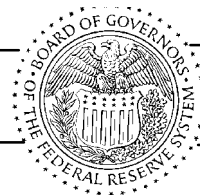


FEDERAL RESERVE statistical release



G.17 (419) 2008 Historical and Annual Revision

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Industrial Production and Capacity Utilization: The 2008 Annual Revision

The Federal Reserve has revised the index of industrial production (IP) and the related measures of capacity and capacity utilization. Although rates of change from January 1972 through February 2008 are affected, the revision has its largest impact on data from 2003 onward. Relative to earlier estimates, measured from fourth quarter to fourth quarter, total IP is now reported to have increased more slowly in 2006, but changes to output in other recent years were more modest.¹ The period from 2003 through 2007 is marked by a steady, moderate rise in industrial output; on average, production increased 2.2 percent per year over this time frame, and the annual rates of change ranged from 1.5 percent to 3.1 percent.

The revision to IP incorporates the U.S. Census Bureau's 2006 Annual Survey of Manufactures (ASM), which shows a lower annual level of output than previously estimated. In addition to the 2006 ASM, other new source data for this year's revision to the IP indexes include manufacturing data from selected 2006 Current Industrial Reports from the Census Bureau, annual data on the publishing industry from the Census Bureau's Services Annual Survey, new annual data on mineral extraction for 2005 and 2006 from the U.S. Geological Survey, and updated deflators from the Bureau of Economic Analysis. The new monthly production estimates also reflect the incorporation of updated seasonal factors and monthly source data that became available (or were revised) after the closing of the reporting window.

Beginning with the release of March data in the Federal Reserve's monthly G.17 Statistical Release, monthly releases will be based on a six-month reporting window: One month of new data will be reported, and the previous five months of data will be revised. For example, the monthly release to be issued on April 16 will include new data for March and revised data for October through February. Previously, the monthly releases were issued with a four-month reporting window, which covered one month of new data and revisions to the previous three months of data. The incorporation of a six-month window will allow for the inclusion of additional data before an annual revision. Over the past year, a six-month window would have allowed an additional 3 percent to 4 percent of IP to reflect primary source data that otherwise would only have been incorporated at the time of an annual revision.² The longer reporting window will cause the latest month of data shown for a few indexes in the supplement to the G.17 release to be as many as five months earlier than the latest value for aggregate IP; the monthly values for detailed production indexes are not shown until either the underlying data are available or the reporting window is closed. Over the past year, the data issued for only one or two of the published indexes would have been affected by this change.

The revision shows that the rates of capacity utilization for total industry in the fourth quarters of 2006 and 2007 were lower than previously estimated. The larger revision was for 2006, when utilization was 0.8 percentage point lower than reported earlier. The downward revision for the fourth quarter of 2007 was 0.5 percentage point; at 81.0 percent, overall utilization was the same as its 1972–2007 (long-run) average.

The revised capacity utilization rates incorporate the results from the Census Bureau's 2006 Survey of

¹Estimates for the fourth quarter of 2007 are subject to further revision in the upcoming monthly releases.

²Some IP indexes are estimated from secondary source data until primary source data become available.

Plant Capacity for the fourth quarter of that year. In addition, the revisions to the capacity indexes and capacity utilization rates incorporate the revised production indexes and newly available data on industrial capacity from the U.S. Geological Survey, 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 1A and 1B show the monthly, quarterly, and annual average index levels for IP and for capacity and utilization for January 1978 through February 2008, along with percent changes in IP and capacity utilization rates. Tables 2 and 3 show the revised rates of change in IP from 2003 through 2007 for market groups, industry groups, special aggregates, and selected detail. Table 4 shows revised annual rates of change in IP during the 2003–07 period for selected detail, and table 5 shows the rates of change in capacity by industry groups for the same period. Tables 2 through 5 also show the difference between the revised and earlier rates of change. Table 6 shows the revised capacity utilization rates for the final quarters of recent years and the differences between the revised and previous rates. Tables 7A, 7B, 8A, 8B, 9A, and 9B report the revised production, capacity, and utilization series for manufacturing, total industry excluding selected high-technology industries, and manufacturing excluding selected high-technology industries. Table 10 reports the annual proportions in IP by market and industry groups for 2000 through 2007.

