilization in the communications equipment industry. Higher utilization rates for producers of semiconductors and related electronic components account for much of the upward revision in 2004 and 2005. Excluding these high-technology industries, capacity utilization for manufacturing is little changed.

Capacity utilization in mining was revised upward, to 88.3 in the fourth quarter of 2004 and to 86.1 in the third quarter of 2005; these estimates are, respectively, about 1 percentage point above and below the index's long-term average. Improved capacity estimates of support activities for mining accounted for much of the recent revisions. The utilization rate for electric and gas utilities in the third quarter of 2005 was little changed by the revision and stood at 87.3 percent, a rate that is 1/2 percentage point above its long-term average.

TECHNICAL ASPECTS OF THE REVISION

The revision incorporates updated comprehensive annual data and revised monthly source data used in the estimation of production, capacity, and utilization. As noted earlier, this revision includes information drawn from the 2003 Annual Survey of Manufactures. This revision also incorporates the 2004 Survey of Plant Capacity, other annual industry reports on output and capacity, recent information on prices, and revised monthly source data on physical products and on labor and electricity inputs. Along with the individual production series and seasonal factors, the annual value-added weights used in aggregating the indexes to market and industry groups were also updated.

Changes to Benchmark Indexes

The benchmark indexes for manufacturing—defined for each six-digit NAICS industry as nominal gross output divided by a price index—were updated to include new information from the 2003 Annual Survey of Manufactures (ASM) and revisions to the estimates from the 2002 Census of Manufactures.

The benchmark indexes for most industries incorporated updated price indexes from the industry output program of the Bureau of Economic Analysis (BEA). One exception is the benchmark index for semiconductor manufacturing. For this industry, the Federal Reserve constructs a price index from alternate sources. This price index falls faster than the BEA index, so the Federal Reserve's measure of real output in this industry rises faster than the comparable BEA measure. If the BEA price index were used in place of the Federal Reserve's index, the output of semiconductors would have risen 33 percent less, on average, per year from 1997 to 2003.

The price indexes used for most components of communications equipment are also constructed by the Federal Reserve and were updated in this revision. Quarterly price and production indexes for networking equipment (routers, switches, and hubs) are discussed below. Among non-networking equipment, industry and government sources on prices for central office equipment, fiber optic equipment, PBX equipment, consumer telecommunications equipment, and wireless infrastructure equipment were used to extend previous work through 2004.

Another change to the benchmark indexes for 2003 involved the recalculation of nominal gross output. Before the 2004 annual revision, nominal gross output for an industry was calculated as the cost of materials plus value added. In the 2004 revision, the benchmark index from 1997 to 2002 was instead calculated with gross output defined as the traditional figure less the cost of resold goods (those goods purchased by a manufacturer and then resold without any material transformation). The 2003 ASM, however, did not include detailed data for the cost of resold goods; in this revision, the nominal gross output used to compute the benchmark changes for 2003 was calculated with the traditional method.

The 2003 ASM also featured a reduction in its industry detail. Previous Annual Surveys of Manufactures reported results for every six-digit NAICS industry (473 in manufacturing under the 2002 NAICS). For 2003, however, the reports combined 239 of those six-digit industries into 88 higher-level industry aggregates. The benchmark indexes for manufacturing IP are calculated from gross output for six-digit industries and then aggregated to the IP industry level (210 industries, each one comprising one or more six-digit NAICS industries) using proportions based on value added. To maintain benchmark references that were consistent over time, the Federal Reserve imputed estimates of gross output and value added for those six-digit industries that were dropped from the ASM. For each unreported industry, the imputations were based on values for the aggregate industry that contained it and the shares of the unreported industry in the aggregate in 2002.

The loss of the detail in the ASM probably had only a small effect on the IP industry benchmarks. All but eight of the IP industries are entirely composed of industries or industry combinations that were reported in the ASM. The other eight industries, which constitute about 3 percent of total IP, are all six-digit NAICS industries, so any effects of the imputation of nominal gross output would mostly cancel out at the five-digit NAICS industry level.

Changes to Individual Production Series

With this revision, the monthly production indicators for some series have changed. The source data for production indexes for the following twenty industries, which constituted 10.9 percent of IP in 2004, have been changed from electric power use to production-worker hours for 1997 to the present:

1. Fruit and vegetable preserving and specialty food (NAICS 3114)
2. Other food (31193-9)
3. Leather and hide tanning and finishing (3161)
4. Printing (32311)
5. Soap, cleaning compound, and toilet preparations (3256)
6. Other chemical product and preparations (3259)
7. Rubber and plastics hoses and belting (32622)
8. Other rubber products (32629)
9. Other pressed and blown glass and glassware (327212)
10. Glass product made of purchased glass (327215)
11. Lime (32741)
12. Other nonmetallic mineral products (3279)
13. Ferrous metal foundries (33151)
14. Hardware (3325)
15. Machine shops; turned product; and screws, nuts, and bolts (3327)
16. Air purification equipment, fans, and blowers (333411, 2)
17. Electric lighting equipment (3351)
18. Electrical equipment (3353)
19. Other electrical equipment (33593, 9)
20. Office furniture (including fixtures) (3372)

The decision to switch the monthly indicators for these series resulted from deterioration in the sample of utilities that report for these industries. The IP indexes no longer contain any series that are based on electric power use as their monthly indicator for the period 1997 to the present.

The IP indexes based on product data usually reflect measures of production, but some have been based on manufacturers' shipments (the implicit assumption being that the factory inventories do not change). In this revision, the procedure that was introduced in the 2004 annual revision for estimating inventories of the machine tool industry was expanded to the following twenty-one industries (with a total weight in IP of 6.6 percent in 2004), for which shipments are the high-frequency indicator:

1. Corn syrup and starch (NAICS 311221 pt.)
2. Reconstituted wood products (321219)
3. Paperboard containers (32221)
4. Pharmaceutical preparations (325412)
5. Cement (32731)
6. Aluminum foundries (331521,4)
7. Metal cans, boxes, and other metal containers (light gauge) (33243)
8. Burners and other parts (333414 pt.)
9. Boilers, heaters, and furnaces (333414 pt.)
10. Warm air furnaces (333415 pt.)
11. Electron tubes (334411)
12. Electric housewares and household fans (335211)
13. Household vacuum cleaners (335212)
14. Electric water heaters (335228 pt.)
15. Gas water heaters (335228 pt.)
16. Storage batteries (335911)
17. Truck trailers (336212)
18. Motor homes (336213)
19. Travel trailers and campers (336214)
20. Mattresses (33791)
21. Book publishers (51113)

This revision also incorporates new indicators based on product shipments for four industries. Previously, these industries were estimated from production-worker hours. A model-based estimate of the change in inventories is added to the index derived from shipments to compute a production index for each of the following industries:

1. Semiconductor manufacturing equipment (NAICS 333295)
2. Bare printed circuit boards (334412)
3. Printed circuit assemblies (334418)
4. Boats (336612)

The total number of individual output indexes that make up industrial production remains at 300 for the period from 1992 forward.

With this revision, the monthly indicator for semiconductor manufacturing equipment (NAICS 333295) from 1992 and forward is based on data on billings for front-end semiconductor equipment from Semiconductor Equipment and Materials International, an industry association; the billings data are deflated by the producer price index for the industry. The indicators for bare printed circuit boards (NAICS 334412) and for printed circuit assemblies (NAICS 334418) are now constructed from a weighted average of shipment indexes of flexible and rigid circuit boards (data from the IPC Association of Electronic Connecting Industries) that is deflated by a producer price index. The output indicator for boats (NAICS 336612) is derived from data from the National Marine Manufacturers Association for the period from 2002 forward; a Fisher quantity index is computed from unit shipments and values for the following types of watercraft:

1. Cruisers
2. Skiboats
3. Inflatables
4. Fiberglass outboard boats
5. Aluminum outboard boats
6. Total sterndrive boats
7. Canoes
8. Personal watercraft
9. Jet drive boats
10. Boat trailers
11. Kayaks

The new product-based production indexes constituted 1.1 percent of IP in 2004. The table below summarizes the type of data (measured as a percent of value added in 2004) available in each month of the four-month IP publication window.

The first estimate of output for a month is preliminary and is subject to revision in each of the subsequent three months as new source data become available. By the third revision (the fourth month of estimate), the product-based content of IP is 51.8 percent (see table “Availability of Monthly IP Data” below).

Availability of Monthly IP Data
(Percent of value added in 2004)

Type of data	Month of estimate			
	1st	2nd	3rd	4th
Physical product	24.8	40.4	50.7	51.8
Production-worker hours	44.9	44.9	44.9	44.9
IP data received	69.7	85.3	95.6	96.7
IP data estimated	30.3	14.7	4.4	3.3

The revision incorporates refined methods for a few series. The production indicator for boilers, heaters, and furnaces (NAICS 333414 pt.) is now based on the quarterly output of boilers (data from the Gas Appliance Manufacturers Association). The data for heaters and furnaces that were previously used to construct the index are no longer available. The production indicator for machine tools (NAICS 333512, 3) now uses producer price indexes to deflate nominal

shipments for a few of its component categories; formerly, these categories used implicit deflators that were computed as the ratio of shipment values to units from the Census Bureau's Current Industrial Report (MQ333W) on metalworking machinery.

The procedure for estimating the index for civilian aircraft was changed to better capture the occasional severe disruption to production due to labor actions. Civilian aircraft production is estimated from data on deliveries of large commercial aircraft (which account for most of the total value of commercial aircraft produced in the United States) and data on production-worker hours for the aircraft assembly industry (NAICS 336411). Every large plane completed in a month is the result of productive activity in that month and in a number of earlier months. A preliminary estimate of production is made by assuming that the production embodied in a plane occurred in the month it was delivered and in the nine previous months, with the progress toward completion higher in the last few months before the plane is completed. With this revision, the preliminary estimate of output also assumes that the amount of progress that occurred in any one month is dependent on the relative production-worker hours in that month. The implicit productivity series from the preliminary estimates is smoothed and then applied to the production-worker hour series to determine the estimate of the production indicator for IP. A correction factor to align this indicator with the benchmark index is then applied.

Networking Equipment

The 2000 revision introduced a new IP series for the production of networking equipment (routers, switches, and hubs).⁴ The series is not published in the monthly statistical release, but it is included in the broader IP aggregate for communications equipment and updated on an ongoing basis (see table "U.S. Networking Equipment" below).

Discontinuance of the Survey of Electric Power Use

The Federal Reserve is discontinuing its use of survey data of industrial electric power use.⁵ The survey was initiated in the 1960s to collect data on electricity use—which tends to be highly correlated with production in capital-intensive industries—as an alternative indicator of output. Survey data were used directly as the production indicators for industries (particularly those with highly automated assembly operations and a diverse product mix) for which product-based data were unavailable. However, by 2004, the electric power usage covered by the survey had dropped nearly 40 percent from its peak in 1993, and several regions and industries had significant gaps. As noted above, the twenty industry indexes that relied on electric power use will now use production-worker hours as the underlying source data for the period 1997 to the present.

In the future, the Federal Reserve hopes to incorporate information from the Survey of Plant Capacity (SPC) into its estimation of production indexes for capital-intensive industries. The SPC collects data on the factory workweek; like electric power use, the workweek is an indicator of the level of operations in capital-intensive industries. Currently, the SPC is collected only in the fourth quarter of the year, so there is not enough information to use it as a high-frequency indicator.

Beyond their use as a direct monthly indicator, electric power data were used in a model that extrapolates productivity in industries for which the monthly output index was based on production-worker hours. In the absence of electric power data, the model now relies on a proxy derived from survey measures of industry capacity utilization (taken from the SPC) and industry capital input measures constructed from data in the ASM.

4. Carol Corrado (2001). "Industrial Production and Capacity Utilization: The 2000 Annual Revision," Federal Reserve Bulletin, vol. 87 (March), pp.132-48.

5. The Federal Reserve is proposing to discontinue the survey itself; the public-comment period on the proposal ends November 28, 2005.

U.S. Networking Equipment, 1997 to 2004			
	Production index	Price index	Value of Production (millions of dollars)
Annual Estimates (indexes are 2002=100)			
1997	35.6	310.4	12,935.4
1998	54.5	223.9	14,329.5
1999	79.3	183.3	17,138.9
2000	107.9	163.0	20,732.7
2001	126.7	128.2	19,205.4
2002	100.0	100.0	11,809.7
2003	121.5	75.2	10,616.0
2004	173.6	57.0	10,533.8
Quarterly Estimates (indexes are 2002=100)			
1997q1	27.3	335.3	10,650.3
1997q2	31.3	300.0	11,611.0
1997q3	38.7	299.9	13,872.3
1997q4	45.0	305.3	15,609.7
1998q1	47.7	248.0	13,910.4
1998q2	54.7	219.4	15,006.8
1998q3	57.0	208.4	14,071.5
1998q4	58.7	218.4	14,401.4
1999q1	73.8	189.9	16,679.8
1999q2	79.6	173.8	17,346.7
1999q3	79.8	184.4	17,178.8
1999q4	84.2	184.8	17,378.2
2000q1	98.1	166.8	19,856.6
2000q2	107.2	153.7	20,441.8
2000q3	110.6	164.8	21,096.0
2000q4	115.7	167.0	21,463.8
2001q1	133.4	131.2	21,664.1
2001q2	124.8	130.4	19,744.9
2001q3	124.4	128.3	18,334.5
2001q4	124.4	123.6	17,014.6
2002q1	103.8	106.5	13,668.2
2002q2	97.6	103.0	11,944.9
2002q3	98.0	100.2	11,167.8
2002q4	100.5	90.7	10,440.9
2003q1	100.6	78.7	10,101.1
2003q2	118.4	81.0	11,346.0
2003q3	133.0	77.0	11,445.1
2003q4	134.0	64.2	9,522.2
2004q1	159.5	61.3	11,791.9
2004q2	162.8	59.5	10,401.3
2004q3	173.8	57.0	9,983.2
2004q4	198.3	50.0	10,021.9

Weights for Aggregation

The IP index is an annually weighted Fisher index. This revision uses information from the Census of Manufactures to obtain updated estimates of the industry value-added weights used in the aggregation of IP indexes and capacity utilization rates. The Federal Reserve derives estimates of value added for the electric and gas utility industries from annual revenue and expense data issued by other organizations. The weights for aggregation, expressed as unit value added, were estimated using the latest data on producer prices. Table 10 shows the annual value-added proportions incorporated in the IP index from 1997 through 2004.

Revised Monthly Data

This revision incorporates product data that became available after the regular four-month reporting window for monthly IP has closed. One example is the data on tobacco issued by the Department of the Treasury's Alcohol and Tobacco Tax and Trade Bureau. These data are released with too great a lag to be included with monthly IP estimates; however, the data are available for inclusion in the annual revision.

Revised Seasonal Factors

Seasonal factors for all series were reestimated using data that extend into 2005. Factors for production-worker hours—which adjust for timing, holiday, and monthly seasonal patterns—were updated with data through September 2005 and were prorated to correspond with the seasonal factors for hours aggregated to the three-digit NAICS level. The updated factors for the physical product series, which include adjustments for holiday and workday patterns, used data through at least July 2005. Seasonal factors for unit motor vehicle assemblies have been updated, and projections through June 2006 are on the Board's website at www.federalreserve.gov/releases/g17/mvsf.htm.

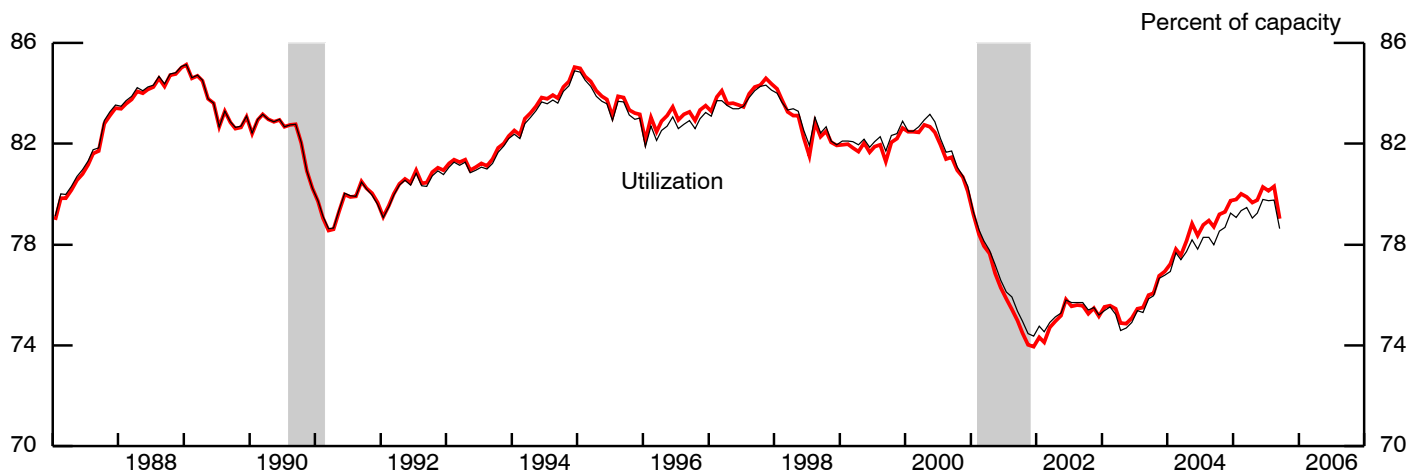
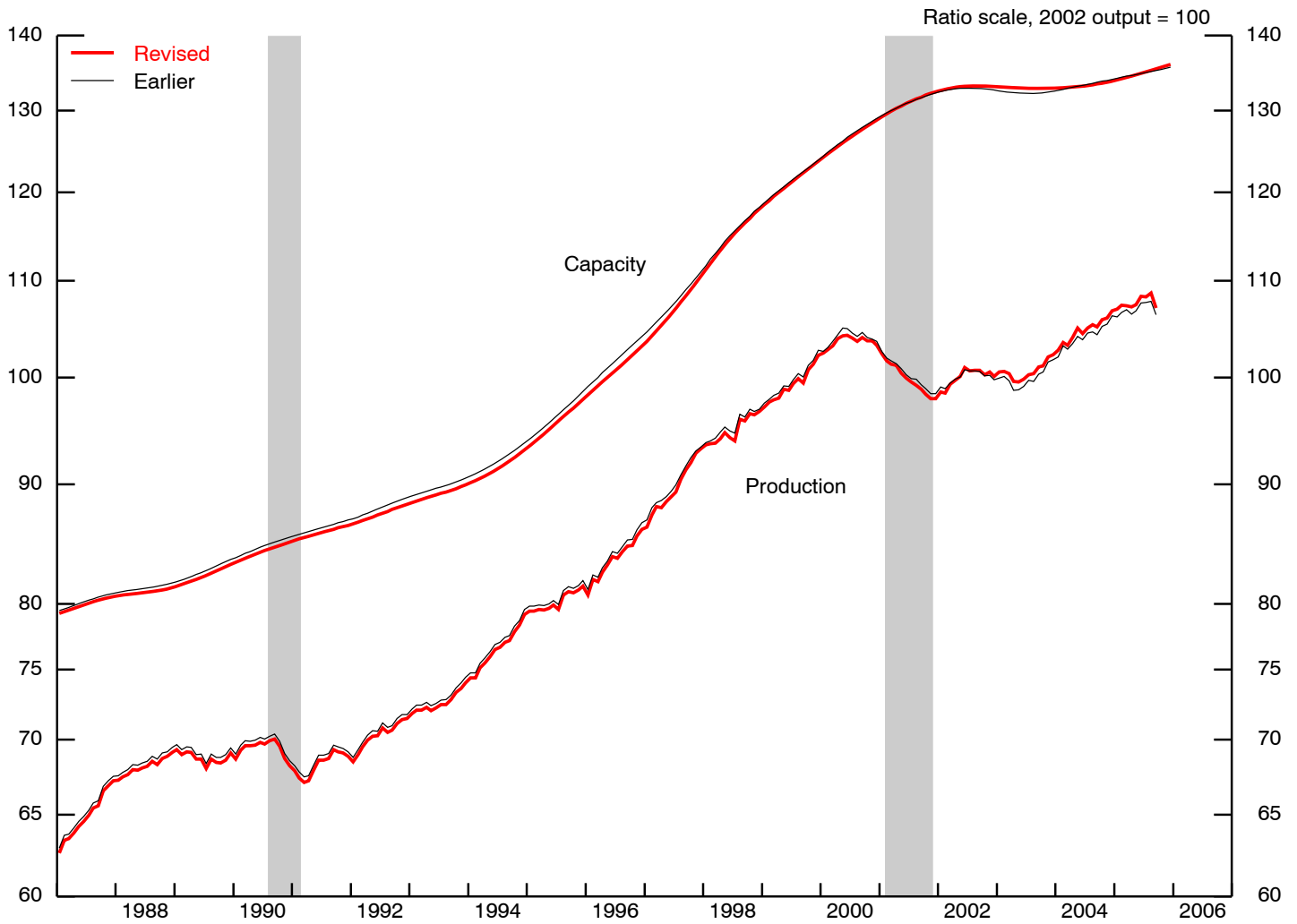
Data Availability and Publication Changes

Files containing the revised data and the text and tables from this release are available on the Board's web site, at www.federalreserve.gov/releases/g17, and on diskettes from Publications Services (telephone 202-452-3245). Updated data for all of the regularly issued series on industrial production, capacity, capacity utilization, and electric power use are available on the website. The revised data will also be available through the STAT-USA web site of the Department of Commerce (www.stat-usa.gov). Further information on these revisions is available from the Board's Industrial Output Section (telephone 202-452-3197).

A document with printed tables of the revised estimates of series shown in the G.17 release is available upon request to the Industrial Output Section, Mail Stop 82, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551.