Industrial Production

The gains in total IP were revised down, on net, over the 2003–07 period (table 2), although the index continues to rise moderately each year. Compared with the previous estimates, the increases in output are now reported to have been a little faster in 2003 and 2007, little changed in 2004, and slower in 2005 and especially in 2006.³

Manufacturing production has expanded in each year since 2003, albeit at a somewhat slower rate, on balance, than initially reported.⁴ Across all manufacturing industries, the largest downward revisions generally occurred for 2006, the year that marks the incorporation of the most recent ASM data. For durable goods industries as a whole, output has risen solidly in recent years, although these gains have been moderated by the recent revision. For 2003 and 2004, the revisions to output in most durable goods industries were relatively modest. Relative to previous reports, the current revision reports lower output indexes in 2005 and 2006 for nonmetallic mineral products; computer and electronic products; electrical equipment, appliances, and components; aerospace and miscellaneous transportation equipment; and miscellaneous manufacturing industries. The rates of change for the production indexes for most durable goods industries in 2007 are now higher than in earlier reports.

Production in nondurable manufacturing industries has advanced in every year since 2003; the largest increases occurred in 2004 and 2006. Within the nondurable goods sector, output in most recent years was little changed compared with previous estimates, except in 2006, when it rose about 1 percentage point less than reported earlier. The current revision reports noticeably lower rates of change in 2005 and 2006 in food, beverage, and tobacco products; textile and product mills; apparel and leather; printing and support; and plastics and rubber products. In contrast, the output of chemicals is now reported to have declined less in 2005, and to have risen more in 2006, than indicated earlier.

The rates of change for non-NAICS manufacturing (publishing and logging) from 2004 through 2007 are lower as a result of the revision. The revised output index for this group fell in 2005, 2006, and 2007, with the

³In this section, all the rates of change are calculated from the fourth quarter of the previous year to the fourth quarter of the reference year. Estimates for the fourth quarter of 2007 are subject to further revision in the upcoming monthly releases.

⁴Manufacturing 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.

largest decrease in 2006. The indexes for mining and utilities are similar to the previously published estimates; the only noteworthy difference is a downward revision to the change in utilities in 2006.

The estimates for selected high-technology industries—computers and peripheral equipment, communications equipment, and semiconductors and related electronic components—incorporate sizable revisions over the 2003–07 period (table 3). On net, output in the high-tech sector is still reported to have posted robust gains in recent years. However, the output indexes are now shown to have registered lower gains in 2004, 2005, and 2006 and to have increased more rapidly in 2003 and 2007 than reported earlier. The index for computers and peripheral equipment has posted gains in each of the past few years; however, those gains are now estimated to have been lower, on balance, than shown earlier. The output of communications equipment is now reported to have expanded less rapidly in 2004 but more rapidly in other recent years. Production of semiconductors and related components has posted solid annual gains since 2003; however, the rate of increase in 2006 is now reported to have been markedly lower than estimated previously.

Production by Market Group

The production index for final products and nonindustrial supplies (table 2) has posted moderate gains in recent years. Compared with the previous estimates, the advance in the index is now reported to have been 1.5 percentage points lower for 2006; overall changes to the rates of increase in other years were smaller.

The rise in the output of consumer goods was revised down, on net, over the 2003–07 period. The output of durable consumer goods rose in 2003, 2005, and 2007 but declined in 2004 and 2006. Over most of this period, the rates of change are now reported to have been lower than earlier estimates suggested. Notably, production gains for home electronics from 2003 to 2007 were revised down appreciably.

The index for consumer nondurables shows moderate gains in output in each of the past several years. Among consumer nondurables, the indexes for foods and tobacco, clothing, and paper products were revised down for 2005 and 2006; however, the output of chemical products is now reported to have increased at a faster pace over the same time period. As revised, the index for consumer energy products posted a modest decline in 2006 rather than a small gain.

The production of business equipment has increased solidly since 2004; however, relative to previously published estimates, the revised index rose more slowly in 2005, 2006, and 2007. For transit equipment, the revision finds that output declined in 2003 and 2007 and that the gains in 2005 and 2006 were less sharp than reported earlier. The production index for information processing equipment is now shown to have risen more rapidly in 2003 and 2006 than in previous reports. In contrast to earlier estimates, the production of defense and space equipment is now estimated to have fallen in 2006 and to have risen in 2007.

The output of construction supplies posted solid gains in 2004 and 2005 but fell back in 2006 and 2007; relative to earlier estimates, the rates of change in recent years are generally lower. Although the production of business supplies edged down in 2006, it increased moderately in all other years since 2003; the rates of change for output in 2005 and 2006 are now reported to have been weaker than previously stated. The index for materials is now estimated to have expanded more rapidly in 2003, 2004, and 2007 and more slowly in 2005 and 2006. In particular, output gains for both durable and nondurable materials were markedly less in 2006 than stated earlier, although the rates of change for both categories are now reported to have been somewhat higher in 2007. The index for energy materials is now shown to have been slightly weaker, on net, from 2003 through 2007.

Capacity

Total industrial capacity is now estimated to have risen 1.1 percentage points more slowly in 2006 than

previously stated (table 5). Relative to earlier estimates, changes in other years were more modest. Overall, capacity declined in 2003, edged up in 2004, and then posted moderate gains from 2005 through 2007. The contour of manufacturing capacity and the revisions to that contour are similar to those for total industry. The revision shows that, relative to previous reports, aggregate capacity for the selected high-technology industries rose less quickly in 2005 and 2006 but increased somewhat more rapidly in other recent years. Excluding high-technology industries, manufacturing capacity advanced less in 2006 and 2007 than previously reported; revisions to the changes for earlier years were minor.

Capacity at mines is still estimated to have contracted from 2003 to 2005 and to have expanded since then. The gains in 2006 and 2007 are now reported to have been stronger than previously published. Capacity at electric and gas utilities has risen each year since 2003. The current estimates show a noticeably slower gain in 2006 than was reported earlier; revisions to other recent years were smaller.

By stage of processing, capacity in the crude stage is now reported to have risen more in 2006 and 2007 than previously shown; on net, revisions to earlier years were small. Capacity at the primary and semifinished stages rose less in 2006 than stated earlier. Relative to previous estimates, increases to the index for finished goods processors were revised down, on net, over the 2003–07 period.

Capacity Utilization

For the past several years, the capacity utilization rate for total industry has remained near its long-run average of 81.0 percent (table 6). For the fourth quarter of 2007, total utilization stood at its long-run average and was 0.5 percentage point lower than reported earlier. The utilization rate for total industry was revised down about $\frac{3}{4}$ percentage point for the fourth quarter of 2006, but revisions were smaller in other recent years.

Relative to earlier reports, the factory operating rate was little changed in 2004 and was revised down in 2005, 2006, and 2007. For almost all major categories of manufacturing industries over the 2005–07 period, utilization is now reported to have been lower than stated earlier, and downward revisions were particularly noticeable for 2006. Among durable goods industries, some of the largest downward revisions to utilization over the 2004–07 period were for primary metals; electrical equipment, appliances, and components; motor vehicles and parts; and aerospace and miscellaneous transportation equipment. The durable goods industries that reported the largest net upward revisions since 2004 were computer and electronic products, furniture and related products, and wood products. Among nondurable goods industries, only chemicals registered higher rates of utilization since 2004 than previously reported; for all other categories, operating rates are now reported to have been lower than stated earlier. Capacity utilization in the other (non-NAICS) manufacturing industries was revised sharply downward for 2006 and 2007; utilization in the fourth quarter of 2007 was 79.1 percent, 5.5 percentage points lower than its long-run average.

The operating rates for the selected high-technology industries rose steadily from 2004 through 2006 but fell back last year. Relative to earlier estimates, capacity utilization is now reported to be lower in 2004 and 2005, but higher in 2006 and 2007. In the fourth quarter of 2007, the utilization rate was about 10 percentage points higher than it was in the fourth quarter of 2004, but was only $1\frac{1}{2}$ percentage points above its long-run average. Among the selected high-technology industries for the 2004–07 period, the operating rates for computers and peripheral equipment and for communications equipment are now shown to be lower than reported earlier and utilization rates for semiconductors and related electronic components are now higher than previously estimated.

Capacity utilization in mining was revised up for 2004 and 2005 but was revised down slightly for 2006 and lowered more noticeably for 2007. Nevertheless, as of the fourth quarter of 2007, the utilization rate for mining stood at 90.2 percent, almost 3 percentage points higher than its long-run average. In electric and gas utilities, capacity utilization rates were revised down for 2005 through 2007.

TECHNICAL ASPECTS OF THE REVISION

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 as well as revised information from the 2005 and 2006 Annual Surveys of Manufactures (ASM). This revision also incorporates the 2006 Survey of Plant Capacity, other annual industry reports, recent information on prices, and revised monthly source data on physical product and production-worker hours.