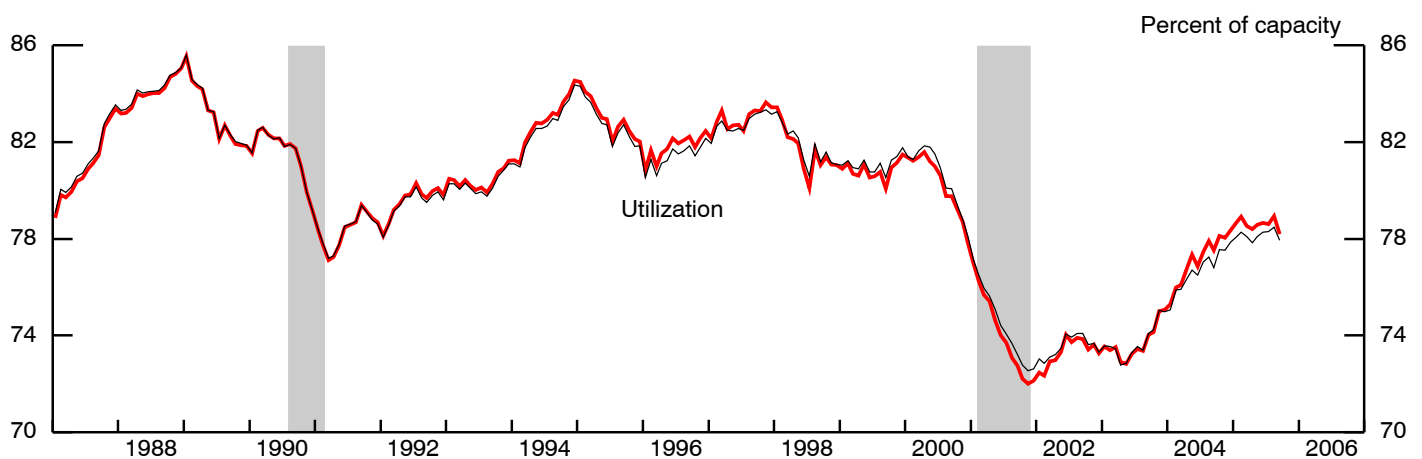
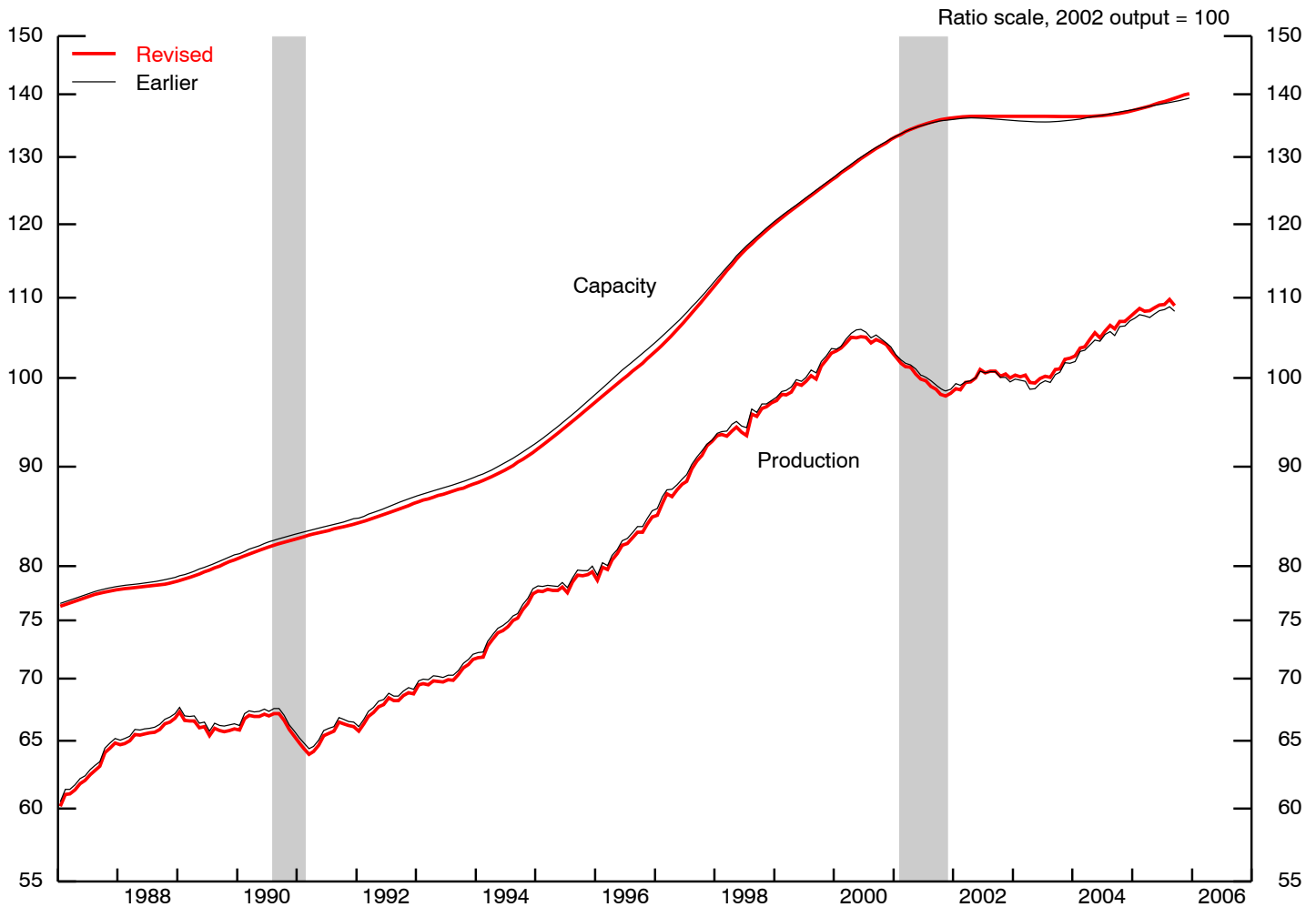
An expanded version of this release will be published in a forthcoming article in the Federal Reserve Bulletin.

1. Total industrial production, capacity, and utilization



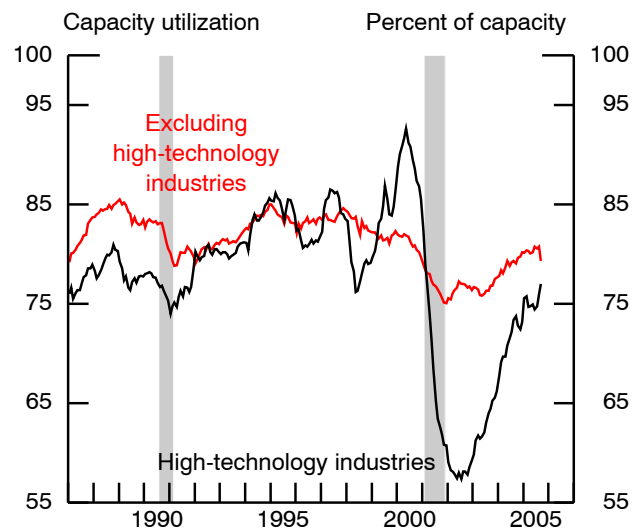
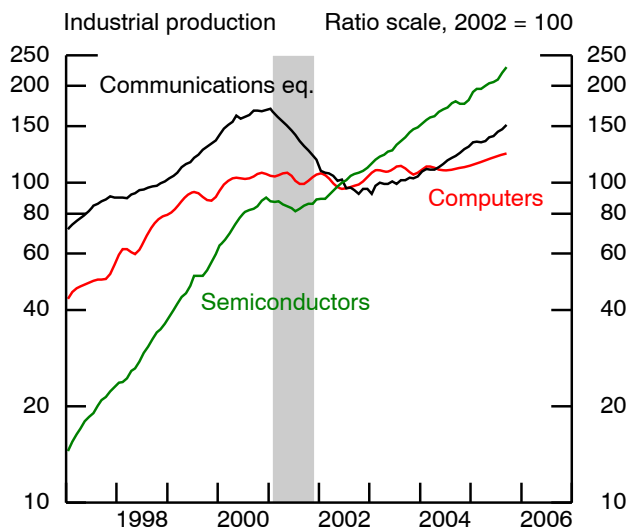
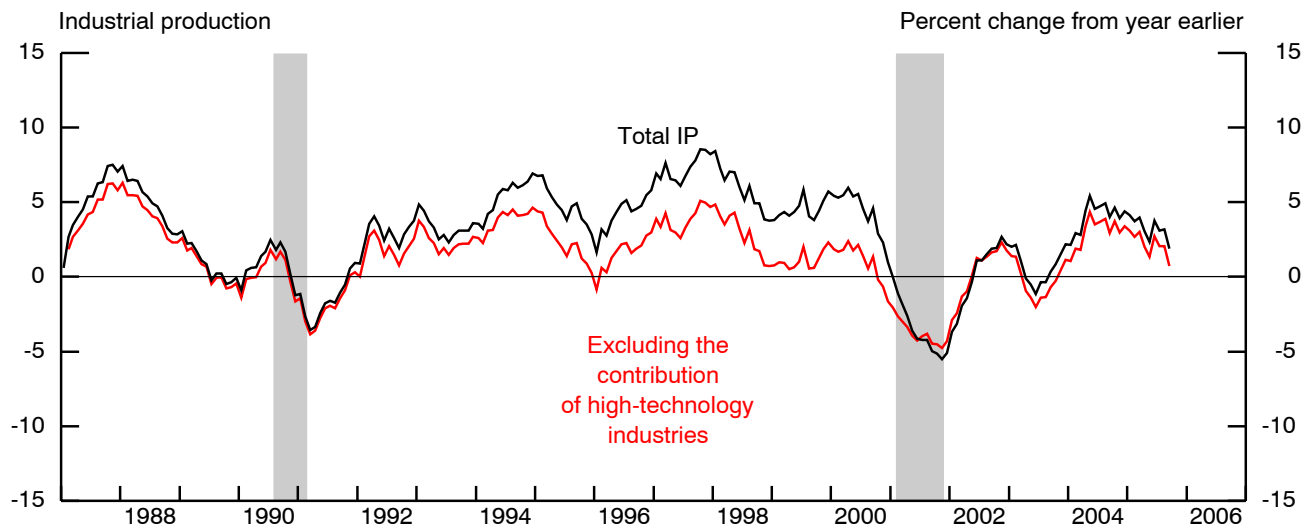
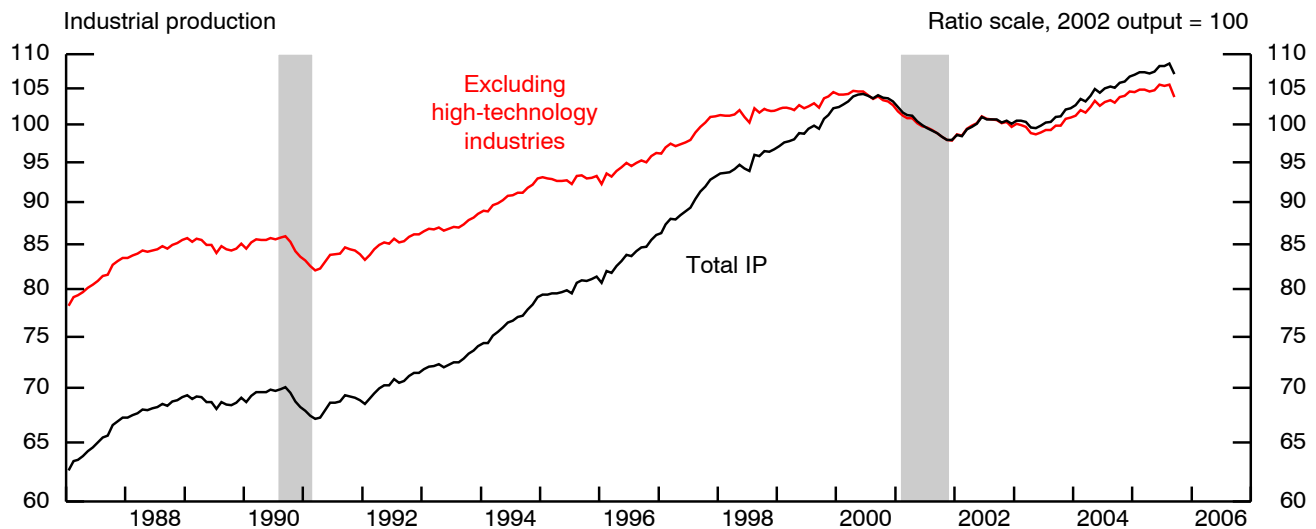
Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

2. Manufacturing industrial production, capacity, and utilization



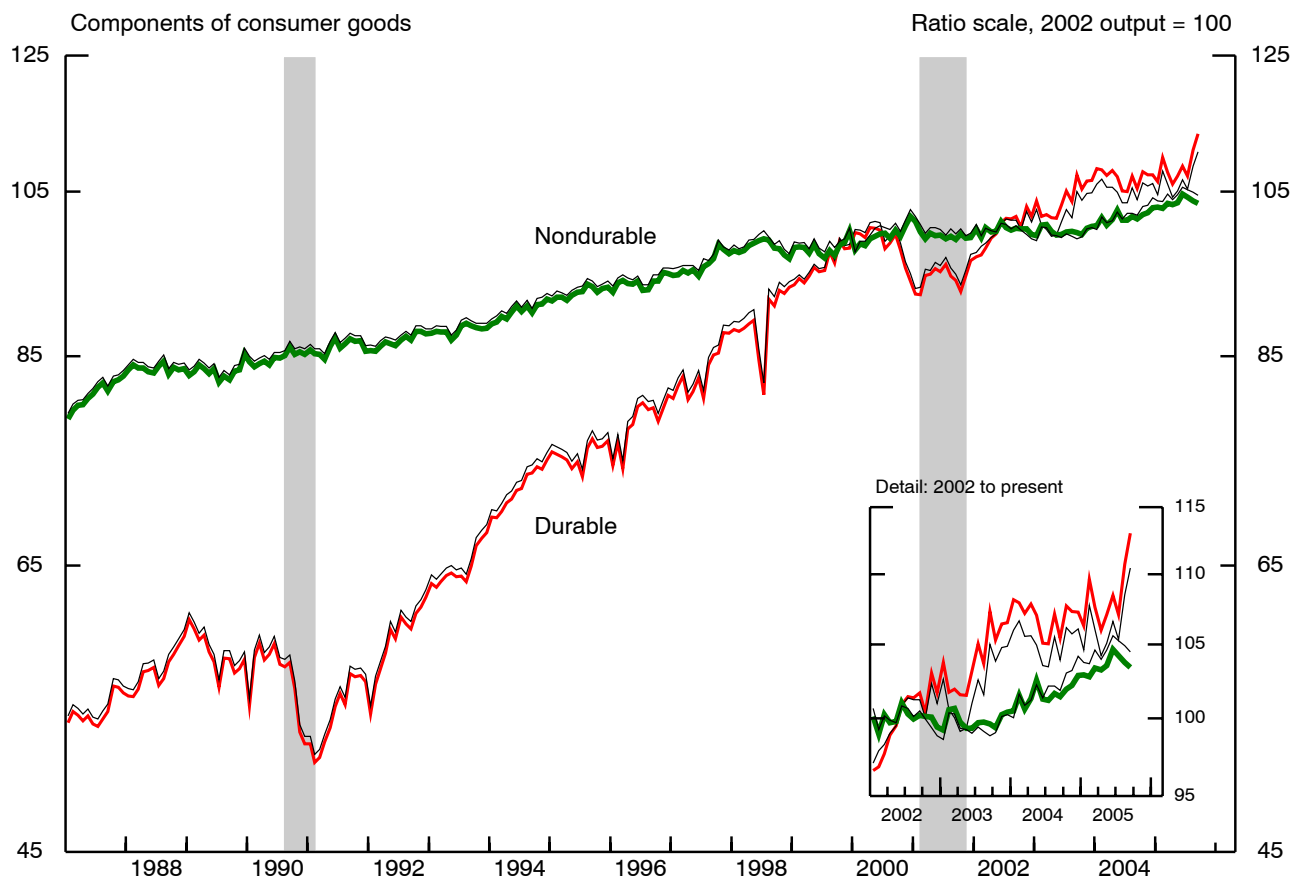
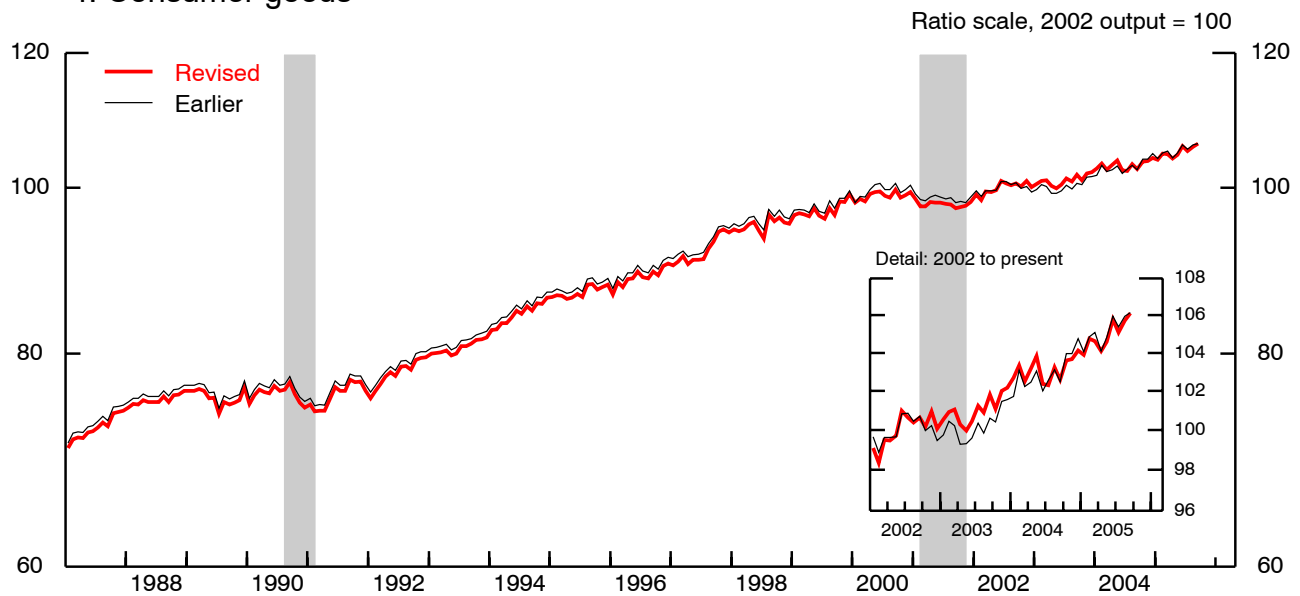
Notes: The shaded areas are periods of business recession as defined by the NBER. Manufacturing consists of those industries in the North American Industry Classification System, or NAICS, definition of manufacturing plus those industries--logging and newspaper, periodical, book and directory publishing--that have traditionally been considered to be manufacturing and included in the industrial sector.

3. Industrial production and capacity utilization



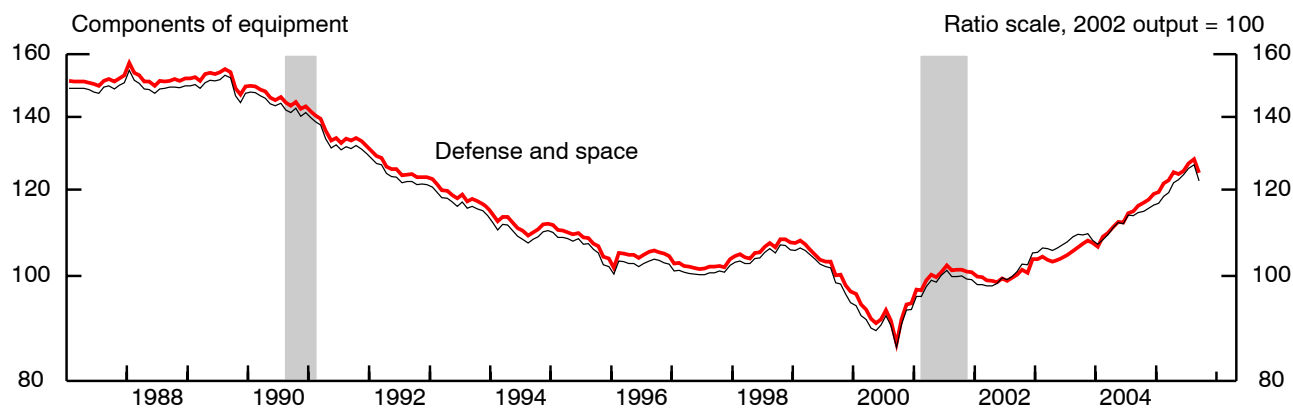
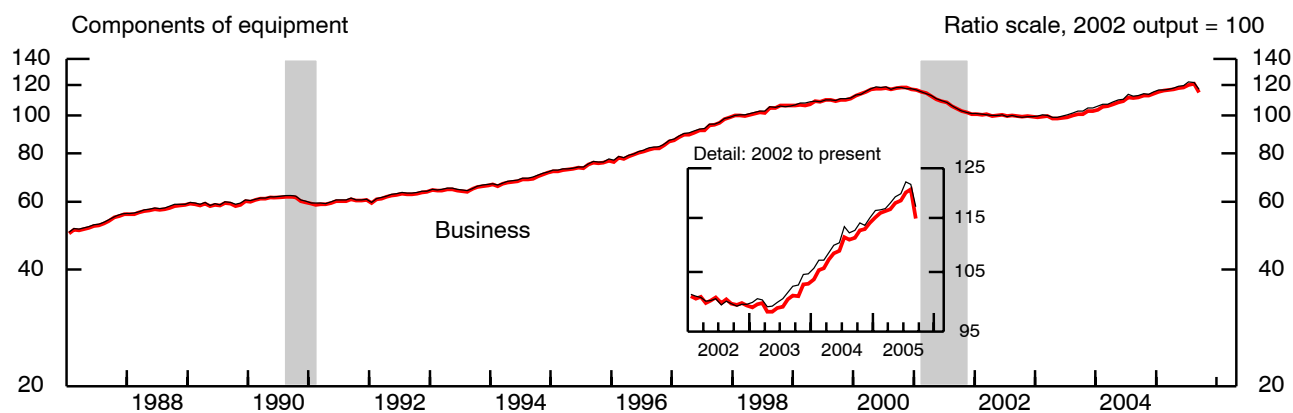
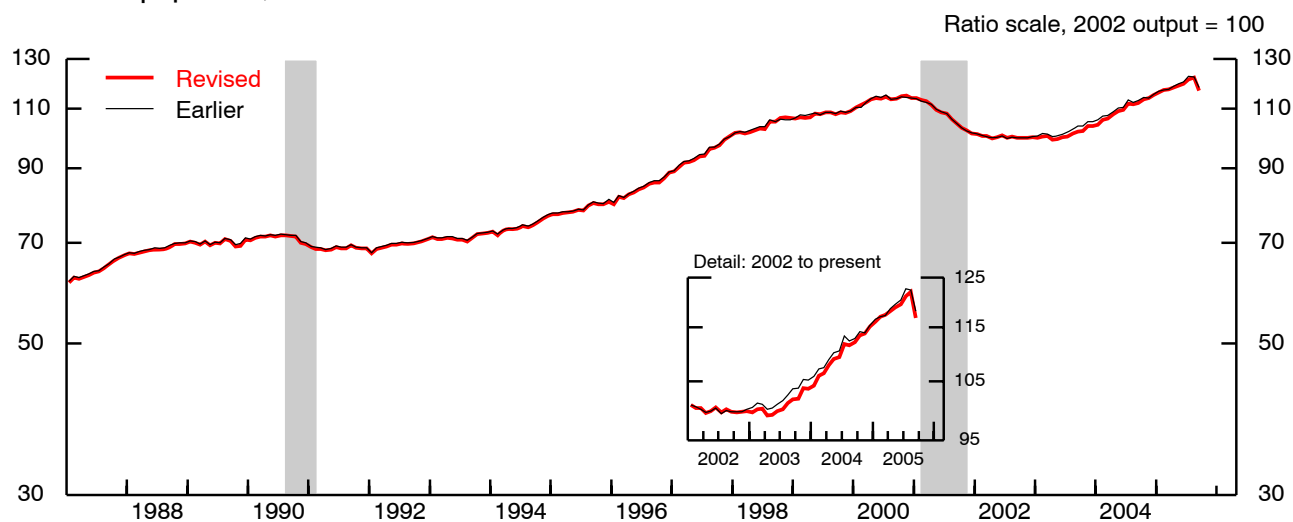
Notes: High-technology industries are defined as semiconductors and related electronic components (NAICS 334412-9), computers (NAICS 3341), and communications equipment (NAICS 3342). The shaded areas are periods of business recession as defined by the NBER.