As mentioned earlier, the benchmark indexes for most industries incorporate updated price indexes from the industry output program of the Bureau of Economic Analysis. However, the price indexes for pharmaceuticals (NAICS 325412), for semiconductors (NAICS 334413), and for most components of communications equipment (NAICS 3342) are constructed by the Federal Reserve from alternative sources.⁵

As in recent years, the 2006 ASM did not provide data for all six-digit NAICS industries but combined some of them into higher-level industry aggregates. To maintain benchmark references that were consistent over time, the Federal Reserve used detailed information from the 2002 Census of Manufactures to impute estimates of gross output for those industries no longer reported separately.

Changes to Individual Production Series

With this revision, the monthly production indicators for some series have changed, and some new series have been created.

Vacuum Cleaners

The index for household vacuum cleaner manufacturing (NAICS 335212) is now based on monthly data on unit shipments from the Association of Home Appliance Manufacturers (AHAM), with a model-based inventory adjustment. Formerly, the index was based on quarterly data from the Vacuum Cleaner Manufacturers Association (VCMA). In 2003, AHAM assumed responsibility from VCMA for issuing the data. With this revision, the monthly time series was long enough to construct seasonal factors.

The estimates for the change in inventories follow the procedure introduced in the 2004 annual revision; the procedure is currently used for several other industries. In short, manufacturers are assumed to want to hold inventories in proportion to their expected shipments. The estimate of inventory change is computed as the sum of three components: a trend rate of stockbuilding, a portion of the adjustment to inventories that a manufacturer would need to make to reach a desired inventory level, and the effect on stocks of shipments deviating from expected shipments.

High-technology goods

Computers

The index for electronic computer manufacturing (NAICS 334111) was split into separate indexes for certain product classes, and these indexes are now based on new source data and methods. The new product-based indexes are for consumer desktop computers, consumer mobile computers, business desktop computers, business mobile computers, servers that use x86-based central processing units (CPUs), and servers that use CPUs other than those based on x86 architecture.⁶ The coverage of the indexes for servers is consistent with classifications commonly used by industry analysts. Although the six product-level indexes are not published in the monthly statistical release, they are included in the broader IP aggregate for electronic computer

⁵A table that lists annual and quarterly price indexes for the networking equipment component of communications equipment is attached.

⁶The term x86 refers to CPUs that use either 32-bit or 64-bit processors.

manufacturing.

All of the product-based indexes for electronic computers are derived from quarterly data on domestic absorption from IDC, an industry research group. To construct the monthly indicator, the nominal absorption data are aggregated to the industry level and converted to industry shipments based on Census trade data (by adding exports and subtracting imports). The industry-level ratio of shipments to domestic absorption is applied to each of the six product-level absorption estimates to obtain product-level shipments. These shipments are then adjusted by model-based estimates of the change in product-level inventories (refer to the discussion under Vacuum Cleaners) and divided by the relevant producer price index issued by the Bureau of Labor Statistics (BLS) to compute a production index.

Semiconductors

More detail and new price data were added to the indexes for the MOS (metal-oxide semiconductor) memories portion of semiconductor and related device manufacturing (part of NAICS 334413). Previously, all subcomponents of MOS memories were included in one index. To better track differential movements in specific product categories, this revision split the MOS memory index into three subcomponents: an index for DRAM (dynamic random access memory), an index for flash memory, and an index for all other MOS memories. The underlying source data on nominal shipments for all components of memories continue to be from the Semiconductor Industry Association (SIA). The new indexes for MOS memories will not be published separately but will continue to be included in the larger index for semiconductor and related device manufacturing.

The current revision incorporates quarterly data on prices from iSuppli, an industry research group, for all three categories of MOS memories. Previously, the DRAM portion of the index relied on quarterly prices from Gartner, and the non-DRAM portion used product-level producer price indexes from the BLS that have been discontinued. Monthly interpolations of the quarterly iSuppli prices are based on average sales prices from iSuppli for the DRAM index and on average sales prices from SIA for the flash index and the other memories index.

Communications Equipment

This revision reorganized and introduced new source data and methods for the production indexes associated with communications equipment manufacturing (NAICS 3342). The industry is now represented by six indexes: data networking equipment; enterprise and home voice equipment; transmission, local loop, and legacy central office equipment; wireless system equipment; satellites and earth station equipment; and other communications equipment.