4. Consumer goods



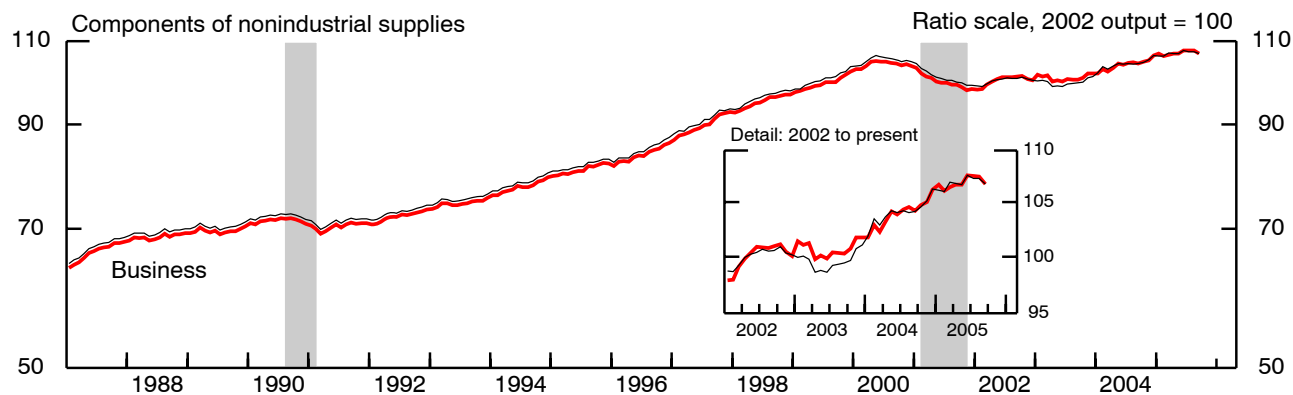
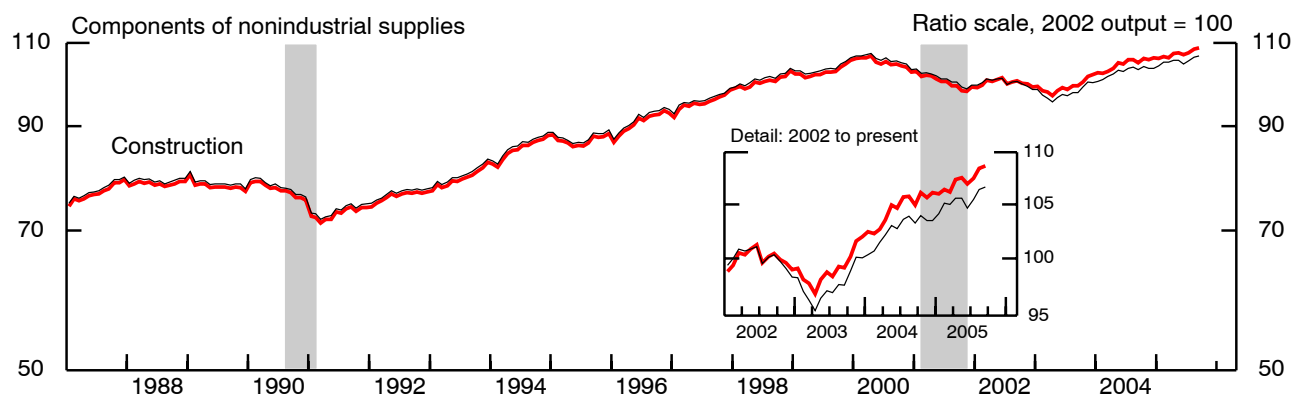
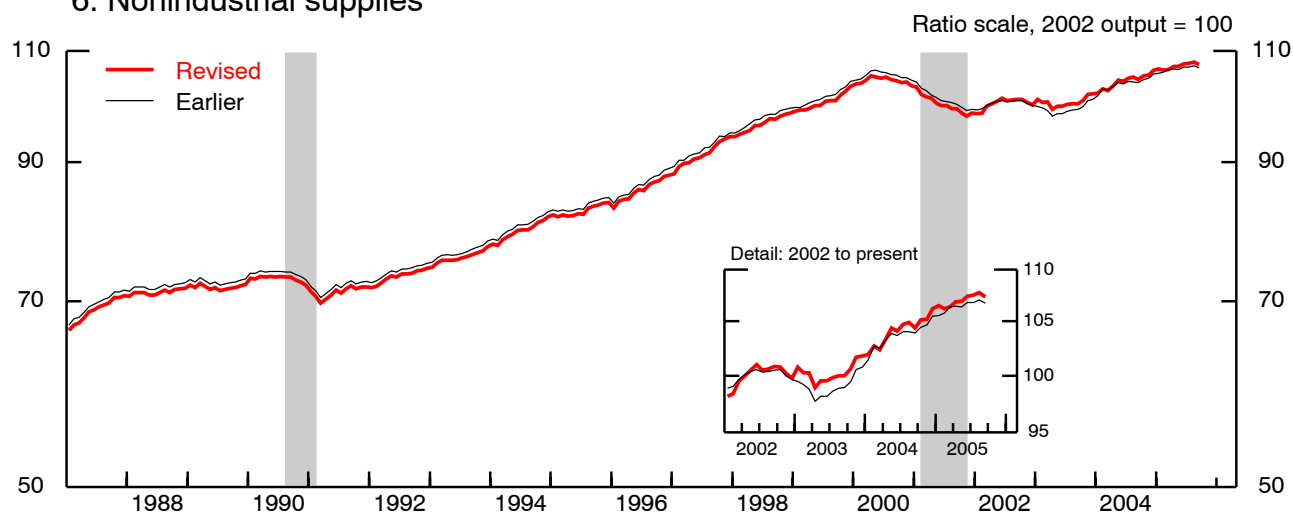
Note: The shaded areas represent periods of business recession as defined by the NBER.

5. Equipment, total



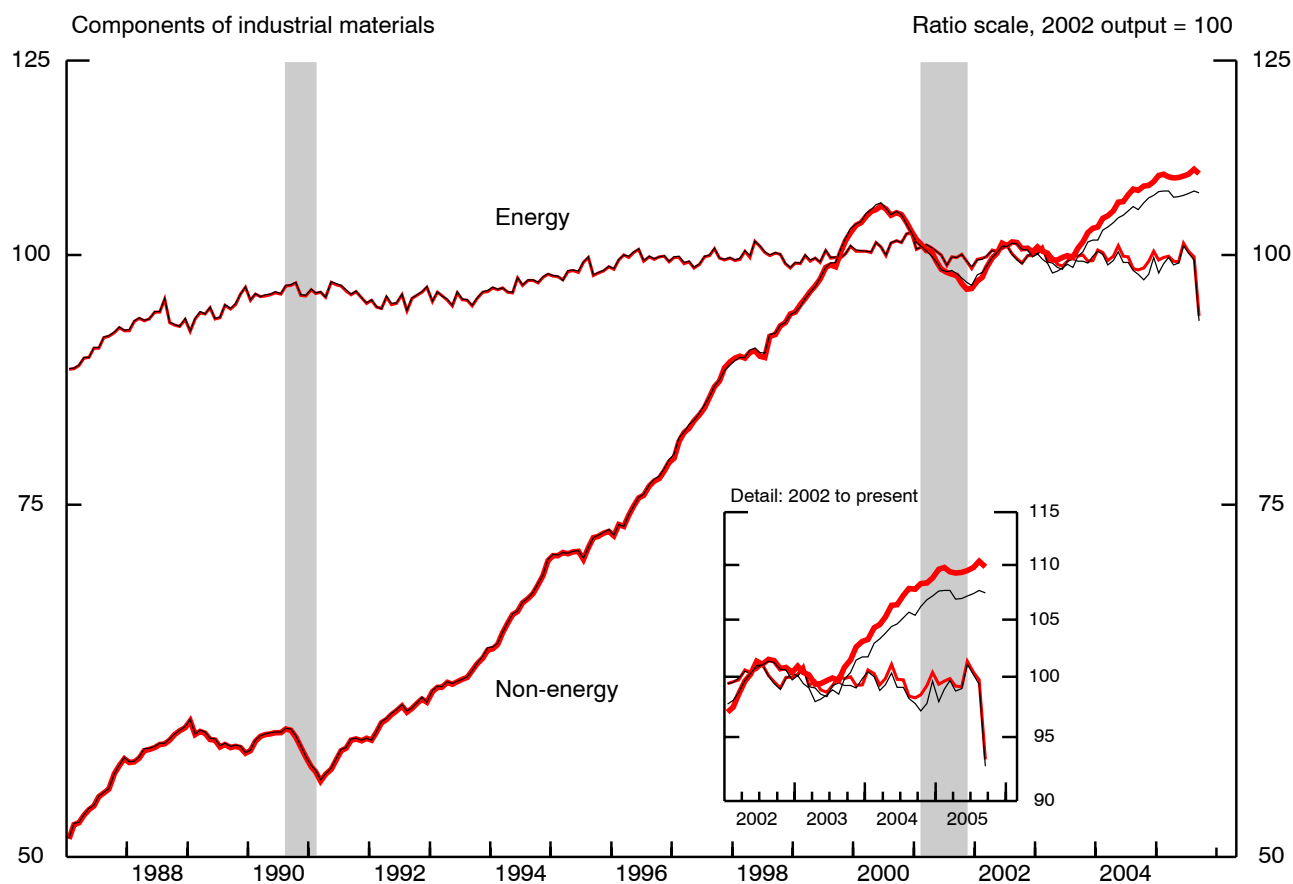
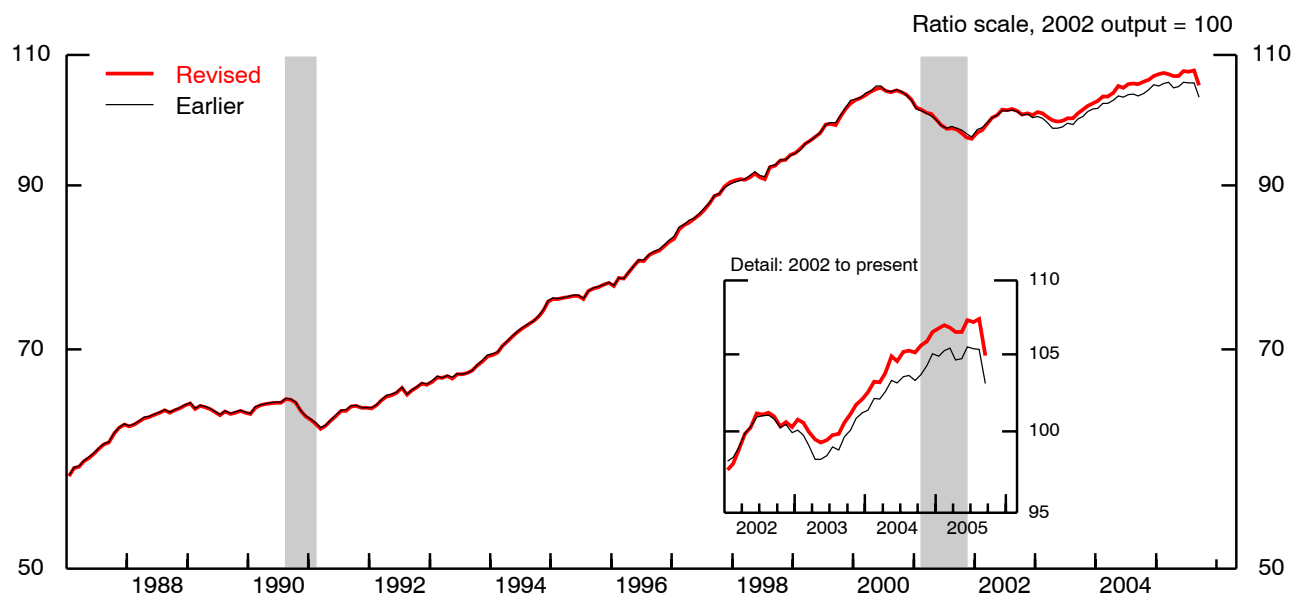
Note: The shaded areas represent periods of business recession as defined by the NBER.

6. Nonindustrial supplies



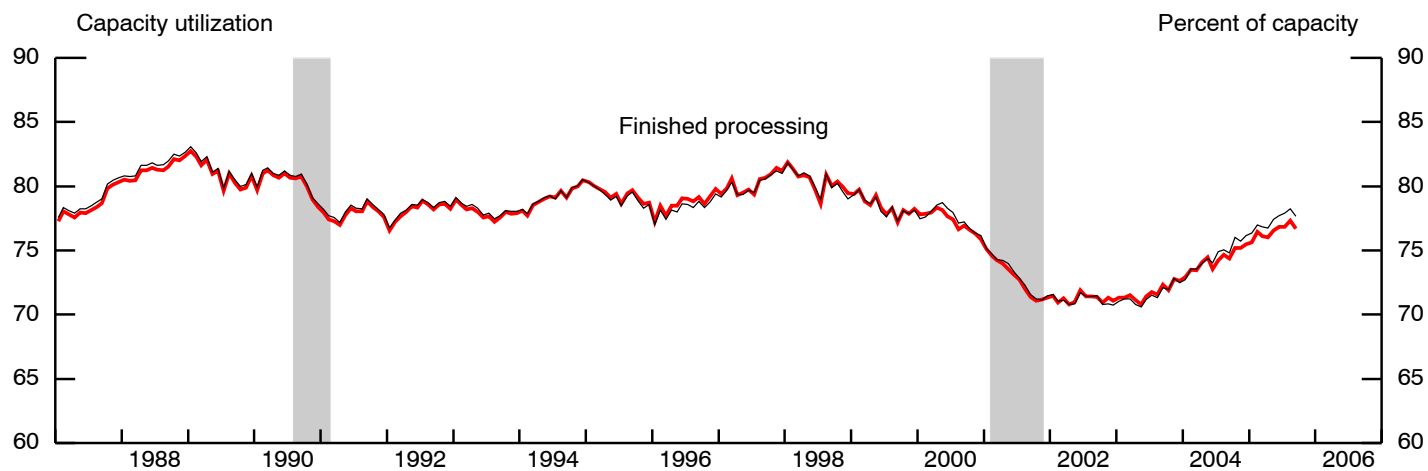
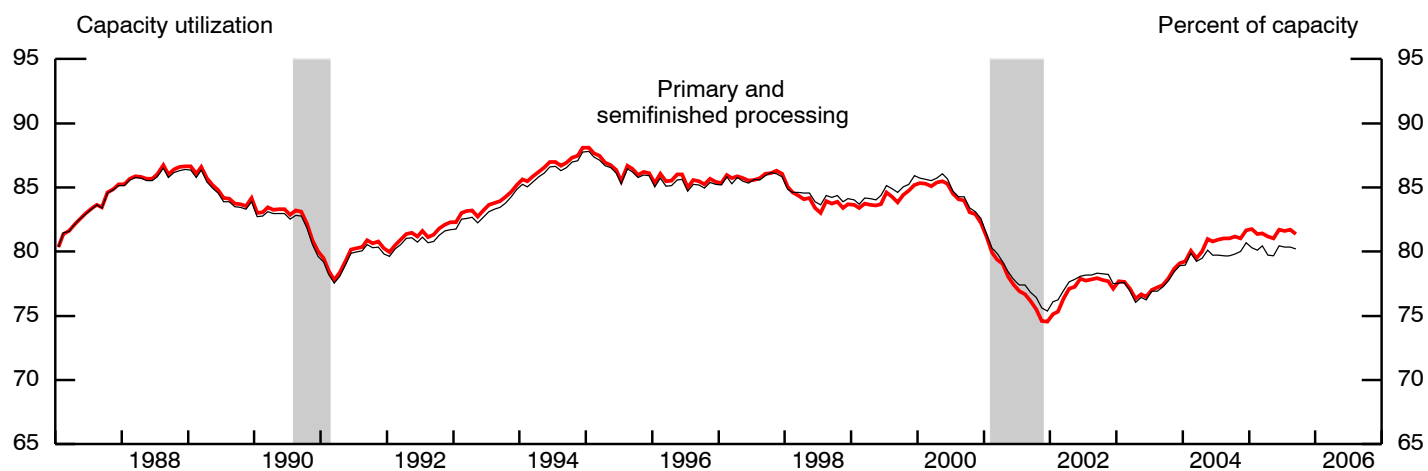
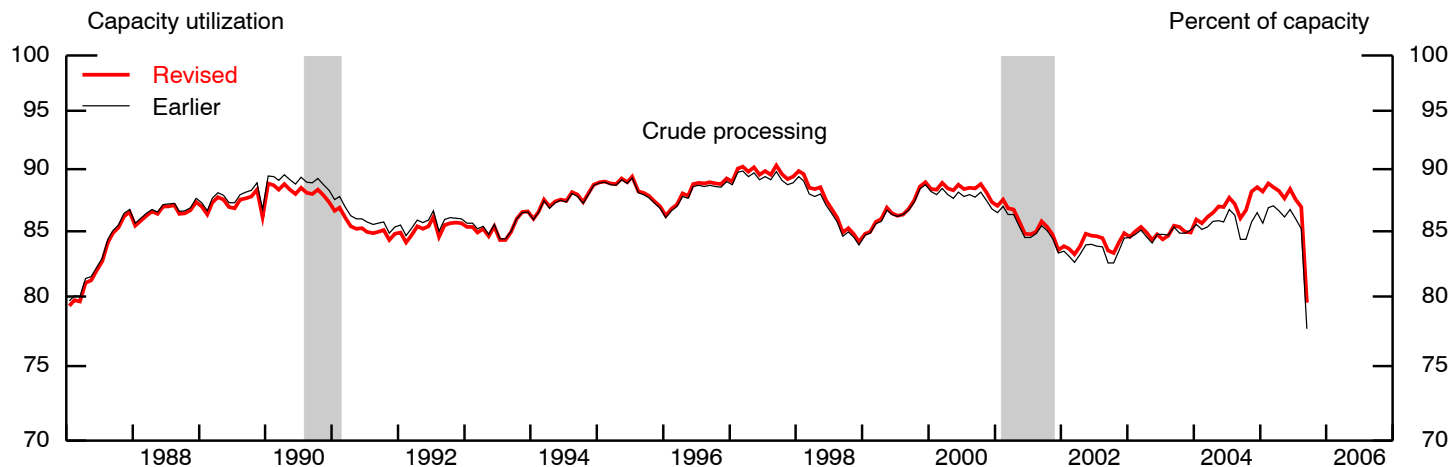
Note: The shaded areas represent periods of business recession as defined by the NBER.

7. Industrial materials



Note: The shaded areas represent periods of business recession as defined by the NBER.

8. Capacity utilization by stage of process



Note: The shaded areas are periods of business recession as defined by the NBER.

Table 1A

INDUSTRIAL PRODUCTION: Total

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual ¹
IP (percent change)																	
1975	-1.3	-2.4	-1.1	.1	-.2	.7	1.1	1.0	1.3	.4	.3	1.2	-24.0	-5.3	10.5	8.9	-8.9
1976	1.5	.9	.1	.7	.4	.0	.6	.7	.2	.1	1.5	1.0	12.6	5.2	5.1	7.8	7.8
1977	-.6	1.5	1.3	.9	.8	.7	.3	.1	.5	.3	.0	.2	8.4	12.6	4.9	2.8	7.7
1978	-1.3	.4	1.8	2.1	.3	.7	.0	.3	.2	.9	.8	.6	-1.3	16.6	3.4	7.7	5.5
1979	-.7	.6	.3	-1.0	.7	.0	-.2	-.7	.1	.5	-.1	.1	1.9	-.5	-1.5	1.3	3.1
1980	.4	.0	-.3	-2.0	-2.5	-1.3	-.7	.3	1.6	1.2	1.7	.6	1.6	-15.9	-6.3	16.1	-2.6
1981	-.6	-.5	.6	-.5	.7	.5	.7	.0	-.6	-.8	-1.1	-1.1	.9	1.4	4.2	-8.6	1.3
1982	-1.9	1.9	-.7	-.9	-.7	-.4	-.4	-.9	-.4	-.8	-.4	-.8	-7.6	-5.1	-5.9	-7.5	-5.1
1983	1.9	-.6	.9	1.2	.8	.6	1.6	1.1	1.5	.9	.3	.5	4.3	9.4	14.7	10.9	2.6
1984	2.1	.5	.5	.6	.5	.4	.3	.1	-.2	-.1	.4	.1	12.4	6.4	2.9	.4	9.0
1985	-.3	.4	.2	-.2	.1	.0	-.6	.5	.4	-.4	.3	1.0	1.1	.6	-.6	2.5	1.3
1986	.5	-.8	-.6	.0	.2	-.3	.6	-.2	.2	.4	.5	.9	2.3	-2.4	1.7	4.5	1.0
1987	-.3	1.2	.2	.6	.7	.5	.6	.7	.3	1.5	.5	.5	5.4	7.0	7.1	9.9	5.1
1988	.1	.3	.3	.5	.0	.2	.2	.5	-.3	.6	.2	.4	3.4	3.2	2.1	3.3	5.0
1989	.3	-.5	.3	-.1	-.7	.0	-.9	.9	-.3	-.1	.3	.7	1.5	-1.9	-2.5	1.8	.9
1990	-.6	.9	.5	.0	.1	.3	-.1	.3	.2	-.7	-1.2	-.7	2.9	2.9	1.3	-5.9	.9
1991	-.5	-.7	-.5	.2	1.0	1.0	.0	.2	.9	-.2	-.1	-.3	-7.6	2.7	5.7	1.0	-1.5
1992	-.5	.7	.7	.7	.4	.0	.8	-.5	.2	.7	.4	.1	-.3	6.9	2.8	3.9	2.9
1993	.5	.3	.0	.3	-.4	.3	.3	.0	.5	.7	.4	.5	3.7	1.0	2.4	6.1	3.3
1994	.5	.0	1.0	.5	.6	.7	.2	.5	.2	.9	.6	1.1	5.3	7.5	5.3	7.9	5.4
1995	.3	.0	.2	.0	.2	.3	-.4	1.4	.4	-.2	.3	.4	5.3	1.1	3.7	3.5	4.8
1996	-.8	1.5	-.2	.9	.7	.8	-.2	.7	.6	.0	1.0	.7	1.8	8.4	5.1	6.2	4.2
1997	.2	1.2	.8	-.1	.6	.5	.5	1.2	.9	.7	.9	.4	8.5	5.7	8.9	10.6	7.3
1998	.4	.1	.1	.5	.6	-.5	-.3	2.2	-.2	.7	-.1	.3	4.4	3.1	3.6	5.6	5.9
1999	.5	.5	.2	.2	.8	-.1	.7	.5	-.4	1.3	.6	.9	4.1	4.2	4.3	7.7	4.5
2000	.2	.4	.4	.7	.3	.1	-.3	-.3	.4	-.3	.0	-.4	5.4	5.2	-.9	-1.3	4.3
2001	-.8	-.7	-.3	-.1	-.8	-.5	-.4	-.3	-.4	-.5	-.4	.0	-6.6	-4.9	-5.1	-4.5	-3.5
2002	.6	-.1	.9	.4	.4	.9	-.3	.1	.0	-.4	.3	-.5	2.9	6.1	1.7	-1.6	.1
2003	.5	.0	-.2	-.8	-.1	.3	.5	.1	.7	.1	.9	.2	.8	-3.3	3.6	5.1	.6
2004	.4	.8	-.3	.8	.9	-.6	.6	.3	-.2	.7	.2	.7	5.3	5.2	2.6	4.2	4.1
2005	.2	.4	.0	-.1	.2	.8	.0	.4	-1.5				3.8	1.6	1.3		
IP (2002=100)																	
1975	46.3	45.2	44.7	44.7	44.6	44.9	45.4	45.8	46.4	46.6	46.7	47.3	45.4	44.8	45.9	46.9	45.7
1976	48.0	48.4	48.4	48.8	49.0	49.0	49.2	49.6	49.7	49.8	50.5	51.0	48.3	48.9	49.5	50.5	49.3
1977	50.8	51.5	52.2	52.6	53.0	53.4	53.6	53.6	53.9	54.0	54.0	54.1	51.5	53.0	53.7	54.1	53.1
1978	53.4	53.6	54.6	55.7	55.9	56.3	56.3	56.5	56.6	57.1	57.6	57.9	53.9	56.0	56.5	57.5	56.0
1979	57.5	57.8	58.0	57.5	57.8	57.8	57.7	57.3	57.4	57.7	57.7	57.7	57.8	57.7	57.5	57.7	57.7
1980	58.0	58.0	57.8	56.7	55.2	54.5	54.2	54.3	55.2	55.9	56.9	57.2	57.9	55.5	54.6	56.6	56.2
1981	56.9	56.6	56.9	56.6	57.0	57.3	57.7	57.7	57.3	56.9	56.3	55.7	56.8	57.0	57.6	56.3	56.9
1982	54.6	55.7	55.3	54.8	54.4	54.2	54.0	53.6	53.3	52.9	52.7	52.2	55.2	54.5	53.6	52.6	54.0
1983	53.2	52.9	53.4	54.0	54.4	54.7	55.6	56.2	57.0	57.5	57.7	58.0	53.2	54.4	56.3	57.7	55.4
1984	59.2	59.4	59.7	60.1	60.4	60.6	60.8	60.9	60.8	60.7	60.9	61.0	59.5	60.4	60.8	60.9	60.4
1985	60.8	61.1	61.2	61.1	61.1	61.2	60.8	61.1	61.3	61.1	61.3	61.9	61.0	61.1	61.0	61.4	61.2
1986	62.2	61.7	61.4	61.4	61.5	61.3	61.7	61.6	61.7	61.9	62.2	62.8	61.8	61.4	61.6	62.3	61.8
1987	62.6	63.4	63.5	63.8	64.3	64.6	65.0	65.4	65.6	66.6	66.9	67.2	63.2	64.2	65.3	66.9	64.9
1988	67.2	67.5	67.6	68.0	67.9	68.1	68.2	68.5	68.3	68.7	68.8	69.1	67.4	68.0	68.3	68.9	68.2
1989	69.3	69.0	69.2	69.1	68.7	68.7	68.0	68.7	68.5	68.4	68.6	69.1	69.2	68.8	68.4	68.7	68.8
1990	68.7	69.3	69.6	69.6	69.6	69.8	69.7	69.9	70.0	69.5	68.7	68.2	69.2	69.7	69.9	68.8	69.4
1991	67.9	67.4	67.1	67.2	67.9	68.6	68.6	68.7	69.3	69.2	69.1	68.9	67.5	67.9	68.9	69.0	68.3
1992	68.5	69.0	69.5	70.0	70.2	70.3	70.8	70.5	70.6	71.1	71.4	71.5	69.0	70.2	70.7	71.3	70.3
1993	71.8	72.1	72.1	72.3	72.0	72.2	72.5	72.5	72.8	73.3	73.6	74.0	72.0	72.2	72.6	73.7	72.6
1994	74.4	74.4	75.1	75.5	76.0	76.5	76.7	77.0	77.2	77.9	78.3	79.2	74.6	76.0	77.0	78.5	76.5
1995	79.4	79.4	79.6	79.5	79.7	79.9	79.6	80.7	81.0	80.9	81.1	81.4	79.5	79.7	80.4	81.1	80.2
1996	80.7	82.0	81.8	82.5	83.1	83.8	83.7	84.2	84.7	84.7	85.6	86.1	81.5	83.2	84.2	85.5	83.6
1997	86.3	87.3	88.0	88.0	88.5	88.9	89.3	90.4	91.3	92.0	92.8	93.2	87.2	88.5	90.4	92.7	89.7
1998	93.6	93.7	93.7	94.2	94.7	94.2	93.9	96.0	95.8	96.5	96.4	96.7	93.7	94.4	95.2	96.5	94.9
1999	97.1	97.6	97.8	98.0	98.8	98.7	99.4	99.9	99.4	100.7	101.3	102.2	97.5	98.5	99.6	101.4	99.3
2000	102.4	102.8	103.1	103.9	104.2	104.2	103.9	103.6	104.0	103.7	103.6	103.2	102.8	104.1	103.8	103.5	103.5
2001	102.4	101.6	101.3	101.2	100.4	99.9	99.5	99.2	98.8	98.3	97.9	97.9	101.8	100.5	99.2	98.1	99.9
2002	98.6	98.4	99.3	99.7	100.1	101.0	100.6	100.7	100.7	100.3	100.5	100.1	98.8	100.3	100.7	100.3	100.0
2003	100.5	100.6	100.4	99.6	99.5	99.8	100.3	100.4	101.0	101.1	102.0	102.3	100.5	99.7	100.5	101.8	100.6
2004	102.7	103.5	103.2	104.0	105.0	104.4	105.0	105.3	105.1	105.8	106.0	106.7	103.1	104.4	105.1	106.2	104.7
2005	106.9	107.4	107.3	107.2	107.4	108.3	108.2	108.7	107.1				107.2	107.6	108.0		

NOTE Estimates from July 2005 through September 2005 are subject to further revision in the upcoming monthly releases.

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

Table 1B

CAPACITY AND UTILIZATION: Total

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
Capacity (percent of 2002 output)																	
1975	59.8	59.9	60.0	60.2	60.3	60.4	60.5	60.6	60.7	60.8	61.0	61.1	59.9	60.3	60.6	61.0	60.4
1976	61.2	61.3	61.5	61.6	61.7	61.9	62.0	62.1	62.3	62.4	62.6	62.7	61.3	61.7	62.1	62.6	61.9
1977	62.9	63.0	63.2	63.4	63.5	63.7	63.9	64.1	64.3	64.5	64.6	64.8	63.0	63.5	64.1	64.6	63.8
1978	65.0	65.2	65.4	65.6	65.7	65.9	66.1	66.2	66.4	66.6	66.7	66.9	65.2	65.7	66.2	66.7	66.0
1979	67.0	67.2	67.3	67.5	67.7	67.8	68.0	68.1	68.2	68.4	68.5	68.7	67.2	67.7	68.1	68.5	67.9
1980	68.8	68.9	69.1	69.2	69.3	69.5	69.6	69.8	69.9	70.0	70.2	70.3	68.9	69.3	69.8	70.2	69.6
1981	70.5	70.6	70.8	70.9	71.1	71.3	71.4	71.6	71.8	71.9	72.1	72.3	70.6	71.1	71.6	72.1	71.4
1982	72.5	72.6	72.8	72.9	73.1	73.3	73.4	73.5	73.6	73.7	73.8	73.9	72.6	73.1	73.5	73.8	73.3
1983	74.0	74.0	74.0	74.1	74.1	74.1	74.2	74.2	74.2	74.3	74.3	74.4	74.0	74.1	74.2	74.3	74.2
1984	74.5	74.5	74.6	74.7	74.9	75.0	75.1	75.3	75.4	75.6	75.7	75.9	74.6	74.9	75.3	75.7	75.1
1985	76.1	76.3	76.5	76.6	76.8	77.0	77.2	77.4	77.5	77.7	77.8	77.9	76.3	76.8	77.4	77.8	77.1
1986	78.1	78.2	78.3	78.4	78.5	78.6	78.6	78.7	78.8	78.9	79.0	79.1	78.2	78.5	78.7	79.0	78.6
1987	79.3	79.4	79.5	79.7	79.8	79.9	80.1	80.2	80.3	80.4	80.5	80.6	79.4	79.8	80.2	80.5	80.0
1988	80.6	80.7	80.8	80.8	80.9	80.9	80.9	81.0	81.1	81.1	81.2	81.3	80.7	80.9	81.0	81.2	80.9
1989	81.4	81.5	81.7	81.8	82.0	82.1	82.3	82.5	82.6	82.8	83.0	83.2	81.5	82.0	82.5	83.0	82.2
1990	83.3	83.5	83.7	83.9	84.0	84.2	84.3	84.5	84.6	84.8	84.9	85.0	83.5	84.0	84.5	84.9	84.2
1991	85.2	85.3	85.4	85.5	85.6	85.8	85.9	86.0	86.1	86.2	86.3	86.5	85.3	85.6	86.0	86.3	85.8
1992	86.6	86.7	86.9	87.0	87.2	87.3	87.5	87.6	87.8	88.0	88.1	88.3	86.7	87.2	87.6	88.1	87.4
1993	88.4	88.5	88.7	88.8	88.9	89.1	89.2	89.3	89.5	89.6	89.8	90.0	88.5	88.9	89.3	89.8	89.2
1994	90.1	90.3	90.5	90.8	91.0	91.2	91.5	91.8	92.1	92.4	92.8	93.1	90.3	91.0	91.8	92.8	91.5
1995	93.5	93.8	94.2	94.6	95.0	95.4	95.8	96.2	96.6	97.0	97.5	97.9	93.8	95.0	96.2	97.5	95.6
1996	98.3	98.7	99.2	99.6	100.0	100.4	100.9	101.3	101.7	102.2	102.7	103.1	98.7	100.0	101.3	102.7	100.7
1997	103.6	104.2	104.7	105.2	105.8	106.4	107.0	107.7	108.4	109.0	109.7	110.5	104.2	105.8	107.7	109.7	106.9
1998	111.2	111.9	112.6	113.3	114.0	114.6	115.2	115.8	116.4	116.9	117.5	118.0	111.9	114.0	115.8	117.5	114.8
1999	118.5	119.0	119.5	120.0	120.5	120.9	121.4	121.8	122.3	122.8	123.2	123.7	119.0	120.4	121.8	123.2	121.1
2000	124.2	124.6	125.1	125.5	126.0	126.4	126.8	127.2	127.7	128.1	128.5	128.9	124.6	126.0	127.2	128.5	126.6
2001	129.2	129.6	130.0	130.3	130.6	130.9	131.2	131.5	131.8	132.0	132.2	132.5	129.6	130.6	131.5	132.2	131.0
2002	132.6	132.8	132.9	133.0	133.1	133.2	133.2	133.2	133.2	133.2	133.2	133.2	132.8	133.1	133.2	133.2	133.1
2003	133.1	133.1	133.0	133.0	133.0	132.9	132.9	132.9	132.9	132.9	132.9	132.9	133.1	133.0	132.9	132.9	133.0
2004	133.0	133.0	133.0	133.1	133.1	133.2	133.3	133.4	133.5	133.6	133.7	133.9	133.0	133.1	133.4	133.7	133.3
2005	134.0	134.2	134.3	134.5	134.7	134.9	135.1	135.3	135.5				134.2	134.7	135.3		
Utilization (percent)																	
1975	77.4	75.3	74.4	74.3	74.1	74.4	75.1	75.6	76.5	76.6	76.6	77.4	75.7	74.3	75.7	76.9	75.6
1976	78.4	78.9	78.8	79.2	79.3	79.2	79.4	79.8	79.8	79.8	80.8	81.4	78.7	79.2	79.7	80.6	79.6
1977	80.7	81.7	82.5	83.1	83.5	83.8	83.8	83.7	83.8	83.8	83.6	83.5	81.7	83.5	83.8	83.6	83.1
1978	82.1	82.3	83.5	85.0	85.1	85.5	85.2	85.3	85.3	85.8	86.3	86.6	82.6	85.2	85.3	86.2	84.8
1979	85.8	86.1	86.2	85.1	85.5	85.3	85.0	84.2	84.1	84.4	84.1	84.1	86.0	85.3	84.4	84.2	85.0
1980	84.2	84.1	83.7	81.9	79.6	78.5	77.8	77.9	79.0	79.8	81.0	81.3	84.0	80.0	78.2	80.7	80.7
1981	80.7	80.1	80.4	79.8	80.2	80.4	80.7	80.6	79.9	79.1	78.1	77.0	80.4	80.1	80.4	78.1	79.7
1982	75.4	76.6	75.9	75.1	74.4	74.0	73.6	72.9	72.5	71.8	71.4	70.7	76.0	74.5	73.0	71.3	73.7
1983	72.0	71.5	72.1	72.9	73.4	73.8	74.9	75.7	76.8	77.5	77.6	77.9	71.8	73.4	75.8	77.7	74.7
1984	79.5	79.7	80.0	80.4	80.7	80.8	80.9	80.9	80.6	80.3	80.5	80.3	79.7	80.7	80.8	80.4	80.4
1985	79.9	80.1	80.0	79.7	79.6	79.4	78.7	78.9	79.1	78.6	78.8	79.4	80.0	79.6	78.9	78.9	79.4
1986	79.7	79.0	78.4	78.3	78.4	78.0	78.4	78.2	78.3	78.5	78.7	79.3	79.0	78.2	78.3	78.9	78.6
1987	79.0	79.8	79.8	80.1	80.6	80.8	81.2	81.6	81.7	82.8	83.1	83.4	79.6	80.5	81.5	83.1	81.2
1988	83.4	83.6	83.7	84.1	84.0	84.2	84.3	84.6	84.3	84.7	84.8	85.0	83.6	84.1	84.4	84.8	84.2
1989	85.1	84.6	84.7	84.5	83.8	83.6	82.7	83.3	82.8	82.6	82.7	83.1	84.8	84.0	82.9	82.8	83.6
1990	82.4	82.9	83.2	83.0	82.9	82.9	82.7	82.8	82.8	82.0	80.9	80.2	82.8	82.9	82.7	81.1	82.4
1991	79.7	79.1	78.6	78.6	79.3	80.0	79.9	79.9	80.5	80.2	80.0	79.7	79.1	79.3	80.1	80.0	79.6
1992	79.1	79.5	80.0	80.4	80.6	80.5	81.0	80.4	80.5	80.9	81.0	81.0	79.6	80.5	80.6	81.0	80.4
1993	81.2	81.4	81.3	81.4	81.0	81.1	81.2	81.1	81.4	81.8	82.0	82.3	81.3	81.1	81.2	82.0	81.4
1994	82.5	82.3	83.0	83.2	83.5	83.8	83.8	83.9	83.8	84.2	84.5	85.0	82.6	83.5	83.8	84.6	83.6
1995	85.0	84.7	84.5	84.1	83.9	83.8	83.1	83.9	83.8	83.3	83.2	83.2	84.7	83.9	83.6	83.2	83.9
1996	82.1	83.0	82.5	82.9	83.1	83.5	83.0	83.2	83.3	82.9	83.3	83.5	82.5	83.2	83.1	83.3	83.0
1997	83.3	83.9	84.1	83.6	83.6	83.5	83.5	84.0	84.3	84.3	84.6	84.4	83.7	83.6	83.9	84.4	83.9
1998	84.2	83.7	83.3	83.1	83.1	82.2	81.5	82.8	82.3	82.5	82.1	81.9	83.7	82.8	82.2	82.2	82.7
1999	82.0	82.0	81.8	81.7	82.0	81.7	81.9	82.0	81.3	82.1	82.2	82.6	81.9	81.8	81.7	82.3	81.9
2000	82.5	82.5	82.5	82.7	82.7	82.5	82.0	81.4	81.5	80.9	80.7	80.1	82.5	82.6	81.6	80.6	81.8
2001	79.2	78.4	77.9	77.6	76.9	76.3	75.9	75.4	75.0	74.5	74.0	73.9	78.5	76.9	75.4	74.2	76.3
2002	74.3	74.1	74.7	74.9	75.2	75.8	75.6	75.6	75.6	75.3	75.5	75.2	74.4	75.3	75.6	75.3	75.1
2003	75.5	75.6	75.4	74.9	74.9	75.1	75.4	75.5	76.0	76.1	76.8	76.9	75.5	74.9	75.6	76.6	75.7
2004	77.2	77.8	77.6	78.1	78.8	78.4	78.8	79.0	78.7	79.2	79.3	79.7	77.5	78.4	78.8	79.4	78.6
2005	79.8	80.0	79.9	79.7	79.8	80.3	80.1	80.3	79.0				79.9	79.9	79.8		

NOTE Estimates from July 2005 through September 2005 are subject to further revision in the upcoming monthly releases.

Table 2

RATES OF CHANGE IN INDUSTRIAL PRODUCTION, MARKET AND INDUSTRY GROUP SUMMARY: 2001-2005¹

Item	Revised change (percent)					Difference between revised and earlier changes (percentage points)				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
Total IP	-5.3	2.3	1.5	4.3	2.2	-.2	.8	.3	.0	.1
MARKET GROUPS										
Final products and nonindustrial supplies	-4.6	1.5	1.7	4.3	3.4	.0	.8	.0	-.4	.0
Consumer goods	-1.3	2.7	1.3	2.0	2.4	.2	1.1	.1	-1.0	.3
Durable	-1.3	7.9	4.3	1.3	3.6	.0	1.5	1.0	-.2	.9
Automotive products	2.7	12.4	6.5	.4	5.0	.4	2.3	1.3	-.7	-.4
Home electronics	6.3	-7.7	18.5	-3.7	8.8	.5	-3.7	-16.4	4.4	20.2
Appliances, furniture, carpeting	-2.9	4.0	2.2	2.4	3.4	.5	2.2	.8	-.6	.6
Miscellaneous goods	-7.5	4.9	-.7	3.0	-.1	-.9	.6	2.8	.4	-.9
Nondurable	-1.3	.8	.1	2.3	1.9	.2	1.0	-.3	-1.4	.1
Non-energy	-.5	-1.0	.6	2.5	1.6	.3	1.3	-.2	-1.8	.1
Foods and tobacco	-.4	-3.1	2.1	1.8	2.0	.8	.6	-.3	-2.6	.5
Clothing	-21.5	-7.1	-9.3	-2.8	-3.9	-.7	2.6	5.6	2.3	4.3
Chemical products	6.5	4.0	1.0	3.0	.6	-.6	3.1	.4	-1.1	-1.3
Paper products	-2.3	-.5	-3.5	5.9	3.4	.4	.3	-4.1	-1.1	.2
Energy	-5.3	9.5	-1.9	1.7	3.1	-.1	-.6	-.5	.7	.3
Business equipment	-13.6	-2.3	2.8	10.8	6.3	-.3	.3	-1.9	1.0	-.9
Transit	-4.6	-10.8	3.6	9.7	.9	-1.2	1.9	3.5	-1.2	3.9
Information processing	-15.5	-8.9	6.5	14.6	17.7	1.9	-5.2	-9.8	4.6	.2
Industrial and other	-15.3	5.4	.4	9.2	2.6	-1.6	3.4	.9	-.2	-2.8
Defense and space equipment	8.4	.8	5.4	9.7	9.8	.4	-3.0	.1	3.6	-1.1
Construction supplies	-5.0	1.2	1.7	4.6	2.9	.0	1.1	1.1	.7	-.4
Business supplies	-5.5	2.5	.9	3.9	2.4	.0	1.1	.8	-1.0	.2
Materials	-6.1	3.4	1.2	4.3	.6	-.5	.7	.7	.7	.3
Non-energy	-7.2	4.4	1.7	6.0	1.8	-.7	.9	.9	.5	.9
Durable	-8.3	5.4	3.8	7.6	5.1	-1.0	.9	1.7	.6	1.6
Consumer parts	-7.7	6.0	-1.2	2.0	1.9	.2	-1.0	-3.9	-.2	.4
Equipment parts	-9.4	7.4	11.8	14.1	15.3	-1.5	1.2	6.0	-2.0	1.5
Other	-7.3	3.4	.0	4.9	-1.4	-1.1	1.4	.9	2.3	1.7
Nondurable	-5.1	2.7	-1.7	3.2	-3.7	.0	1.0	-.4	.3	-.4
Textile	-10.3	4.9	-6.5	-6.4	-5.6	-.8	2.9	6.5	-1.9	-.5
Paper	-6.2	.8	-6.5	4.6	-3.0	.1	-1.3	-2.1	1.4	-1.0
Chemical	-4.5	4.0	1.6	5.3	-7.4	.0	1.8	-.5	.4	-.6
Energy	-2.8	.4	-.1	-.2	-2.1	.0	.0	.2	1.0	-1.1
INDUSTRY GROUPS										
Manufacturing	-5.6	2.2	1.7	5.1	2.7	-.2	.9	.2	.1	.3
Manufacturing (NAICS)	-5.6	2.5	2.0	5.2	2.8	-.3	.9	.4	.1	.3
Durable manufacturing	-7.7	3.8	4.0	7.1	5.5	-.5	.7	.7	.5	.7
Wood products 321	-1.3	.9	4.0	3.0	-.8	.4	.9	.8	2.2	3.9
Nonmetallic mineral products 327	-3.4	1.0	2.2	5.1	-1.1	-.9	.7	.5	.7	-2.2
Primary metal 331	-9.3	6.6	1.0	3.9	-8.7	-.6	-.4	.3	.6	2.4
Fabricated metal products 332	-10.5	1.2	-.7	5.2	1.9	-1.9	1.5	2.2	2.0	.9
Machinery 333	-18.6	4.2	1.0	11.5	2.0	-1.8	2.9	.3	-.4	-4.4
Computer and electronic products 334	-8.9	2.9	15.7	16.1	22.9	.1	-2.8	1.2	.9	2.1
Electrical equip., appliances, and components 335	-14.8	-2.2	-.7	5.2	5.5	-.2	3.1	-1.9	-.8	4.8
Motor vehicles and parts 3361-3	-1.8	12.2	4.7	2.6	4.2	.2	1.0	-.1	-.3	1.1
Aerospace and other miscellaneous transportation equipment 3364-9	5.1	-7.3	-.4	5.3	3.7	.5	.2	-1.2	.8	-.2
Furniture and related products 337	-6.3	7.3	.3	2.2	-2.1	-.1	3.1	2.1	-.1	-1.0
Miscellaneous 339	-1.5	9.6	.6	3.9	4.9	.1	2.2	2.8	-.4	.7
Nondurable manufacturing	-2.9	.8	-.4	2.8	-.6	.1	1.2	.0	-.3	-.2
Food, beverage, and tobacco products 311,2	-.2	-2.2	1.7	1.7	2.6	.7	.7	-.4	-2.2	.6
Textile and product mills 313,4	-9.9	2.2	-4.2	-3.9	-.5	-.4	1.8	4.3	-1.4	.6
Apparel and leather 315,6	-21.9	-6.9	-9.4	-2.2	-3.2	-.8	2.4	4.9	2.4	4.8
Paper 322	-5.0	3.4	-6.0	4.5	-3.9	.8	-.7	-2.7	1.2	-1.3
Printing and support 323	-9.0	-3.2	-3.0	1.5	1.0	-.9	.0	.5	.6	-.2
Petroleum and coal products 324	1.0	2.9	.3	6.2	-4.3	.2	-1.2	-.9	2.2	-.9
Chemical 325	.1	3.6	.7	4.2	-2.9	-.1	2.6	-.5	.0	-1.2
Plastics and rubber products 326	-5.1	4.4	-.2	3.2	1.7	-.6	1.9	1.9	1.6	1.2
Other manufacturing (non-NAICS) 1133,5111	-5.5	-2.6	-3.0	3.7	.7	.8	1.4	-3.2	-1.4	-.4
Mining 21	-.7	-3.8	.5	-.4	-4.0	.0	-.1	.3	1.6	-1.7
Utilities 2211,2	-5.2	7.0	.7	1.2	4.6	-.1	-.1	1.3	-1.5	.9
Electric 2211	-3.8	5.6	1.9	2.0	5.6	-.1	-.1	1.4	-1.7	.7
Natural gas 2212	-12.9	15.5	-5.5	-2.9	.0	-.1	.1	.7	-.4	1.7

NOTE. Estimates for the third quarter of 2005 are subject to further revision in the upcoming monthly releases.

1. Rates of change 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. For 2005, the rates are calculated from the fourth quarter of 2004 to the third quarter of 2005 and annualized.