Two of the new components of communications equipment, the index for data networking equipment and the index for enterprise and home voice equipment, are now based on quarterly data on nominal domestic absorption from Synergy Research Group. Information on routers and ethernet switches is used for the data networking equipment index, and information on enterprise voice network equipment such as PBX (private branch exchange) systems is used for the enterprise and home voice equipment index. For both indexes, the quarterly price indicators are based on matched-model price indexes constructed from the detail in the Synergy data.

New quarterly source data on domestic absorption from the Dell'Oro group underlie two other new indexes for the communications equipment industry. The index for transmission, local loop, and legacy central office equipment is based on domestic absorption of optical transport equipment, including wavelength division multiplexers and switches. The index for wireless system equipment is based on domestic absorption of mobility infrastructure, including base transceiver stations, base station controllers, and mobile switching centers. For

these two indexes, the quarterly price indicators are based on matched-model price indexes constructed from the detail in the Dell’Oro data. The indexes for satellites and earth station equipment and for other communications equipment are based on production-worker hours.

Reliability of Monthly Estimates

The extended six-month reporting window will allow additional source data to be incorporated into IP before an annual revision. The table below shows the availability of source data during 2007 with a four-month reporting window. The six-month window will permit almost all of the indexes estimated in the fourth month to be calculated from source data.

Availability of Monthly IP Data
(Percent of value added in 2007)

Type of data	Month of estimate			
	1st	2nd	3rd	4th
Physical product	29	42	56	56
Production-worker hours	42	42	42	42
IP data received	70	84	98	98
IP data estimated	30	16	2	2

Weights for Aggregation

The IP index is a Fisher index. This revision uses information from the ASM 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 with the latest data on producer prices for the period after 2006. Table 10 shows the annual value-added proportions in the IP index from 2000 through 2007.

Revised Monthly Data

This revision incorporates product data that became available or were revised after the regular four-month reporting window for monthly IP was closed. These data were released with too great a lag to be included with monthly IP estimates; however, the data were available for inclusion in the annual revision.

Revised Seasonal Factors

Seasonal factors for all series were reestimated using data that extend into 2007 or 2008. Factors for production-worker hours—which adjust for timing, holiday, and monthly seasonal patterns—were updated with data through January 2008 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 2007. Seasonal factors for unit motor vehicle assemblies have been updated, and projections through June 2008 are on the Board’s website at www.federalreserve.gov/releases/g17/mvsf.htm.