Table 3

RATES OF CHANGE IN INDUSTRIAL PRODUCTION, SPECIAL AGGREGATES AND SELECTED DETAIL: 2001-2005¹

Item	Revised change (percent)					Difference between revised and earlier changes (percentage points)				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
Total industry	-5.3	2.3	1.5	4.3	2.2	-2	.8	.3	.0	.1
Energy	-3.3	2.8	.5	.7	-2	.0	-2	.7	.2	-6
Consumer products	-5.3	9.5	-1.9	1.7	3.1	-1	-6	-5	.7	.3
Commercial products	-1.4	4.5	5.1	2.4	2.1	-2	-2	5.1	-5.0	.1
Oil and gas well drilling	-7.8	-15.2	21.2	8.3	13.3	.3	.3	.2	-4	1.2
Converted fuel	-8.0	4.1	.6	1.6	3.8	.1	.1	.6	-1	.0
Primary materials	.0	-1.6	-4	-1.0	-4.6	.0	-1	.0	1.6	-1.3
Non-energy	-5.7	2.2	1.7	5.1	2.8	-2	1.0	.2	.0	.3
Selected high-technology industries	-9.8	4.8	21.1	18.4	26.5	.3	-3.3	2.4	-3	2.3
Computer and peripheral equipment 3341	-2.7	-2.6	5.8	4.6	12.5	.9	-3.5	-16.0	-2.3	.1
Communications equipment 3342	-27.4	-22.6	9.9	22.3	22.3	2.9	-8.3	-12.6	12.8	2.7
Semiconductors and related electronic components 334412-9	-.6	26.0	34.1	21.4	32.6	-2.3	.8	17.9	-8.5	1.1
Excluding selected high-technology industries	-5.2	1.9	.5	4.2	1.3	-3	1.3	.1	.0	.1
Motor vehicles and parts 3361-3	-1.8	12.2	4.7	2.6	4.2	.2	1.0	-.1	-.3	1.1
Motor vehicles 3361	2.4	14.4	10.4	1.6	5.5	-.1	3.3	3.7	-.8	1.2
Motor vehicle parts 3363	-4.0	10.3	-1.5	2.2	3.9	1.0	-.5	-4.2	.5	.3
Excluding motor vehicles and parts	-5.5	.9	.0	4.4	1.0	-3	1.3	.1	.0	-.1
Consumer goods	-1.5	.0	.7	2.3	1.5	.2	1.2	.0	-1.4	.4
Business equipment	-11.3	.4	.5	9.0	4.5	-1.2	2.5	.4	-.3	-2.1
Construction supplies	-4.8	1.4	1.7	4.6	2.7	.0	1.1	1.1	.7	-.5
Business supplies	-6.4	1.4	-1.6	3.3	1.0	.0	1.6	-.7	.2	-.1
Materials	-7.8	1.8	-.8	4.7	-1.4	-.6	1.2	.1	.9	.4
Measures excluding selected high-technology industries										
Total industry	-4.9	2.1	.5	3.6	1.0	-2	1.0	.2	.0	-.1
Manufacturing ²	-5.2	1.9	.4	4.2	1.2	-.3	1.2	.0	.0	.0
Durable	-7.2	3.5	1.7	5.6	2.8	-.7	1.3	.5	.5	.3
Measures excluding motor vehicles and parts										
Total industry	-5.5	1.5	1.3	4.5	2.1	-.2	.8	.3	.1	.1
Manufacturing ²	-5.9	1.3	1.4	5.4	2.6	-.3	.9	.2	.1	.2
Durable	-8.6	2.2	3.8	8.0	5.7	-.7	.6	.9	.7	.6
Measures excluding selected high-technology industries and motor vehicles and parts										
Total industry	-5.1	1.3	.1	3.6	.8	-.3	1.0	.2	.0	-.2
Manufacturing ²	-5.5	1.0	.0	4.4	.9	-.3	1.3	.0	.1	-.1
Measure of non-energy material inputs to										
Finished processors	-8.5	5.7	3.6	7.9	7.3	-.8	.2	1.7	-.4	1.0
Primary and semifinished processors	-5.8	3.3	.2	4.3	-2.5	-.5	1.5	.2	1.3	.8
STAGE-OF-PROCESS GROUPS										
Crude	-2.8	-1.1	-1.7	1.9	-6.3	.2	-.1	-.3	1.8	-1.3
Primary and semifinished	-6.3	4.2	1.2	4.4	2.9	-.4	.8	.9	.1	.8
Finished	-4.5	.6	2.8	4.9	4.3	.0	1.0	-.4	-.5	-.2

NOTE. Estimates for the third quarter of 2005 are subject to further revision in the upcoming monthly releases.

1. Rates of change 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. For 2005, the rates are calculated from the fourth quarter of 2004 to the third quarter of 2005 and annualized.

2. Manufacturing consists of those industries included in the North American Industry Classification System, or NAICS, definition of manufacturing plus those industries - logging and newspaper, periodical, book and directory publishing - that have traditionally been considered to be a part of manufacturing and are included in the industrial sector.

Table 4
ANNUAL RATES OF CHANGE FOR INDUSTRIAL PRODUCTION¹

Item	Revised change (percent)					Difference between revised and earlier changes (percentage points)				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
Total IP	-3.5	.1	.6	4.1	3.2	.0	.4	.6	-.1	.1
MARKET GROUPS										
Consumer goods	-1.1	2.2	1.0	2.1	2.0	.0	.8	.8	-.6	-.4
Durable	-4.3	6.3	4.0	2.8	1.6	.0	.9	1.9	-.3	.3
Nondurable	.1	.7	-.2	1.8	2.2	.0	.7	.4	-.8	-.7
Business equipment	-7.0	-7.8	.0	9.3	8.4	.1	.1	-1.2	-.1	.3
Defense and space equipment	8.6	-.1	5.0	7.8	11.1	-.3	-1.3	-2.3	3.1	1.2
Construction supplies	-4.5	-.2	-.9	5.5	2.9	.1	.7	1.4	.4	-.1
Business supplies	-4.0	.2	.7	3.2	3.3	.0	1.0	1.1	-1.3	.2
Materials	-4.5	1.0	.4	4.2	2.3	.0	.1	.9	.5	.3
Non-energy	-5.6	1.4	.6	5.8	3.3	.0	.1	1.1	.6	.5
Energy	-1.1	.0	-.4	.0	-.6	.0	.0	.3	.4	-.2
INDUSTRY GROUPS										
Manufacturing²	-4.2	.1	.5	4.8	3.7	.0	.5	.6	.0	.2
Manufacturing (NAICS)	-4.1	.3	.7	5.0	3.7	.0	.4	.7	.2	.2
Durable manufacturing	-4.8	-.2	2.3	7.3	5.9	.1	.0	1.0	.3	.7
Nondurable manufacturing	-3.2	1.0	-1.1	2.2	.9	.0	.8	.4	.0	-.5
Other manufacturing (non-NAICS)	-5.9	-3.0	-3.0	1.8	3.3	-.2	2.0	-2.0	-2.4	-.6
Mining	.9	-4.3	-.2	-.2	-.6	.0	-.1	.2	.7	-.4
Utilities	-.5	3.1	2.0	1.2	2.1	.0	.0	1.6	-1.4	.1

1. The rates of change are calculated from annual averages of seasonally adjusted industrial production indexes, rather than between the fourth quarter of one year and the fourth quarter of the next.

2. See footnote 2 of table 3.

Table 5
RATES OF CHANGE IN CAPACITY, BY INDUSTRY GROUPS: 2001 to 2005¹

Item	Revised change (percent)					Difference between revised and earlier changes (percentage points)				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
Total industry	2.9	.7	-.2	.6	1.6	.2	.3	.0	-.5	.4
Manufacturing ²	2.8	.4	-.1	.5	2.1	.3	.3	.0	-.6	.7
Manufacturing (NAICS)	3.1	.5	.1	.5	2.2	.3	.4	.0	-.7	.7
Durable manufacturing	5.1	1.1	1.2	1.4	4.0	.2	.5	.0	-.8	1.0
Nondurable manufacturing	.5	-.3	-1.1	-.7	-.2	.4	.2	.2	-.5	.3
Other manufacturing (non-NAICS)	-1.1	-2.7	-3.0	.4	.5	-.2	-.2	-.1	.3	.2
Mining	2.1	-1.3	-1.0	-.6	-.6	.0	-.7	.7	-.3	.1
Utilities	3.9	4.5	3.1	2.6	.0	.0	.0	.1	.7	-1.2
Selected high-technology industries	27.8	9.5	8.0	6.8	20.8	.3	1.5	-.4	-6.6	5.9
Manufacturing ² ex. selected high-technology industries	.8	-.2	-.5	.1	.6	.3	.2	.1	.0	.3
STAGE-OF-PROCESS GROUPS										
Crude	1.5	-1.0	-2.1	-1.1	-.9	.6	-.3	.2	-.9	-.2
Primary and semifinished	3.4	.9	-.1	.9	2.5	.5	.2	.1	-1.1	.7
Finished	2.3	.6	.6	.8	1.2	-.1	.4	.0	.5	.3

1. Rates of change 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.

2. See footnote 2 to table 3.

Table 6
REVISED AND EARLIER CAPACITY UTILIZATION RATES, BY INDUSTRY GROUPS

Percent of capacity, seasonally adjusted

Item		Revised Rate					Difference between revised and earlier rates (percentage points)			
		1972-2004 Ave.	2002 Q4	2003 Q4	2004 Q4	2005 Q3	2002 Q4	2003 Q4	2004 Q4	2005 Q3
Total industry		81.0	75.3	76.6	79.4	79.8	-1	.1	.6	.4
Manufacturing		79.8	73.4	74.7	78.2	78.6	-1	.0	.5	.3
Manufacturing (NAICS)		79.6	73.0	74.3	77.8	78.2	-2	.1	.7	.5
Durable manufacturing		78.1	70.3	72.2	76.3	77.2	-.3	.1	1.1	1.0
Wood products	321	80.1	74.4	78.4	81.0	80.6	.0	1.1	2.5	4.7
Nonmetallic mineral products	327	79.4	77.7	79.4	82.4	80.6	.9	1.4	1.6	.3
Primary metal	331	80.4	78.2	80.6	85.0	79.3	-.4	1.3	2.4	4.1
Fabricated metal products	332	77.1	70.4	70.0	73.9	74.5	1.0	2.3	3.8	3.5
Machinery	333	78.7	67.5	69.4	78.3	79.6	-.3	-.5	.0	-2.6
Computer and electronic products	334	78.6	60.9	67.0	72.9	77.0	-1.8	-.8	1.7	1.1
Electrical equip., appliances, and components	335	83.2	74.0	75.8	81.1	85.1	1.4	1.0	.8	2.9
Motor vehicles and parts	3361-3	77.5	80.4	80.3	80.5	81.1	-.5	-1.6	-2.1	-1.1
Aerospace and other miscellaneous transportation equipment	3364-9	72.6	63.0	62.3	65.2	66.1	-.2	-.9	-.3	-.3
Furniture and related products	337	78.7	73.1	73.8	75.1	73.7	.5	2.6	1.6	.8
Miscellaneous	339	76.6	75.0	74.8	76.7	78.1	-.9	.6	-.5	-.9
Nondurable manufacturing		81.7	76.6	77.2	79.9	79.7	.0	-.1	.0	-.2
Food, beverage, and tobacco products	311,2	81.8	77.0	78.2	79.4	80.8	.4	-.4	-2.3	-1.8
Textile and product mills	313,4	82.8	74.7	74.6	75.1	76.6	-2.1	1.2	.5	-.2
Apparel and leather	315,6	79.3	65.7	66.7	72.9	76.8	-1.0	1.8	2.4	4.0
Paper		87.8	84.9	81.4	85.5	83.0	.1	-2.1	-1.2	-1.8
Printing and support	323	84.0	72.5	71.6	74.9	76.4	-.5	.0	2.8	3.2
Petroleum and coal products	324	85.9	86.5	88.4	93.4	90.1	-.5	-.5	2.1	1.3
Chemical	325	78.3	74.4	74.4	77.4	75.2	1.0	.4	.8	-.3
Plastics and rubber products	326	83.5	79.0	81.3	85.0	86.6	-2.0	.1	1.5	1.7
Other manufacturing (non-NAICS)	1133,5111	84.7	82.1	82.2	84.9	85.0	1.5	-1.2	-2.6	-3.0
Mining	21	87.3	86.8	88.2	88.3	86.1	1.4	1.1	2.7	1.5
Utilities	2211,2	86.8	87.6	85.6	84.4	87.3	-.3	.8	-1.0	.2
Selected high-technology industries		78.2	58.5	65.7	72.8	75.9	-2.3	-1.0	3.0	1.7
Computer and peripheral equipment	3341	78.2	70.4	74.9	76.3	79.7	-.5	.8	.4	-.7
Communications equipment	3342	76.0	42.2	47.1	58.6	68.6	-.6	-5.8	-.1	.4
Semiconductors and related electronic components	334412-9	80.6	64.3	74.3	79.4	78.2	-5.5	-.6	3.8	1.2
Measures excluding selected high-technology industries										
Total industry		81.2	76.6	77.3	79.8	80.2	.1	.2	.2	.1
Manufacturing ¹		79.9	74.8	75.4	78.6	78.9	.1	.1	.1	-.1
STAGE-OF-PROCESS GROUPS										
Crude		86.4	84.1	85.0	87.8	84.6	.6	.1	2.3	1.7
Primary and semifinished		82.2	77.5	78.6	81.3	81.6	-.5	.2	1.1	1.3
Finished		77.9	71.1	72.4	75.3	76.9	.3	.0	-.7	-1.0

NOTE. Estimates for the third quarter of 2005 are subject to further revision in the upcoming monthly releases.

1. See footnote 2 to table 3.

Table 7A

INDUSTRIAL PRODUCTION: Manufacturing¹

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual ²
IP (percent change)																	
1975	-2.0	-2.9	-1.3	-2	.0	.9	1.5	1.0	1.7	.5	.3	1.3	-28.9	-6.8	13.9	10.5	-10.6
1976	1.3	1.3	.2	.8	.5	.0	.7	.7	.2	.1	1.3	1.0	13.7	6.7	5.8	6.7	9.0
1977	-.3	1.8	1.5	1.0	.8	.8	.1	.6	.1	.3	.1	1.1	10.5	14.5	5.5	4.1	8.6
1978	-1.4	.3	1.7	1.6	.3	.8	-.1	.5	.4	.8	.9	.8	.4	13.9	4.1	9.0	6.0
1979	-.9	.5	.5	-1.4	1.1	.1	.1	-1.3	.2	.3	-.2	.3	1.8	-.7	-1.0	-.1	3.1
1980	.4	-.1	-.8	-2.0	-3.1	-1.6	-.9	.7	1.6	1.8	1.9	.3	.9	-18.7	-7.7	19.0	-3.6
1981	-.3	-.7	.4	.5	.6	-.5	.2	.1	-.5	-1.0	-1.1	-1.6	.7	3.2	.1	-10.0	1.1
1982	-2.3	2.7	-.8	-.7	-.2	-.2	-.1	-.8	-.3	-1.1	-.7	-.5	-8.9	-2.2	-4.0	-8.5	-5.4
1983	2.4	-.1	1.0	1.1	1.3	.8	1.5	.7	1.9	1.2	.3	.2	8.7	12.2	15.4	12.5	4.6
1984	1.9	1.1	.5	.5	.2	.4	.5	.2	-.2	.4	.3	.3	12.8	6.3	3.7	2.8	9.9
1985	-.4	-.3	.8	-.3	.1	.1	-.6	.6	.1	-.3	.6	.4	.1	1.1	.1	2.3	1.8
1986	1.2	-.7	-.3	.4	.2	-.4	.5	.3	.2	.3	.5	.9	4.4	-.1	2.5	4.9	2.2
1987	-.3	1.4	.1	.5	.7	.4	.7	.5	.6	1.6	.6	.6	6.0	6.7	6.9	11.3	5.5
1988	-.2	.1	.3	.8	-.1	.1	.1	.1	.3	.7	.3	.4	2.4	4.1	1.4	5.0	5.2
1989	.8	-1.0	-.1	.1	-.8	.1	-1.1	.9	-.3	-.2	.2	.2	1.7	-3.4	-3.0	.5	.8
1990	-.2	1.4	.4	-.1	.0	.2	-.2	.3	.0	-.8	-1.1	-.8	4.4	2.7	.6	-6.5	.7
1991	-.8	-.7	-.6	.3	.7	1.1	.3	.3	1.0	-.2	-.2	-.1	-9.1	2.2	7.4	1.8	-2.0
1992	-.5	.9	.9	.5	.7	.3	.8	-.4	.0	.6	.4	-.1	.7	7.9	3.9	2.7	3.7
1993	1.0	.1	-.1	.5	-.1	-.1	.3	-.1	.6	.8	.4	.6	4.6	1.5	1.6	6.9	3.5
1994	.3	.1	1.3	.8	.7	.3	.5	.7	.3	1.0	.8	1.1	5.2	9.5	6.2	9.6	6.0
1995	.4	-.1	.3	-.1	.0	.4	-.6	1.2	.9	-.1	.1	.4	5.7	.6	3.0	4.4	5.3
1996	-1.0	1.5	-.3	1.2	.7	1.0	.2	.7	.7	.0	1.0	.9	.8	9.5	7.5	6.5	4.6
1997	.2	1.4	1.2	-.3	.8	.7	.3	1.5	.9	.7	1.2	.5	10.1	6.8	9.9	11.4	8.5
1998	.7	.1	-.1	.6	.5	-.6	-.4	2.6	-.3	1.0	.1	.5	6.0	2.5	3.9	7.8	6.7
1999	.3	.8	-.1	.4	1.0	-.2	.5	.7	-.4	1.5	.7	.8	4.6	4.8	4.0	9.3	5.2
2000	.3	.3	.6	.7	.0	.2	-.1	-.7	.4	-.3	-.3	-.7	6.1	5.0	-1.2	-2.9	4.6
2001	-.8	-.7	-.4	-.1	-.8	-.6	-.2	-.7	-.3	-.6	-.2	.3	-7.5	-5.1	-5.6	-4.2	-4.2
2002	.5	-.1	.8	.1	.5	1.0	-.4	.3	.0	-.6	.3	-.5	3.5	5.3	2.2	-2.1	.1
2003	.4	-.2	.2	-.9	-.1	.6	.3	-.1	.9	.1	1.1	.1	.3	-2.7	3.3	6.1	.5
2004	.3	.9	.2	.8	.8	-.6	.8	.7	-.4	.8	.0	.5	5.7	6.6	4.1	4.0	4.8
2005	.5	.5	-.3	.0	.4	.3	.1	.6	-.7				4.5	1.3	2.4		
IP (2002=100)																	
1975	42.1	40.8	40.3	40.2	40.3	40.6	41.2	41.6	42.3	42.5	42.6	43.2	41.1	40.4	41.7	42.8	41.5
1976	43.7	44.3	44.4	44.7	44.9	45.0	45.3	45.6	45.7	45.7	46.3	46.8	44.2	44.9	45.5	46.3	45.2
1977	46.6	47.5	48.2	48.7	49.1	49.4	49.5	49.8	49.9	50.0	50.1	50.6	47.4	49.1	49.7	50.2	49.1
1978	49.9	50.0	50.9	51.7	51.8	52.3	52.2	52.5	52.7	53.1	53.6	54.1	50.3	51.9	52.5	53.6	52.1
1979	53.6	53.9	54.1	53.3	53.9	54.0	54.0	53.3	53.5	53.6	53.5	53.7	53.8	53.7	53.6	53.6	53.7
1980	53.9	53.9	53.4	52.4	50.7	50.0	49.5	49.9	50.7	51.5	52.5	52.7	53.7	51.0	50.0	52.2	51.7
1981	52.5	52.1	52.3	52.6	52.9	52.7	52.8	52.8	52.6	52.1	51.5	50.6	52.3	52.7	52.7	51.4	52.3
1982	49.4	50.8	50.4	50.0	49.9	49.8	49.7	49.3	49.2	48.6	48.3	48.1	50.2	49.9	49.4	48.3	49.5
1983	49.2	49.1	49.7	50.2	50.9	51.3	52.0	52.4	53.4	54.1	54.2	54.4	49.3	50.8	52.6	54.2	51.7
1984	55.4	56.0	56.2	56.5	56.7	56.9	57.2	57.3	57.2	57.4	57.6	57.8	55.9	56.7	57.2	57.6	56.9
1985	57.6	57.4	57.9	57.7	57.8	57.9	57.6	57.9	58.0	57.8	58.2	58.4	57.6	57.8	57.8	58.2	57.9
1986	59.1	58.7	58.6	58.8	58.9	58.7	59.0	59.2	59.3	59.5	59.8	60.3	58.8	58.8	59.1	59.8	59.1
1987	60.1	61.0	61.0	61.3	61.8	62.0	62.5	62.7	63.1	64.1	64.5	64.8	60.7	61.7	62.8	64.5	62.4
1988	64.7	64.8	65.0	65.5	65.4	65.5	65.6	65.7	65.9	66.3	66.5	66.8	64.8	65.5	65.7	66.5	65.6
1989	67.3	66.6	66.5	66.6	66.0	66.1	65.4	66.0	65.8	65.7	65.8	65.9	66.8	66.2	65.7	65.8	66.1
1990	65.8	66.7	67.0	66.9	66.9	67.1	66.9	67.2	67.1	66.6	65.9	65.4	66.5	67.0	67.1	66.0	66.6
1991	64.8	64.4	64.0	64.2	64.7	65.4	65.6	65.8	66.4	66.3	66.2	66.1	64.4	64.7	65.9	66.2	65.3
1992	65.8	66.3	66.9	67.2	67.7	67.9	68.4	68.2	68.2	68.6	68.8	68.7	66.3	67.6	68.3	68.7	67.7
1993	69.5	69.6	69.5	69.8	69.7	69.7	69.9	69.9	70.3	70.9	71.2	71.6	69.5	69.8	70.0	71.2	70.1
1994	71.8	71.8	72.7	73.3	73.9	74.1	74.5	75.0	75.2	75.9	76.5	77.4	72.1	73.8	74.9	76.6	74.3
1995	77.7	77.6	77.8	77.7	77.7	78.0	77.5	78.5	79.1	79.1	79.2	79.4	77.7	77.8	78.4	79.2	78.3
1996	78.7	79.9	79.6	80.6	81.1	82.0	82.2	82.7	83.3	83.2	84.0	84.8	79.4	81.2	82.7	84.0	81.8
1997	84.9	86.1	87.1	86.8	87.5	88.1	88.4	89.8	90.6	91.2	92.3	92.7	86.1	87.5	89.6	92.1	88.8
1998	93.4	93.5	93.3	93.9	94.3	93.7	93.4	95.8	95.5	96.4	96.6	97.0	93.4	94.0	94.9	96.7	94.7
1999	97.3	98.1	98.0	98.3	99.3	99.1	99.6	100.3	99.8	101.4	102.1	103.0	97.8	98.9	99.9	102.2	99.7
2000	103.3	103.6	104.2	104.9	104.9	105.0	105.0	104.3	104.7	104.4	104.0	103.3	103.7	104.9	104.6	103.9	104.3
2001	102.5	101.8	101.4	101.3	100.4	99.9	99.6	99.0	98.7	98.1	97.9	98.2	101.9	100.5	99.1	98.0	99.9
2002	98.7	98.6	99.4	99.5	100.0	101.0	100.6	100.8	100.8	100.2	100.4	100.0	98.9	100.2	100.7	100.2	100.0
2003	100.3	100.1	100.3	99.5	99.4	99.9	100.2	100.1	101.0	101.1	102.3	102.3	100.3	99.6	100.4	101.9	100.5
2004	102.6	103.6	103.7	104.6	105.5	104.9	105.7	106.4	106.0	106.9	106.9	107.5	103.3	105.0	106.1	107.1	105.4
2005	108.1	108.6	108.2	108.3	108.7	109.0	109.1	109.8	109.0				108.3	108.6	109.3		

NOTE: Estimates from July 2005 through September 2005 are subject to further revision in the upcoming monthly releases.

1. See footnote 2 to table 3.

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

Table 7B

CAPACITY AND UTILIZATION: Manufacturing¹

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
Capacity (percent of 2002 output)																	
1975	55.8	55.9	56.0	56.1	56.2	56.3	56.4	56.6	56.7	56.8	56.9	57.0	55.9	56.2	56.6	56.9	56.4
1976	57.1	57.3	57.4	57.5	57.6	57.8	57.9	58.1	58.2	58.3	58.5	58.6	57.3	57.7	58.1	58.5	57.9
1977	58.8	59.0	59.1	59.3	59.5	59.6	59.8	60.0	60.1	60.3	60.5	60.6	59.0	59.5	60.0	60.5	59.7
1978	60.8	61.0	61.2	61.3	61.5	61.7	61.8	62.0	62.2	62.4	62.5	62.7	61.0	61.5	62.0	62.5	61.8
1979	62.9	63.0	63.2	63.4	63.6	63.7	63.9	64.1	64.2	64.4	64.6	64.7	63.0	63.6	64.1	64.6	63.8
1980	64.9	65.1	65.2	65.4	65.5	65.7	65.9	66.0	66.2	66.4	66.6	66.8	65.1	65.5	66.0	66.6	65.8
1981	66.9	67.1	67.3	67.5	67.6	67.8	68.0	68.1	68.3	68.4	68.6	68.8	67.1	67.6	68.1	68.6	67.9
1982	68.9	69.1	69.2	69.4	69.5	69.6	69.8	69.9	70.0	70.1	70.2	70.2	69.1	69.5	69.9	70.2	69.7
1983	70.3	70.3	70.4	70.4	70.5	70.5	70.5	70.5	70.6	70.6	70.7	70.8	70.3	70.5	70.6	70.7	70.5
1984	70.9	71.0	71.1	71.2	71.3	71.5	71.7	71.8	72.0	72.2	72.4	72.6	71.0	71.3	71.8	72.4	71.6
1985	72.8	73.1	73.3	73.5	73.7	73.9	74.1	74.2	74.4	74.5	74.7	74.8	73.1	73.7	74.2	74.7	73.9
1986	74.9	75.0	75.1	75.2	75.3	75.4	75.5	75.6	75.7	75.9	76.0	76.1	75.0	75.3	75.6	76.0	75.5
1987	76.3	76.4	76.6	76.7	76.9	77.0	77.2	77.3	77.5	77.6	77.7	77.7	76.4	76.9	77.3	77.7	77.1
1988	77.8	77.9	77.9	78.0	78.0	78.0	78.1	78.2	78.2	78.3	78.4	78.5	77.9	78.0	78.2	78.4	78.1
1989	78.6	78.8	78.9	79.1	79.3	79.4	79.6	79.8	80.0	80.2	80.4	80.6	78.8	79.3	79.8	80.4	79.6
1990	80.8	80.9	81.1	81.3	81.5	81.7	81.8	82.0	82.1	82.3	82.4	82.6	80.9	81.5	82.0	82.4	81.7
1991	82.7	82.8	83.0	83.1	83.2	83.3	83.5	83.6	83.7	83.8	83.9	84.1	82.8	83.2	83.6	83.9	83.4
1992	84.2	84.3	84.5	84.7	84.8	85.0	85.2	85.4	85.6	85.8	86.0	86.1	84.3	84.8	85.4	85.9	85.1
1993	86.3	86.5	86.6	86.8	87.0	87.1	87.3	87.4	87.6	87.8	87.9	88.1	86.5	87.0	87.4	87.9	87.2
1994	88.3	88.5	88.8	89.0	89.2	89.5	89.8	90.1	90.5	90.8	91.2	91.5	88.5	89.3	90.1	91.2	89.8
1995	91.9	92.3	92.7	93.2	93.6	94.1	94.5	95.0	95.4	95.9	96.4	96.9	92.3	93.6	95.0	96.4	94.3
1996	97.4	97.8	98.3	98.8	99.3	99.8	100.3	100.8	101.3	101.8	102.3	102.8	97.8	99.3	100.8	102.3	100.1
1997	103.4	104.0	104.6	105.2	105.9	106.5	107.3	108.0	108.7	109.5	110.3	111.1	104.0	105.9	108.0	110.3	107.0
1998	111.9	112.8	113.6	114.3	115.1	115.9	116.6	117.2	117.9	118.5	119.1	119.7	112.8	115.1	117.2	119.1	116.1
1999	120.3	120.9	121.5	122.0	122.5	123.1	123.6	124.2	124.7	125.3	125.8	126.4	120.9	122.5	124.2	125.8	123.4
2000	127.0	127.5	128.1	128.6	129.2	129.7	130.2	130.7	131.2	131.7	132.2	132.7	127.5	129.2	130.7	132.2	129.9
2001	133.1	133.5	133.9	134.3	134.6	134.9	135.2	135.4	135.6	135.8	136.0	136.1	133.5	134.6	135.4	135.9	134.9
2002	136.2	136.3	136.3	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.3	136.4	136.4	136.4	136.4
2003	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.3	136.3	136.4	136.4	136.4	136.3	136.4
2004	136.3	136.3	136.3	136.4	136.4	136.5	136.5	136.6	136.7	136.9	137.0	137.2	136.3	136.4	136.6	137.0	136.6
2005	137.4	137.6	137.8	138.1	138.3	138.6	138.8	139.1	139.3				137.6	138.3	139.1		
Utilization (percent)																	
1975	75.4	73.1	72.0	71.7	71.6	72.1	73.0	73.6	74.7	74.8	74.9	75.7	73.5	71.8	73.7	75.2	73.5
1976	76.6	77.4	77.4	77.8	78.0	77.8	78.2	78.5	78.5	78.3	79.1	79.8	77.1	77.8	78.4	79.1	78.1
1977	79.3	80.5	81.5	82.1	82.5	82.9	82.8	83.0	82.9	82.9	82.8	83.4	80.4	82.5	82.9	83.0	82.2
1978	82.0	82.1	83.2	84.3	84.3	84.8	84.5	84.6	84.7	85.2	85.8	86.2	82.4	84.5	84.6	85.7	84.3
1979	85.2	85.4	85.6	84.1	84.8	84.7	84.6	83.2	83.2	83.3	82.8	82.9	85.4	84.6	83.7	83.0	84.2
1980	83.0	82.8	81.9	80.1	77.4	76.0	75.1	75.5	76.5	77.6	78.9	78.9	82.6	77.9	75.7	78.5	78.7
1981	78.4	77.7	77.8	78.0	78.2	77.7	77.7	77.6	77.0	76.1	75.0	73.6	78.0	78.0	77.4	74.9	77.1
1982	71.8	73.5	72.8	72.1	71.8	71.5	71.3	70.6	70.2	69.4	68.8	68.4	72.7	71.8	70.7	68.9	71.0
1983	70.0	69.9	70.5	71.3	72.2	72.7	73.8	74.3	75.7	76.5	76.7	76.8	70.1	72.1	74.6	76.7	73.4
1984	78.1	78.9	79.1	79.4	79.5	79.6	79.8	79.8	79.4	79.5	79.6	79.6	78.7	79.5	79.7	79.6	79.4
1985	79.1	78.6	79.0	78.6	78.5	78.4	77.7	78.0	77.9	77.6	77.9	78.1	78.9	78.5	77.9	77.9	78.3
1986	78.9	78.2	77.9	78.1	78.2	77.8	78.1	78.2	78.3	78.4	78.7	79.2	78.4	78.0	78.2	78.8	78.3
1987	78.9	79.8	79.7	79.9	80.4	80.5	80.9	81.1	81.5	82.6	83.0	83.4	79.5	80.3	81.2	83.0	81.0
1988	83.2	83.2	83.4	84.0	83.9	84.0	84.0	84.0	84.2	84.7	84.8	85.0	83.3	84.0	84.1	84.8	84.0
1989	85.5	84.5	84.3	84.2	83.3	83.2	82.1	82.7	82.2	81.9	81.9	81.8	84.8	83.6	82.4	81.9	83.1
1990	81.5	82.4	82.6	82.3	82.1	82.2	81.8	81.9	81.7	81.0	79.9	79.2	82.2	82.2	81.8	80.0	81.6
1991	78.4	77.7	77.1	77.3	77.7	78.5	78.6	78.7	79.4	79.1	78.9	78.7	77.7	77.8	78.9	78.9	78.3
1992	78.1	78.6	79.2	79.4	79.8	79.8	80.3	79.8	79.7	80.0	80.1	79.8	78.6	79.7	79.9	79.9	79.6
1993	80.5	80.4	80.2	80.4	80.2	80.0	80.1	79.9	80.3	80.7	80.9	81.2	80.4	80.2	80.1	81.0	80.4
1994	81.3	81.1	82.0	82.4	82.8	82.8	82.9	83.2	83.1	83.6	84.0	84.5	81.4	82.6	83.1	84.0	82.8
1995	84.5	84.1	83.9	83.4	83.0	82.9	82.0	82.6	82.9	82.4	82.1	82.0	84.1	83.1	82.5	82.2	83.0
1996	80.8	81.6	81.0	81.5	81.7	82.1	81.9	82.1	82.2	81.8	82.1	82.4	81.1	81.8	82.1	82.1	81.8
1997	82.2	82.8	83.3	82.5	82.7	82.7	82.4	83.1	83.3	83.3	83.6	83.4	82.8	82.6	83.0	83.4	83.0
1998	83.4	82.9	82.2	82.1	81.9	80.9	80.1	81.7	81.0	81.4	81.1	81.1	82.8	81.7	80.9	81.2	81.7
1999	80.9	81.1	80.7	80.6	81.1	80.5	80.6	80.8	80.1	80.9	81.2	81.5	80.9	80.7	80.5	81.2	80.8
2000	81.3	81.2	81.4	81.6	81.2	81.0	80.6	79.8	79.8	79.2	78.7	77.8	81.3	81.3	80.0	78.6	80.3
2001	77.0	76.2	75.7	75.4	74.6	74.0	73.7	73.1	72.7	72.2	72.0	72.1	76.3	74.7	73.2	72.1	74.1
2002	72.5	72.3	72.9	73.0	73.3	74.0	73.7	73.9	73.9	73.4	73.6	73.3	72.6	73.4	73.8	73.4	73.3
2003	73.5	73.4	73.5	72.9	72.8	73.2	73.4	73.4	74.0	74.1	75.0	75.1	73.5	73.0	73.6	74.7	73.7
2004	75.3	76.0	76.1	76.7	77.3	76.9	77.4	77.9	77.5	78.1	78.0	78.3	75.8	77.0	77.6	78.2	77.1
2005	78.6	78.9	78.5	78.4	78.6	78.7	78.6	78.9	78.2				78.7	78.5	78.6		

NOTE. Estimates from July 2005 through September 2005 are subject to further revision in the upcoming monthly releases.

1. See footnote 2 to table 3.

Table 8A

INDUSTRIAL PRODUCTION: Total Industry Excluding Selected High-Technology Industries¹

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual ²
IP (percent change)																	
1975	-1.3	-2.3	-1.0	.1	-.1	.7	1.0	-.9	1.3	.3	.2	1.2	-23.9	-4.9	10.6	8.5	-8.8
1976	1.5	.9	.0	.6	.3	.0	.5	.7	.1	.1	1.5	1.0	12.2	4.5	4.2	6.9	7.3
1977	-.5	1.4	1.3	.8	.7	.6	.2	.0	.4	.2	.0	.1	7.9	11.7	4.1	2.0	6.9
1978	-1.4	.4	1.8	2.1	.3	.6	-.1	.3	.1	.8	.6	.5	-1.9	16.2	2.6	6.7	4.7
1979	-.8	.5	.3	-1.0	.6	-.1	-.3	-.8	.0	.5	-.2	.0	.8	-1.3	-2.8	.3	2.1
1980	.4	.0	-.4	-2.1	-2.6	-1.3	-.7	.2	1.7	1.2	1.7	.5	.7	-16.9	-6.9	15.8	-3.6
1981	-.7	-.6	.6	-.6	.7	.5	.6	-.1	-.7	-.9	-1.1	-1.2	.1	.5	3.5	-9.6	.6
1982	-2.0	1.8	-.7	-1.0	-.7	-.4	-.5	-.8	-.5	-.9	-.5	-1.0	-8.5	-5.9	-6.6	-8.1	-6.0
1983	1.9	-.7	.8	1.1	.7	.5	1.5	1.2	1.2	.8	.2	.4	3.6	8.5	13.8	9.6	1.8
1984	2.0	.3	.4	.5	.4	.2	.2	.0	-.2	-.2	.3	.1	11.4	5.0	1.6	-.3	7.9
1985	-.3	.5	.2	.0	.1	.0	-.5	.5	.5	-.4	.3	1.1	.9	1.2	-.2	2.6	1.0
1986	.6	-.8	-.7	.0	.1	-.2	.3	-.2	.2	.4	.4	.8	2.3	-2.7	.6	4.0	.9
1987	-.5	1.2	.2	.5	.6	.4	.5	.6	.2	1.4	.5	.4	4.5	6.3	6.0	9.1	4.2
1988	.0	.3	.2	.4	-.1	.2	.1	.5	-.4	.6	.2	.4	3.1	2.6	1.5	2.9	4.4
1989	.3	-.5	.4	-.1	-.7	.0	-1.1	.9	-.4	-.2	.3	.7	1.8	-2.1	-3.3	1.0	.6
1990	-.7	.8	.4	-.1	.0	.2	-.2	.3	.1	-.8	-1.2	-.8	2.2	2.4	1.0	-6.5	.3
1991	-.5	-.8	-.6	.2	1.0	1.0	.0	.1	.9	-.2	-.2	-.5	-8.1	2.2	5.4	.3	-2.0
1992	-.8	.7	.7	.6	.3	-.2	.7	-.5	.1	.6	.3	.0	-1.9	6.1	1.7	3.0	1.9
1993	.5	.3	.0	.2	-.4	.2	.3	-.1	.4	.6	.3	.5	3.0	.4	1.6	5.2	2.5
1994	.4	-.1	.8	.3	.4	.6	.1	.3	.0	.7	.4	.9	4.2	5.3	3.4	5.5	4.0
1995	.2	-.2	-.1	-.2	.0	.1	-.5	1.2	.1	-.4	.1	.2	3.0	-1.4	1.3	.5	2.4
1996	-1.0	1.4	-.4	.8	.5	.7	-.5	.4	.4	-.2	.8	.4	-.3	6.1	2.1	3.5	1.7
1997	-.1	.8	.5	-.4	.3	.3	.3	1.0	.8	.6	.7	.1	4.9	2.1	6.1	8.3	4.2
1998	.1	.0	-.1	.2	.5	-.9	-.8	2.0	-.6	.5	-.3	.1	1.6	1.0	-.3	2.3	3.1
1999	.2	.2	-.1	-.2	.6	-.4	.3	.4	-.5	1.2	.3	.6	.9	.3	1.2	5.6	1.2
2000	-.3	.0	.1	.4	-.1	.0	-.5	-.5	.3	-.5	-.2	-.5	.7	1.7	-3.0	-2.9	1.1
2001	-.8	-.6	-.3	.0	-.7	-.4	-.2	-.3	-.4	-.5	-.5	.0	-6.7	-4.0	-4.0	-4.8	-4.1
2002	.8	-.1	.9	.4	.4	.9	-.3	-.1	-.1	-.5	.2	-.6	3.4	6.2	1.3	-2.4	.3
2003	.4	-.2	-.3	-.8	-.1	.2	.4	.0	.6	.0	.9	.2	-.6	-4.3	2.6	4.4	-.3
2004	.3	.7	-.4	.8	.9	-.7	.5	.2	-.3	.8	.2	.6	4.3	4.6	1.6	3.8	3.2
2005	.0	.3	-.1	-.2	.1	.8	-.2	.2	-1.7				2.4	.8	-.1		
IP (2002=100)																	
1975	62.6	61.1	60.5	60.6	60.5	60.9	61.5	62.1	62.9	63.1	63.3	64.0	61.4	60.6	62.2	63.5	61.9
1976	64.9	65.5	65.5	65.9	66.1	66.1	66.4	66.8	66.9	67.0	67.9	68.6	65.3	66.0	66.7	67.8	66.5
1977	68.2	69.2	70.0	70.6	71.1	71.5	71.7	71.7	72.0	72.1	72.1	72.2	69.1	71.1	71.8	72.2	71.0
1978	71.2	71.5	72.7	74.3	74.5	74.9	74.8	75.1	75.2	75.8	76.3	76.7	71.8	74.6	75.0	76.3	74.4
1979	76.1	76.5	76.7	75.9	76.4	76.2	76.0	75.4	75.4	75.8	75.6	75.6	76.4	76.2	75.6	75.7	76.0
1980	75.9	75.9	75.6	74.0	72.0	71.1	70.6	70.8	71.9	72.8	74.0	74.4	75.8	72.4	71.1	73.8	73.3
1981	73.9	73.5	73.9	73.4	73.9	74.3	74.7	74.7	74.1	73.5	72.7	71.8	73.8	73.9	74.5	72.7	73.7
1982	70.4	71.6	71.1	70.4	69.9	69.6	69.3	68.7	68.4	67.8	67.5	66.8	71.1	70.0	68.8	67.4	69.3
1983	68.1	67.6	68.2	68.9	69.4	69.7	70.7	71.6	72.5	73.1	73.2	73.5	67.9	69.3	71.6	73.3	70.6
1984	75.0	75.3	75.6	75.9	76.2	76.4	76.6	76.6	76.4	76.2	76.5	76.6	75.3	76.2	76.5	76.4	76.1
1985	76.3	76.7	76.8	76.8	76.8	76.8	76.4	76.8	77.2	76.8	77.1	77.9	76.6	76.8	76.8	77.3	76.9
1986	78.3	77.7	77.2	77.2	77.3	77.1	77.4	77.2	77.3	77.6	78.0	78.6	77.7	77.2	77.3	78.1	77.6
1987	78.2	79.2	79.3	79.7	80.2	80.5	80.9	81.4	81.6	82.7	83.1	83.4	78.9	80.1	81.3	83.1	80.9
1988	83.5	83.8	83.9	84.3	84.2	84.3	84.4	84.8	84.5	85.0	85.1	85.5	83.7	84.3	84.6	85.2	84.4
1989	85.8	85.3	85.6	85.5	84.9	84.9	84.0	84.8	84.5	84.3	84.5	85.1	85.6	85.1	84.4	84.6	84.9
1990	84.5	85.2	85.6	85.5	85.5	85.8	85.6	85.8	86.0	85.3	84.2	83.6	85.1	85.6	85.8	84.4	85.2
1991	83.2	82.5	82.1	82.3	83.1	83.9	83.9	83.9	84.7	84.5	84.3	83.9	82.6	83.1	84.2	84.2	83.5
1992	83.2	83.8	84.4	84.9	85.2	85.1	85.7	85.2	85.4	85.9	86.2	86.2	83.8	85.1	85.4	86.1	85.1
1993	86.6	86.8	86.8	87.0	86.6	86.8	87.1	87.0	87.3	87.9	88.2	88.6	86.7	86.8	87.1	88.2	87.2
1994	89.0	88.9	89.6	89.9	90.3	90.8	90.9	91.2	91.1	91.8	92.2	93.0	89.2	90.3	91.1	92.3	90.7
1995	93.1	93.0	92.9	92.6	92.6	92.8	92.2	93.3	93.4	93.0	93.0	93.3	93.0	92.7	93.0	93.1	92.9
1996	92.3	93.6	93.2	93.9	94.3	95.0	94.5	94.9	95.3	95.1	95.8	96.2	93.0	94.4	94.9	95.7	94.5
1997	96.2	97.0	97.5	97.1	97.4	97.6	97.9	98.9	99.7	100.3	101.0	101.1	96.9	97.4	98.8	100.8	98.5
1998	101.3	101.2	101.2	101.4	101.9	101.1	100.3	102.3	101.7	102.2	101.9	101.9	101.2	101.5	101.4	102.0	101.5
1999	102.1	102.3	102.2	102.0	102.6	102.2	102.5	102.9	102.4	103.6	103.9	104.5	102.2	102.3	102.6	104.0	102.8
2000	104.2	104.2	104.2	104.7	104.6	104.6	104.1	103.6	103.9	103.4	103.2	102.6	104.2	104.6	103.8	103.1	103.9
2001	101.8	101.2	100.8	100.9	100.1	99.8	99.6	99.3	98.9	98.4	97.9	97.9	101.3	100.3	99.3	98.0	99.7
2002	98.6	98.5	99.4	99.8	100.2	101.1	100.7	100.7	100.6	100.2	100.3	99.7	98.9	100.4	100.7	100.1	100.0
2003	100.1	99.9	99.7	98.8	98.7	98.9	99.3	99.2	99.9	99.9	100.8	100.9	99.9	98.8	99.5	100.5	99.7
2004	101.2	101.9	101.6	102.4	103.3	102.6	103.1	103.3	103.0	103.8	104.0	104.6	101.6	102.7	103.1	104.1	102.9
2005	104.5	104.9	104.8	104.6	104.7	105.5	105.4	105.6	103.8				104.7	104.9	104.9		

NOTE. Estimates from July 2005 through September 2005 are subject to further revision in the upcoming monthly releases.

1. High technology industries include computers, communications equipment, and semiconductors and related electronic components.

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

Table 8B**CAPACITY AND UTILIZATION: Total Industry Excluding Selected High-Technology Industries¹**

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
Capacity (percent of 2002 output)																	
1975	80.7	80.9	81.0	81.1	81.2	81.4	81.5	81.6	81.8	81.9	82.0	82.2	80.9	81.2	81.6	82.0	81.4
1976	82.3	82.4	82.6	82.7	82.8	83.0	83.1	83.3	83.4	83.6	83.7	83.9	82.4	82.8	83.3	83.7	83.1
1977	84.1	84.2	84.4	84.6	84.8	85.0	85.2	85.4	85.7	85.9	86.1	86.3	84.2	84.8	85.4	86.1	85.1
1978	86.5	86.7	86.9	87.1	87.3	87.5	87.7	87.8	88.0	88.2	88.4	88.5	86.7	87.3	87.8	88.4	87.6
1979	88.7	88.8	89.0	89.1	89.2	89.4	89.5	89.7	89.8	89.9	90.0	90.2	88.8	89.2	89.7	90.0	89.4
1980	90.3	90.4	90.5	90.7	90.8	90.9	91.0	91.2	91.3	91.4	91.6	91.7	90.4	90.8	91.2	91.6	91.0
1981	91.8	92.0	92.1	92.3	92.4	92.6	92.8	92.9	93.1	93.2	93.4	93.6	92.0	92.4	92.9	93.4	92.7
1982	93.7	93.9	94.0	94.1	94.2	94.3	94.4	94.5	94.6	94.6	94.7	94.7	93.8	94.2	94.5	94.7	94.3
1983	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7
1984	94.7	94.7	94.8	94.8	94.9	95.0	95.1	95.2	95.3	95.4	95.6	95.7	94.7	94.9	95.2	95.6	95.1
1985	95.9	96.0	96.2	96.4	96.6	96.7	96.9	97.1	97.3	97.4	97.6	97.7	96.0	96.6	97.1	97.6	96.8
1986	97.8	97.9	98.0	98.1	98.2	98.3	98.4	98.5	98.5	98.6	98.7	98.8	97.9	98.2	98.5	98.7	98.3
1987	98.9	98.9	99.0	99.1	99.2	99.3	99.4	99.5	99.5	99.6	99.7	99.7	99.0	99.2	99.5	99.6	99.3
1988	99.7	99.8	99.8	99.8	99.8	99.9	99.9	99.9	100.0	100.0	100.1	100.2	99.8	99.8	99.9	100.1	99.9
1989	100.3	100.4	100.6	100.7	100.9	101.0	101.2	101.4	101.5	101.7	101.9	102.0	100.4	100.9	101.4	101.9	101.1
1990	102.2	102.4	102.5	102.7	102.8	103.0	103.1	103.3	103.4	103.5	103.7	103.8	102.4	102.8	103.3	103.7	103.0
1991	103.9	104.1	104.2	104.3	104.4	104.6	104.7	104.8	104.9	105.0	105.1	105.2	104.1	104.4	104.8	105.1	104.6
1992	105.3	105.4	105.5	105.6	105.7	105.8	105.9	106.0	106.1	106.2	106.3	106.4	105.4	105.7	106.0	106.3	105.8
1993	106.5	106.6	106.7	106.8	106.9	107.0	107.1	107.2	107.3	107.4	107.5	107.6	106.6	106.9	107.2	107.5	107.0
1994	107.7	107.8	107.9	108.0	108.2	108.3	108.5	108.6	108.8	109.0	109.2	109.4	107.8	108.2	108.6	109.2	108.4
1995	109.6	109.8	110.1	110.3	110.6	110.8	111.1	111.3	111.5	111.8	112.0	112.2	109.8	110.6	111.3	112.0	110.9
1996	112.4	112.6	112.8	113.0	113.3	113.5	113.7	113.9	114.2	114.4	114.7	115.0	112.6	113.3	113.9	114.7	113.6
1997	115.3	115.7	116.0	116.4	116.8	117.2	117.6	118.1	118.5	118.9	119.4	119.8	115.7	116.8	118.1	119.4	117.5
1998	120.2	120.6	121.0	121.4	121.7	122.1	122.4	122.8	123.1	123.4	123.7	124.0	120.6	121.7	122.8	123.7	122.2
1999	124.3	124.5	124.8	125.1	125.4	125.6	125.9	126.1	126.3	126.5	126.7	126.9	124.5	125.4	126.1	126.7	125.7
2000	127.1	127.3	127.5	127.7	127.8	128.0	128.1	128.3	128.4	128.6	128.7	128.8	127.3	127.8	128.3	128.7	128.0
2001	129.0	129.1	129.2	129.4	129.5	129.7	129.8	129.9	130.1	130.2	130.3	130.4	129.1	129.5	129.9	130.3	129.7
2002	130.5	130.6	130.7	130.8	130.8	130.9	130.9	130.8	130.8	130.8	130.7	130.6	130.6	130.8	130.8	130.7	130.7
2003	130.6	130.5	130.4	130.3	130.2	130.2	130.1	130.1	130.1	130.1	130.1	130.1	130.5	130.3	130.1	130.1	130.2
2004	130.1	130.1	130.1	130.1	130.2	130.2	130.2	130.3	130.3	130.4	130.4	130.4	130.1	130.2	130.3	130.4	130.2
2005	130.5	130.5	130.6	130.6	130.7	130.7	130.8	130.8	130.9				130.5	130.7	130.8		
Utilization (percent)																	
1975	77.5	75.6	74.7	74.6	74.4	74.8	75.5	76.1	76.9	77.1	77.1	77.9	75.9	74.6	76.2	77.4	76.0
1976	78.9	79.5	79.4	79.7	79.8	79.6	79.9	80.3	80.2	80.1	81.1	81.8	79.2	79.7	80.1	81.0	80.0
1977	81.2	82.1	83.0	83.4	83.8	84.1	84.1	83.9	84.0	84.0	83.8	83.7	82.1	83.8	84.0	83.8	83.4
1978	82.3	82.4	83.7	85.2	85.3	85.7	85.4	85.5	85.4	85.9	86.3	86.7	82.8	85.4	85.4	86.3	85.0
1979	85.8	86.1	86.2	85.2	85.6	85.3	84.9	84.1	84.0	84.3	84.0	83.9	86.0	85.3	84.4	84.0	84.9
1980	84.1	83.9	83.5	81.6	79.4	78.2	77.5	77.6	78.8	79.6	80.9	81.2	83.8	79.7	78.0	80.5	80.5
1981	80.5	79.9	80.2	79.5	79.9	80.2	80.6	80.3	79.6	78.8	77.8	76.7	80.2	79.9	80.2	77.8	79.5
1982	75.1	76.3	75.7	74.8	74.2	73.8	73.3	72.7	72.3	71.6	71.2	70.5	75.7	74.3	72.8	71.1	73.5
1983	71.9	71.4	71.9	72.7	73.3	73.6	74.7	75.6	76.6	77.2	77.4	77.7	71.7	73.2	75.6	77.4	74.5
1984	79.2	79.4	79.7	80.1	80.3	80.4	80.5	80.4	80.1	79.9	80.1	80.0	79.5	80.3	80.4	80.0	80.0
1985	79.6	79.9	79.8	79.7	79.6	79.4	78.9	79.1	79.3	78.9	79.0	79.7	79.8	79.6	79.1	79.2	79.4
1986	80.1	79.3	78.7	78.7	78.7	78.5	78.7	78.4	78.5	78.7	79.0	79.6	79.4	78.6	78.5	79.1	78.9
1987	79.2	80.0	80.1	80.4	80.8	81.1	81.4	81.9	81.9	83.1	83.4	83.7	79.8	80.8	81.7	83.4	81.4
1988	83.7	84.0	84.1	84.4	84.3	84.5	84.5	84.9	84.5	84.9	85.0	85.3	83.9	84.4	84.6	85.1	84.5
1989	85.5	85.0	85.2	84.9	84.2	84.1	83.0	83.6	83.2	82.9	83.0	83.4	85.2	84.4	83.3	83.1	84.0
1990	82.7	83.2	83.5	83.3	83.2	83.3	83.0	83.1	83.1	82.4	81.2	80.5	83.1	83.2	83.1	81.4	82.7
1991	80.1	79.3	78.8	78.8	79.5	80.2	80.1	80.1	80.7	80.5	80.2	79.7	79.4	79.5	80.3	80.1	79.8
1992	79.0	79.5	80.0	80.5	80.6	80.4	81.0	80.5	80.5	80.9	81.1	81.0	79.5	80.5	80.6	81.0	80.4
1993	81.3	81.5	81.3	81.5	81.0	81.2	81.3	81.2	81.4	81.9	82.1	82.4	81.4	81.2	81.3	82.1	81.5
1994	82.6	82.5	83.1	83.2	83.5	83.9	83.8	83.9	83.8	84.2	84.4	85.0	82.7	83.5	83.8	84.5	83.6
1995	85.0	84.6	84.4	84.0	83.8	83.7	83.1	83.8	83.7	83.2	83.1	83.1	84.6	83.8	83.5	83.1	83.8
1996	82.1	83.1	82.6	83.1	83.3	83.7	83.1	83.3	83.5	83.1	83.5	83.7	82.6	83.4	83.3	83.4	83.2
1997	83.4	83.8	84.0	83.4	83.4	83.3	83.2	83.8	84.1	84.3	84.6	84.4	83.7	83.4	83.7	84.5	83.8
1998	84.2	83.9	83.6	83.6	83.7	82.8	81.9	83.3	82.6	82.8	82.3	82.2	83.9	83.4	82.6	82.5	83.1
1999	82.2	82.1	81.9	81.5	81.9	81.4	81.4	81.6	81.0	81.9	82.0	82.3	82.1	81.6	81.4	82.1	81.8
2000	81.9	81.8	81.8	82.0	81.8	81.7	81.2	80.7	80.9	80.4	80.2	79.7	81.8	81.9	80.9	80.1	81.2
2001	78.9	78.4	78.0	78.0	77.3	76.9	76.7	76.4	76.0	75.5	75.1	75.0	78.4	77.4	76.4	75.2	76.9
2002	75.6	75.4	76.1	76.3	76.6	77.3	77.0	77.0	76.9	76.6	76.8	76.3	75.7	76.7	77.0	76.6	76.5
2003	76.7	76.6	76.4	75.8	75.8	76.0	76.3	76.3	76.8	76.8	77.5	77.6	76.6	75.9	76.4	77.3	76.5
2004	77.8	78.4	78.1	78.7	79.3	78.8	79.2	79.3	79.0	79.6	79.7	80.2	78.1	78.9	79.2	79.8	79.0
2005	80.1	80.3	80.3	80.1	80.1	80.7	80.6	80.7	79.3				80.2	80.3	80.2		

NOTE. Estimates from July 2005 through September 2005 are subject to further revision in the upcoming monthly releases.

1. High technology industries include computers, communications equipment, and semiconductors and related electronic components.

Table 9A

INDUSTRIAL PRODUCTION: Manufacturing¹ Excluding Selected High-Technology Industries²

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual ³
IP (percent change)																	
1975	-2.0	-2.9	-1.3	-.2	.1	.9	1.5	1.0	1.7	.4	.2	1.3	-28.9	-6.3	14.1	10.1	-10.5
1976	1.3	1.3	.1	.7	.4	.0	.6	.6	.0	.0	1.2	1.0	13.2	5.9	4.7	5.6	8.5
1977	-.2	1.6	1.5	.9	.7	.7	.1	.4	.0	.2	.0	1.1	10.0	13.4	4.5	3.2	7.7
1978	-1.5	.2	1.6	1.6	.2	.7	-.2	.4	.3	.7	.8	.8	-.4	13.3	3.1	7.9	5.2
1979	-1.0	.4	.4	-1.5	1.0	.0	.0	-1.5	.1	.2	-.4	.2	.5	-1.7	-2.5	-1.6	2.0
1980	.3	-.2	-.9	-2.2	-3.2	-1.6	-1.0	.6	1.7	1.7	1.9	.2	-.3	-20.1	-8.6	18.9	-4.9
1981	-.5	-.8	.4	.3	.6	-.5	.1	.0	-.6	-1.2	-1.2	-1.8	-.4	2.1	-1.0	-11.4	.1
1982	-2.4	2.5	-.8	-.8	-.3	-.3	-.3	-.7	-.5	-1.2	-.8	-.6	-10.2	-3.2	-4.8	-9.4	-6.6
1983	2.4	-.2	.9	1.0	1.3	.7	1.3	.9	1.5	1.1	.2	.2	7.9	11.2	14.2	10.9	3.6
1984	1.8	.9	.4	.4	.1	.3	.4	.1	-.3	.4	.3	.3	11.4	4.4	2.0	1.9	8.4
1985	-.5	-.3	.9	-.1	.1	.1	-.4	.6	.2	-.3	.6	.4	-.2	1.8	.7	2.4	1.4
1986	1.3	-.7	-.3	.4	.1	-.2	.2	.2	.2	.3	.4	.8	4.7	-.3	1.2	4.2	2.2
1987	-.4	1.4	.1	.4	.7	.3	.5	.3	.5	1.5	.5	.5	4.8	5.8	5.5	10.4	4.6
1988	-.2	.1	.2	.7	-.2	.0	.0	.1	.3	.6	.3	.4	2.0	3.4	.6	4.7	4.4
1989	.9	-1.0	.0	.0	-.8	.1	-1.3	.9	-.3	-.3	.1	.1	2.1	-3.7	-4.0	-.4	.4
1990	-.3	1.4	.3	-.2	.0	.2	-.2	.3	-.1	-.8	-1.2	-.8	3.7	2.1	.2	-7.2	.0
1991	-.8	-.8	-.7	.3	.7	1.1	.3	.2	1.1	-.2	-.3	-.3	-9.8	1.5	7.1	1.0	-2.6
1992	-.8	.9	.9	.4	.6	.1	.7	-.5	-.1	.4	.3	-.2	-1.1	6.9	2.5	1.5	2.6
1993	1.0	.0	-.2	.5	-.1	-.2	.2	-.2	.5	.7	.3	.5	3.8	.8	.5	5.8	2.6
1994	.1	.0	1.1	.5	.6	.2	.3	.5	.0	.8	.6	.9	3.9	7.0	4.0	6.8	4.4
1995	.2	-.3	-.1	-.4	-.3	.2	-.8	.9	.5	-.4	-.1	.2	2.9	-2.4	.1	.9	2.5
1996	-1.2	1.3	-.5	1.0	.4	.8	-.1	.4	.5	-.4	.8	.6	-1.8	6.9	4.1	3.3	1.5
1997	-.2	1.0	.9	-.7	.5	.4	.1	1.3	.7	.5	.9	.2	6.0	2.6	6.7	8.8	4.9
1998	.4	-.1	-.3	.4	.4	-1.1	-.9	2.4	-.7	.7	-.1	.2	2.8	.1	-.7	4.1	3.5
1999	-.1	.5	-.5	-.1	.8	-.7	.0	.7	-.6	1.4	.4	.4	.8	.3	.4	7.1	1.4
2000	-.3	-.1	.3	.4	-.5	.0	-.3	-.9	.3	-.4	-.6	-.9	.6	.8	-3.7	-4.9	.9
2001	-.7	-.6	-.4	.1	-.8	-.4	.0	-.7	-.3	-.7	-.2	.2	-7.8	-4.1	-4.3	-4.5	-4.9
2002	.7	-.1	.9	.1	.5	1.0	-.4	.1	-.1	-.7	.1	-.6	4.2	5.3	1.7	-3.2	.3
2003	.3	-.4	.1	-.9	-.2	.5	.1	-.3	.9	.0	1.2	.0	-1.5	-3.9	2.1	5.3	-.6
2004	.1	.8	.1	.9	.7	-.7	.8	.5	-.5	.9	.0	.4	4.4	6.0	2.9	3.6	3.8
2005	.3	.4	-.4	-.1	.3	.2	.0	.4	-1.0				2.8	.3	.6		
IP (2002=100)																	
1975	60.4	58.7	57.9	57.8	57.9	58.4	59.3	59.9	60.8	61.1	61.2	62.0	59.0	58.0	60.0	61.4	59.6
1976	62.8	63.6	63.7	64.2	64.4	64.4	64.8	65.2	65.2	65.2	66.0	66.6	63.4	64.3	65.0	65.9	64.7
1977	66.5	67.5	68.5	69.2	69.7	70.1	70.2	70.5	70.6	70.7	70.7	71.5	67.5	69.7	70.4	71.0	69.7
1978	70.5	70.6	71.7	72.9	73.1	73.6	73.5	73.8	74.0	74.5	75.2	75.7	70.9	73.2	73.7	75.1	73.2
1979	74.9	75.2	75.5	74.4	75.2	75.1	75.2	74.0	74.1	74.3	74.0	74.2	75.2	74.9	74.4	74.1	74.7
1980	74.4	74.3	73.6	72.0	69.7	68.5	67.8	68.3	69.4	70.6	71.9	72.1	74.1	70.0	68.5	71.5	71.0
1981	71.7	71.2	71.4	71.7	72.1	71.7	71.8	71.8	71.3	70.5	69.6	68.4	71.4	71.8	71.6	69.5	71.1
1982	66.7	68.4	67.9	67.3	67.1	66.9	66.7	66.2	65.9	65.1	64.6	64.2	67.7	67.1	66.3	64.7	66.4
1983	65.8	65.7	66.3	66.9	67.8	68.3	69.2	69.8	70.9	71.7	71.8	71.9	65.9	67.7	70.0	71.8	68.8
1984	73.2	73.9	74.2	74.4	74.5	74.7	75.0	75.0	74.8	75.1	75.3	75.5	73.8	74.6	74.9	75.3	74.6
1985	75.2	75.0	75.6	75.5	75.6	75.7	75.4	75.8	76.0	75.8	76.2	76.5	75.3	75.6	75.7	76.2	75.7
1986	77.5	76.9	76.7	77.0	77.1	76.9	77.1	77.2	77.4	77.6	77.9	78.6	77.0	77.0	77.2	78.0	77.3
1987	78.2	79.3	79.3	79.6	80.2	80.4	80.8	81.1	81.5	82.8	83.2	83.6	78.9	80.1	81.2	83.2	80.8
1988	83.5	83.6	83.8	84.4	84.2	84.3	84.3	84.4	84.6	85.1	85.4	85.7	83.6	84.3	84.4	85.4	84.4
1989	86.4	85.5	85.5	85.5	84.8	84.9	83.8	84.5	84.2	84.0	84.1	84.2	85.8	85.0	84.2	84.1	84.8
1990	84.0	85.1	85.4	85.2	85.2	85.4	85.2	85.4	85.3	84.6	83.6	82.9	84.8	85.3	85.3	83.7	84.8
1991	82.3	81.6	81.0	81.3	81.8	82.7	82.9	83.1	84.0	83.8	83.5	83.3	81.6	81.9	83.3	83.5	82.6
1992	82.6	83.3	84.0	84.4	84.9	84.9	85.5	85.1	85.1	85.5	85.7	85.5	83.3	84.7	85.3	85.6	84.7
1993	86.4	86.5	86.3	86.7	86.6	86.4	86.6	86.5	86.9	87.6	87.9	88.3	86.4	86.6	86.7	87.9	86.9
1994	88.4	88.4	89.4	89.9	90.4	90.5	90.8	91.3	91.3	92.0	92.6	93.4	88.7	90.3	91.1	92.7	90.7
1995	93.6	93.3	93.2	92.9	92.6	92.8	92.0	92.9	93.4	93.0	92.9	93.1	93.3	92.8	92.8	93.0	93.0
1996	91.9	93.1	92.6	93.6	94.0	94.8	94.7	95.0	95.5	95.1	95.9	96.5	92.6	94.1	95.1	95.8	94.4
1997	96.3	97.3	98.1	97.4	97.9	98.3	98.4	99.7	100.4	100.9	101.8	102.0	97.2	97.9	99.5	101.6	99.0
1998	102.4	102.4	102.0	102.4	102.8	101.7	100.8	103.2	102.4	103.2	103.1	103.3	102.3	102.3	102.1	103.2	102.5
1999	103.2	103.7	103.2	103.1	104.0	103.2	103.3	104.0	103.4	104.9	105.3	105.8	103.4	103.4	103.5	105.3	103.9
2000	105.5	105.3	105.6	106.0	105.5	105.6	105.2	104.3	104.6	104.1	103.5	102.6	105.5	105.7	104.7	103.4	104.8
2001	101.8	101.2	100.8	100.9	100.1	99.7	99.7	99.1	98.7	98.1	97.9	98.1	101.3	100.3	99.2	98.0	99.7
2002	98.8	98.7	99.6	99.7	100.2	101.1	100.7	100.8	100.7	100.0	100.2	99.6	99.0	100.3	100.7	99.9	100.0
2003	99.8	99.4	99.5	98.5	98.4	98.8	99.0	98.7	99.6	99.6	100.8	100.8	99.5	98.6	99.1	100.4	99.4
2004	100.9	101.7	101.8	102.7	103.5	102.7	103.5	104.1	103.5	104.5	104.5	104.9	101.5	103.0	103.7	104.6	103.2
2005	105.2	105.6	105.2	105.1	105.4	105.7	105.7	106.1	105.0				105.3	105.4	105.6		

NOTE. Estimates from July 2005 through September 2005 are subject to further revision in the upcoming monthly releases.

1. See footnote 2 to table 3.

2. High technology industries include computers, communications equipment, and semiconductors and related electronic components.

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

Table 9B**CAPACITY AND UTILIZATION: Manufacturing¹ Excluding Selected High-Technology Industries²**

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
Capacity (percent of 2002 output)																	
1975	79.9	80.1	80.2	80.3	80.5	80.6	80.7	80.8	81.0	81.1	81.2	81.4	80.1	80.5	80.8	81.2	80.7
1976	81.5	81.6	81.8	81.9	82.1	82.2	82.3	82.5	82.7	82.8	83.0	83.1	81.6	82.1	82.5	83.0	82.3
1977	83.3	83.5	83.7	83.9	84.1	84.3	84.5	84.7	84.9	85.1	85.3	85.5	83.5	84.1	84.7	85.3	84.4
1978	85.7	85.9	86.0	86.2	86.4	86.6	86.8	87.0	87.2	87.4	87.5	87.7	85.9	86.4	87.0	87.5	86.7
1979	87.9	88.1	88.3	88.4	88.6	88.8	88.9	89.1	89.3	89.4	89.6	89.7	88.1	88.6	89.1	89.6	88.8
1980	89.9	90.0	90.2	90.4	90.5	90.7	90.8	91.0	91.2	91.4	91.5	91.7	90.0	90.5	91.0	91.5	90.8
1981	91.9	92.1	92.3	92.4	92.6	92.8	92.9	93.1	93.2	93.3	93.5	93.6	92.1	92.6	93.1	93.5	92.8
1982	93.7	93.8	93.9	94.0	94.1	94.2	94.2	94.3	94.3	94.4	94.4	94.4	93.8	94.1	94.3	94.4	94.1
1983	94.4	94.4	94.3	94.3	94.3	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.3	94.3	94.2	94.2	94.2
1984	94.2	94.3	94.3	94.4	94.5	94.6	94.7	94.8	95.0	95.2	95.3	95.5	94.3	94.5	94.9	95.3	94.7
1985	95.7	95.9	96.1	96.3	96.5	96.7	96.9	97.0	97.2	97.3	97.5	97.6	95.9	96.5	97.0	97.5	96.7
1986	97.7	97.8	97.9	98.0	98.1	98.2	98.3	98.4	98.5	98.6	98.7	98.8	97.8	98.1	98.4	98.7	98.3
1987	98.9	99.0	99.1	99.3	99.4	99.5	99.6	99.7	99.7	99.8	99.8	99.9	99.0	99.4	99.7	99.8	99.5
1988	99.9	99.9	99.9	99.9	99.9	100.0	100.0	100.0	100.1	100.2	100.3	100.4	99.9	99.9	100.0	100.3	100.0
1989	100.5	100.6	100.8	101.0	101.1	101.3	101.5	101.7	101.9	102.1	102.3	102.5	100.7	101.2	101.7	102.3	101.5
1990	102.7	102.8	103.0	103.2	103.3	103.5	103.6	103.8	103.9	104.1	104.2	104.4	102.8	103.3	103.8	104.2	103.5
1991	104.5	104.7	104.8	104.9	105.1	105.2	105.3	105.4	105.5	105.6	105.7	105.8	104.7	105.1	105.4	105.7	105.2
1992	105.9	106.0	106.1	106.2	106.3	106.5	106.6	106.7	106.8	106.9	107.1	107.2	106.0	106.3	106.7	107.1	106.5
1993	107.3	107.5	107.6	107.7	107.9	108.0	108.1	108.2	108.3	108.5	108.6	108.7	107.5	107.9	108.2	108.6	108.0
1994	108.8	108.9	109.0	109.2	109.3	109.5	109.6	109.8	110.0	110.2	110.4	110.6	108.9	109.3	109.8	110.4	109.6
1995	110.8	111.1	111.3	111.6	111.9	112.1	112.4	112.7	113.0	113.2	113.5	113.7	111.1	111.9	112.7	113.5	112.3
1996	114.0	114.2	114.5	114.7	114.9	115.2	115.4	115.7	116.0	116.2	116.6	116.9	114.2	114.9	115.7	116.6	115.3
1997	117.2	117.6	118.0	118.5	118.9	119.4	119.9	120.3	120.8	121.3	121.8	122.3	117.6	118.9	120.3	121.8	119.7
1998	122.8	123.2	123.7	124.1	124.5	124.9	125.3	125.7	126.1	126.4	126.7	127.1	123.2	124.5	125.7	126.7	125.1
1999	127.4	127.7	128.1	128.4	128.7	129.0	129.3	129.6	129.8	130.1	130.4	130.6	127.7	128.7	129.6	130.4	129.1
2000	130.9	131.1	131.3	131.6	131.8	132.0	132.2	132.4	132.5	132.7	132.9	133.0	131.1	131.8	132.4	132.9	132.0
2001	133.1	133.3	133.4	133.5	133.6	133.7	133.8	133.8	133.9	133.9	133.9	133.9	133.3	133.6	133.8	133.9	133.6
2002	133.9	133.9	133.9	133.9	133.9	133.9	133.9	133.8	133.8	133.7	133.7	133.6	133.9	133.9	133.8	133.7	133.8
2003	133.6	133.5	133.4	133.4	133.3	133.3	133.2	133.2	133.1	133.1	133.0	133.0	133.5	133.3	133.2	133.0	133.3
2004	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.1	133.1	133.1	133.2	133.0	133.0	133.0	133.1	133.0
2005	133.2	133.3	133.4	133.5	133.5	133.6	133.7	133.8	133.8				133.3	133.5	133.8		
Utilization (percent)																	
1975	75.6	73.3	72.2	72.0	71.9	72.5	73.4	74.0	75.1	75.3	75.4	76.2	73.7	72.1	74.2	75.6	73.9
1976	77.1	78.0	77.9	78.3	78.5	78.3	78.6	79.0	78.9	78.7	79.5	80.1	77.6	78.4	78.8	79.4	78.6
1977	79.8	80.9	81.9	82.5	82.9	83.3	83.1	83.3	83.2	83.2	83.0	83.7	80.9	82.9	83.2	83.3	82.6
1978	82.3	82.2	83.4	84.5	84.5	85.0	84.6	84.8	84.9	85.3	85.8	86.3	82.6	84.7	84.8	85.8	84.5
1979	85.3	85.4	85.6	84.1	84.8	84.6	84.5	83.1	83.0	83.1	82.6	82.6	85.4	84.5	83.5	82.8	84.1
1980	82.8	82.5	81.6	79.7	77.0	75.6	74.7	75.0	76.1	77.3	78.5	78.6	82.3	77.4	75.2	78.1	78.3
1981	78.0	77.3	77.4	77.5	77.8	77.3	77.3	77.1	76.5	75.5	74.5	73.0	77.6	77.6	77.0	74.4	76.6
1982	71.2	72.9	72.2	71.6	71.3	71.1	70.8	70.2	69.9	69.0	68.5	68.1	72.1	71.3	70.3	68.5	70.6
1983	69.7	69.6	70.3	71.0	71.9	72.5	73.4	74.1	75.3	76.1	76.3	76.4	69.9	71.8	74.3	76.3	73.0
1984	77.7	78.4	78.6	78.9	78.9	79.0	79.2	79.1	78.7	78.9	79.0	79.1	78.3	78.9	79.0	79.0	78.8
1985	78.6	78.2	78.7	78.5	78.4	78.3	77.8	78.2	78.2	77.8	78.2	78.4	78.5	78.4	78.1	78.1	78.3
1986	79.3	78.6	78.3	78.5	78.5	78.3	78.4	78.5	78.6	78.7	79.0	79.5	78.7	78.5	78.5	79.1	78.7
1987	79.1	80.1	80.0	80.2	80.7	80.8	81.2	81.4	81.7	82.9	83.3	83.7	79.7	80.6	81.4	83.3	81.3
1988	83.6	83.6	83.8	84.4	84.3	84.3	84.3	84.3	84.5	85.0	85.1	85.4	83.7	84.3	84.4	85.2	84.4
1989	86.0	85.0	84.8	84.7	83.8	83.7	82.5	83.1	82.6	82.2	82.2	82.1	85.3	84.1	82.7	82.2	83.6
1990	81.8	82.8	82.9	82.6	82.5	82.5	82.2	82.3	82.1	81.3	80.2	79.5	82.5	82.5	82.2	80.3	81.9
1991	78.7	78.0	77.3	77.4	77.9	78.6	78.8	78.8	79.6	79.3	79.0	78.7	78.0	78.0	79.1	79.0	78.5
1992	78.0	78.6	79.2	79.4	79.8	79.8	80.3	79.8	79.7	79.9	80.1	79.8	78.6	79.7	79.9	79.9	79.5
1993	80.5	80.4	80.2	80.5	80.3	80.0	80.1	79.9	80.2	80.7	80.9	81.2	80.4	80.2	80.1	81.0	80.4
1994	81.3	81.2	82.0	82.3	82.7	82.7	82.9	83.2	83.0	83.5	83.9	84.4	81.5	82.6	83.0	83.9	82.8
1995	84.4	84.0	83.7	83.2	82.8	82.8	81.9	82.5	82.7	82.2	81.9	81.8	84.0	82.9	82.3	81.9	82.8
1996	80.6	81.6	80.9	81.6	81.8	82.3	82.0	82.2	82.4	81.8	82.3	82.5	81.0	81.9	82.2	82.2	81.8
1997	82.2	82.7	83.1	82.2	82.3	82.3	82.1	82.8	83.1	83.2	83.6	83.4	82.7	82.3	82.6	83.4	82.7
1998	83.4	83.1	82.5	82.5	82.5	81.4	80.4	82.1	81.3	81.6	81.3	81.3	83.0	82.1	81.3	81.4	81.9
1999	81.0	81.2	80.6	80.3	80.8	80.1	79.9	80.2	79.6	80.6	80.8	81.0	80.9	80.4	79.9	80.8	80.5
2000	80.6	80.3	80.4	80.6	80.1	80.0	79.6	78.8	78.9	78.4	77.9	77.1	80.4	80.2	79.1	77.8	79.4
2001	76.5	76.0	75.6	75.6	75.0	74.6	74.5	74.0	73.7	73.2	73.1	73.3	76.0	75.0	74.1	73.2	74.6
2002	73.8	73.7	74.3	74.4	74.8	75.5	75.2	75.3	75.3	74.8	74.9	74.5	73.9	74.9	75.3	74.8	74.7
2003	74.7	74.4	74.5	73.9	73.8	74.2	74.3	74.1	74.8	74.8	75.7	75.8	74.6	73.9	74.4	75.4	74.6
2004	75.9	76.5	76.6	77.2	77.8	77.3	77.8	78.2	77.8	78.5	78.5	78.8	76.3	77.4	78.0	78.6	77.6
2005	78.9	79.2	78.9	78.8	79.0	79.1	79.0	79.3	78.5				79.0	78.9	78.9		

NOTE. Estimates from July 2005 through September 2005 are subject to further revision in the upcoming monthly releases.

1. See footnote 2 to table 3.

2. High technology industries include computers, communications equipment, and semiconductors and related electronic components.

Table 10

ANNUAL PROPORTIONS IN INDUSTRIAL PRODUCTION, MARKET AND INDUSTRY GROUP SUMMARY

Item		1997	1998	1999	2000	2001	2002	2003	2004
Total IP		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
MARKET GROUPS									
Final products and nonindustrial supplies		56.9	58.1	57.6	57.6	59.1	59.0	58.6	57.8
Consumer goods		27.6	28.0	28.2	28.5	30.1	31.0	31.2	30.2
Durable		7.9	7.9	8.0	7.9	8.1	8.9	9.0	8.7
Automotive products		3.7	3.7	3.9	3.7	4.0	4.7	4.9	4.7
Home electronics		.4	.4	.4	.4	.4	.3	.3	.3
Appliances, furniture, carpeting		1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.4
Miscellaneous goods		2.4	2.4	2.4	2.4	2.3	2.4	2.3	2.3
Nondurable		19.7	20.1	20.2	20.7	22.0	22.1	22.1	21.6
Non-energy		16.3	16.9	16.7	16.9	18.1	18.3	18.0	17.4
Foods and tobacco		8.7	9.2	9.1	9.3	10.0	9.8	9.8	9.5
Clothing		1.6	1.5	1.3	1.2	1.1	1.0	.9	.8
Chemical products		3.7	3.8	3.8	3.9	4.5	4.9	4.9	4.8
Paper products		1.8	1.9	1.9	1.9	2.0	2.0	1.9	1.9
Energy		3.4	3.2	3.5	3.7	3.8	3.9	4.1	4.2
Business equipment		11.8	12.3	11.9	11.7	11.2	10.3	9.9	10.0
Transit		2.1	2.5	2.3	2.0	2.0	1.9	1.8	1.9
Information processing		4.0	4.0	4.1	4.1	3.8	3.1	2.9	2.7
Industrial and other		5.8	5.8	5.5	5.6	5.4	5.3	5.2	5.4
Defense and space equipment		1.9	1.9	1.8	1.5	1.8	1.8	1.9	1.9
Construction supplies		4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.4
Business supplies		11.1	11.1	11.1	11.2	11.2	11.2	11.1	10.8
Materials		43.1	41.9	42.4	42.4	40.9	41.0	41.4	42.2
Non-energy		33.8	33.3	33.1	32.3	30.9	30.7	30.0	30.2
Durable		21.7	21.5	21.4	20.9	19.6	19.1	18.7	19.0
Consumer parts		4.2	4.2	4.4	4.1	3.8	4.0	3.8	3.7
Equipment parts		8.3	8.2	8.1	8.2	7.3	6.7	6.6	6.7
Other		9.2	9.1	8.9	8.6	8.4	8.4	8.4	8.7
Nondurable		12.1	11.8	11.7	11.4	11.2	11.6	11.3	11.2
Textile		1.1	1.0	1.0	.9	.8	.8	.8	.7
Paper		2.9	2.8	2.9	2.8	2.8	2.7	2.5	2.4
Chemical		4.9	4.6	4.5	4.3	4.2	4.5	4.5	4.7
Energy		9.3	8.6	9.2	10.1	10.0	10.3	11.4	12.0
INDUSTRY GROUPS									
Manufacturing		85.7	86.5	85.8	84.5	84.1	83.9	82.6	82.0
Manufacturing (NAICS)		81.3	81.8	81.0	79.7	79.2	79.1	77.9	77.5
Durable manufacturing		46.5	47.1	46.7	45.6	44.3	43.6	42.9	43.1
Wood products	321	1.5	1.5	1.6	1.4	1.4	1.5	1.5	1.6
Nonmetallic mineral products	327	2.2	2.3	2.3	2.2	2.3	2.3	2.2	2.3
Primary metal	331	3.1	2.9	2.8	2.5	2.3	2.3	2.3	2.6
Fabricated metal products	332	6.0	6.1	6.0	6.0	5.9	5.7	5.6	5.7
Machinery	333	6.3	6.2	5.9	6.0	5.7	5.3	5.1	5.4
Computer and electronic products	334	10.4	10.2	10.3	10.3	9.2	8.0	7.8	7.7
Electrical equip., appliances, and components	335	2.6	2.6	2.5	2.5	2.4	2.2	2.1	2.1
Motor vehicles and parts	3361-3	6.7	6.6	7.0	6.6	6.5	7.4	7.5	7.3
Aerospace and other miscellaneous transportation equipment	3364-9	3.4	4.1	3.8	3.3	3.8	3.6	3.5	3.5
Furniture and related products	337	1.6	1.7	1.7	1.7	1.7	1.8	1.8	1.7
Miscellaneous	339	2.8	2.8	2.8	2.9	3.1	3.3	3.3	3.2
Nondurable manufacturing		34.7	34.7	34.4	34.1	35.0	35.5	35.0	34.4
Food, beverage, and tobacco products	311,2	10.1	10.6	10.4	10.7	11.4	11.4	11.4	11.0
Textile and product mills	313,4	1.7	1.6	1.5	1.4	1.3	1.4	1.3	1.2
Apparel and leather	315,6	1.8	1.6	1.4	1.3	1.2	1.0	.9	.8
Paper	322	3.2	3.2	3.2	3.2	3.1	3.1	2.9	2.8
Printing and support	323	2.7	2.6	2.6	2.6	2.6	2.4	2.3	2.1
Petroleum and coal products	324	1.6	1.5	1.7	1.9	1.7	1.7	2.0	2.3
Chemical	325	10.1	9.9	9.6	9.4	9.8	10.6	10.6	10.5
Plastics and rubber products	326	3.7	3.7	3.8	3.7	3.7	3.8	3.7	3.6
Other manufacturing (non-NAICS)	1133,5111	4.4	4.7	4.8	4.8	4.9	4.8	4.7	4.5
Mining	21	5.4	4.8	5.5	6.5	6.4	6.4	7.5	8.5
Utilities	2211,2	8.9	8.7	8.6	9.0	9.5	9.7	9.9	9.5
Electric	2211	7.7	7.5	7.4	7.6	8.1	8.2	8.3	7.9
Natural gas	2212	1.3	1.2	1.2	1.4	1.4	1.4	1.6	1.6

NOTE. The IP proportion data are estimates of the industries' relative contributions to overall IP change between the reference year and the following year. For example, a 1 percent increase in durable goods manufacturing between 2004 and 2005 would account for a 0.431 percent increase in total IP.

EXPLANATORY NOTE

The **Industrial Production and Capacity Utilization** statistical release, which is published around the middle of the month, reports measures of output, capacity, and capacity utilization in manufacturing, mining, and the electric and gas utilities industries. More detailed descriptions of industrial production and capacity utilization are available at www.federalreserve.gov/releases/G17 at the Board's World Wide Web site. In addition, files containing data shown in the release, more detailed series that were published in the G.17 prior to December 2000, and historical data are available at the Board's Web site. Instructions for searching for and downloading specific series are provided as well. For paid access to the data files through the Department of Commerce's Economic Bulletin Board or World Wide Web site, please call STAT-USA at 1-800-STAT-USA or 202-452-1986. Diskettes containing historical data and the data published in this release also are available from the Board of Governors of the Federal Reserve System, Publications Services, 202-452-3245.

INDUSTRIAL PRODUCTION

Coverage. The industrial production (IP) index measures the real output of the manufacturing, mining, and electric and gas utilities industries; the reference period for the index is 2002. Manufacturing consists of those industries included in the North American Industry Classification System, or NAICS, definition of manufacturing *plus* those industries—logging and newspaper, periodical, book and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. For the period since 1997, the total IP index has been constructed from 300 individual series based on the 2002 North American Industrial Classification System (NAICS) codes. These individual series are classified in two ways: (1) market groups, and (2) industry groups. Market groups consist of products and materials. Total products are the aggregate of final products, such as consumer goods and equipment, and nonindustrial supplies (which are inputs to nonindustrial sectors). Materials are inputs in the manufacture of products. Major industry groups include three-digit NAICS industries and aggregates of these industries—for example, durable and nondurable manufacturing, mining, and utilities. A complete description of the market and industry structures, including details regarding series classification, relative importance weights, and data sources, is available on the Board's web site (www.federalreserve.gov/releases/G17/About.html).

Source data. On a monthly basis, the individual indexes of industrial production are constructed from two main types of source data: (1) output measured in physical units and (2) data on inputs to the production process, from which output is inferred. Data on physical products, such as tons of steel or barrels of oil, are obtained from private trade associations and from government agencies; data of this type are used to estimate monthly IP wherever possible and appropriate. Production indexes for a few industries are derived by dividing estimated nominal output (calculated using unit production or sales and unit values) by a corresponding Fisher price index; the most notable of these fall within the high-technology grouping and include computers, communications equipment, and semiconductors. When suitable data on physical product are not available, estimates of output are based on production-worker hours by industry. Data on hours worked by production workers are collected in the monthly establishment survey conducted by the Bureau of Labor Statistics. The factors used to convert inputs into estimates of production are based on historical relationships between the inputs and the comprehensive annual data used to benchmark the IP indexes; these factors also may be influenced by technological or cyclical developments. The annual data used in benchmarking the individual IP indexes are constructed from a variety of source data, such as the quinquennial *Censuses of Manufactures and Mineral Industries* and the *Annual Survey of Manufactures*, prepared by the Bureau of the Census; the *Minerals Yearbook*, prepared by the United States Geological Survey of the Department of the Interior; and publications of the Department of Energy.

Aggregation Methodology and Weights. The aggregation method for the IP index is a version of the Fisher-ideal index formula. (For a detailed discussion of the aggregation method, see *Federal Reserve Bulletin* February 1997 and March 2001.) In the IP index, series that measure the output of an individual industry are combined using weights derived from their proportion in the total value-added output of all industries. The IP index, which extends back to 1919, is built as a chain-type index since 1972. The current formula for the growth in monthly IP (or any of the sub-aggregates) since 1972 is the geometric mean of the change in output (I), and, as can be seen below, is computed using the unit value added estimate for the current month (p_m) and the estimate for previous month:

$$\frac{I_m^A}{I_{m-1}^A} = \sqrt{\frac{\sum I_{m-1} p_{m-1}}{\sum I_{m-1} p_{m-1}} \times \frac{\sum I_m p_m}{\sum I_{m-1} p_m}}$$

The IP proportions (typically shown in the first column of the relevant tables in the G.17 release) are estimates of the industries' relative contributions to overall growth in the following year. For example, the relative importance weight of the motor vehicles and parts industry is about 8 percent. If output in this industry increased 10 percent in a month, then this gain would boost growth in total IP by $8/10$ percentage point ($0.08 \times 10\% = 0.8\%$). To assist users with calculations, the Federal Reserve's web site provides supplemental monthly statistics that represent the exact proportionate contribution of a monthly change in a component index to the monthly change in the total index (www.federalreserve.gov/releases/G17/ipdisk/ipweights.sa).

Timing. The first estimate of output for a month is published around the 15th of the following month. The estimate is preliminary (denoted by the superscript "p" in tables) and subject to revision in each of the subsequent three months as new source data become available. (Revised estimates are denoted by the superscript "r" in tables.) For the first estimate of output for a given month, about 70 percent of the source data (in value-added terms) are available; the fraction of available source data increases to about 85 percent for estimates in the second month that the estimate is published, 96 percent in the third month, and 97 percent in the fourth month. Data availability by data type is summarized in the table below:

Availability of Monthly IP Data in Publication Window
(Percent of value added in 2004)

Type of data	Month of estimate			
	1st	2nd	3rd	4th
Physical product	25	40	51	52
Production-worker hours	45	45	45	45
IP data received	70	85	96	97
IP data estimated	30	15	4	3

NOTE—The physical product group includes series based on either monthly or quarterly data. As can be seen in the first line of the table, in the first month, a physical product indicator is available for about half of the series (in terms of value added) that ultimately are based on physical product data (25 percent out of total of 52 percent). Of the 25 percent, about two-thirds (17 percent of total IP) include series that are derived from weekly physical product data and for which actual monthly data may lag up to several months. On average, quarterly product data are received for the third estimate of industrial production. Specifically, quarterly data are available for the second estimate of the last month of a quarter, the third estimate of the second month of a quarter, and the fourth estimate of the first month of a quarter. About 3 percent of the source data for monthly IP—all physical product measures—are available too late for direct inclusion in the current index and are incorporated at the time of an annual historical revision.

Seasonal adjustment. Individual series are seasonally adjusted using Census X-12 ARIMA. For series based on production-worker hours, the current seasonal factors were estimated with data through September 2005; for other series, the factors were estimated with data through at least June 2005. Series are pre-adjusted for the effects of holidays or the business cycle when appropriate. For the data since 1972, all seasonally adjusted aggregate indexes are calculated by aggregating the seasonally adjusted indexes of the individual series.

Reliability. The average revision to the *level* of the total IP index, without regard to sign, between the first and the fourth estimates was 0.27 percent during the 1987–2004 period. The average revision to the *percent change* in total IP, without regard to sign, from the first to the fourth estimates was 0.21 percentage point during the 1987–2004 period. In most cases (about 86 percent), the direction of change in output indicated by the first estimate for a given month is the same as that shown by the fourth estimate.

Rounding. The published percent changes are calculated from unrounded indexes, and may not be the same as percent changes calculated from the rounded indexes shown in the release.

CAPACITY UTILIZATION

Overview. The Federal Reserve Board constructs estimates of capacity and capacity utilization for industries in manufacturing, mining, and electric and gas utilities. For a given industry, the capacity utilization rate is equal to an output index (seasonally adjusted) divided by a capacity index. The Federal Reserve Board's capacity indexes attempt to capture the concept of *sustainable maximum output*—the greatest level of output a plant can maintain within the framework of a realistic work schedule, after factoring in normal downtime and assuming sufficient availability of inputs to operate the capital in place.

Coverage. Capacity indexes are constructed for 85 detailed industries (67 in manufacturing, 16 in mining, and 2 in utilities), which mostly correspond to industries at the three- and four-digit NAICS level. Estimates of capacity and utilization are available for a variety of groups, including durable and nondurable manufacturing, total manufacturing, mining, utilities, and total industry. Manufacturing consists of those industries included in the North American Industry Classification System, or NAICS, definition of manufacturing *plus* those industries—logging and newspaper, periodical, book and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. Also, special aggregates are available, such as high-tech industries and manufacturing excluding high-tech industries.

Source Data. The monthly rates of capacity utilization are designed to be consistent with both the monthly data on production and the periodically available data on capacity and utilization. Because there is no direct monthly information on overall industrial capacity or utilization rates, the Federal Reserve first estimates annual capacity indexes from the source data. Capacity data reported in physical units from government sources (primarily from the U.S. Geological Survey and the Department of Energy's Energy Information Administration) and trade sources are available for portions of several industries in manufacturing (e.g., paper, industrial chemicals, petroleum refining, motor vehicles), as well as for electric utilities and mining; these industries represent about 21 percent of total industrial capacity. When physical product data are unavailable for manufacturing industries, capacity indexes are based on responses to the Bureau of the Census's *Survey of Plant Capacity* (SPC); these industries account for a bit less than 75 percent of total industry capacity. In the absence of utilization data for a few mining and petroleum series, capacity is based on trends through peaks in production (roughly 4 percent of total industry capacity). A detailed description of the methodology used to construct the capacity indexes is available on the Board's web site (www.federalreserve.gov/releases/G17/cap_notes.html).

Aggregation Methodology. Monthly capacity aggregates are calculated in three steps: (1) utilization aggregates are calculated on an annual basis through the most recent full year as capacity-weighted aggregates of individual utilization rates; (2) the annual aggregate capacity is derived from the corresponding production and utilization aggregates; (3) the monthly capacity aggregate is obtained by interpolating with a Fisher index of its constituent monthly capacity series. Utilization rates for the individual series and aggregates are calculated by dividing the pertinent monthly production index by the related capacity index.

Consistency. A major aim is that the Federal Reserve utilization rates be consistent over time so that, for example, a rate of 85 percent means about the same degree of tightness that it meant in the past. A major task for the Federal Reserve in developing reasonable and consistent time series of capacity and utilization is dealing with inconsistencies between the movements of the industrial production index and the survey-based utilization rates. The McGraw-Hill/DRI Survey, now discontinued, was the primary source of manufacturing utilization rates for many years. This was a survey of large companies that reported, on average, higher utilization rates than those reported by establishments covered by the SPC (currently the primary source of factory operating rates) for the fourteen years they overlapped. Adjustments have been made to keep the industry utilization rates currently reported by the Federal Reserve roughly in line with rates formerly reported by McGraw-Hill. As a consequence, the rates reported by the Federal Reserve tend to be higher than the rates reported in the SPC.

Perspective. Over the 1972–2004 period, the average total industry utilization rate is 81.0 percent; for manufacturing, the average factory operating rate has been 79.8 percent. Industrial plants usually operate at capacity utilization rates that are well below 100 percent: none of the broad aggregates has ever reached 100 percent. For total industry and total manufacturing, utilization rates have exceeded 90 percent only in wartime.

REFERENCES AND RELEASE DATES

References. The annual revision published in November 2005 will be described in an article published in an upcoming *Federal Reserve Bulletin*. A description of the aggregation methods for industrial production and capacity utilization is included in an article in the *Federal Reserve Bulletin*, vol. 83 (February 1997), pp. 67–92. The Federal Reserve methodology for constructing industry-level measures of capital is detailed in “Capital Stock Estimates for Manufacturing Industries: Methods and Data” by Mike Mohr and Charles Gilbert (1996), which can be obtained at:

www.federalreserve.gov/releases/g17/capital_stock_doc-latest.pdf.

Industrial Production—1986 Edition contains a more detailed description of the other methods used to compile the industrial production index, plus a history of its development, a glossary of terms, and a bibliography. The major revisions to the IP indexes and capacity utilization since 1990 have been described in the *Federal Reserve Bulletin* (April 1990, June 1990, June 1993, March 1994, January 1995, January 1996, February 1997, February 1998, January 1999, March 2000, March 2001, March 2002, April 2003, Winter 2004, Winter 2005).

Release Schedule

At 9:15 a.m. on

2005: January 14, February 16, March 16, April 15, May 17, June 15, July 15, August 16, September 14, October 14, November 17, and December 15.

2006: January 17, February 15, March 17, April 14, May 16, June 15, July 17, August 16, September 15, October 17, November 16, and December 15.