Data Availability and Publication Changes

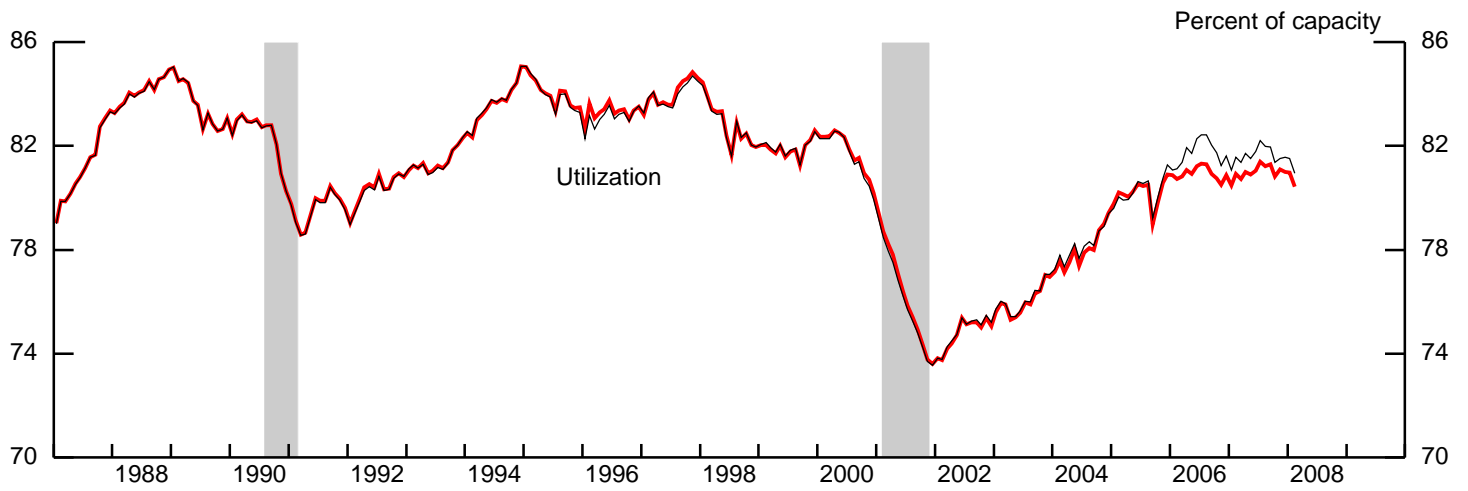
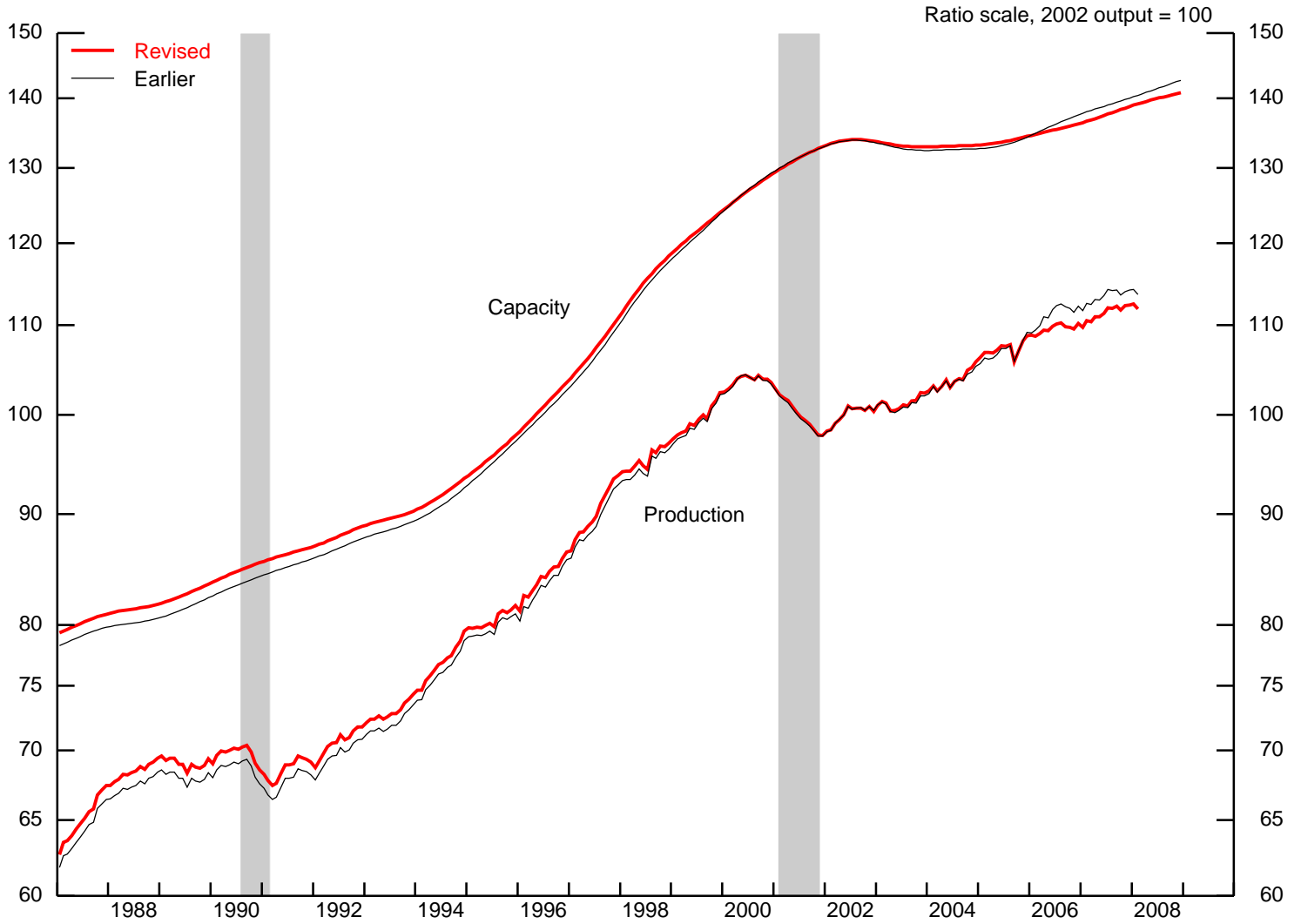
Files containing the revised data and the text and tables from this release are available on the Board's website, at www.federalreserve.gov/releases/g17. Updated data for the annual revision and for all of the regularly issued series on industrial production, capacity, and capacity utilization are available on the website. The revised data will also be available through the STAT-USA website 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.

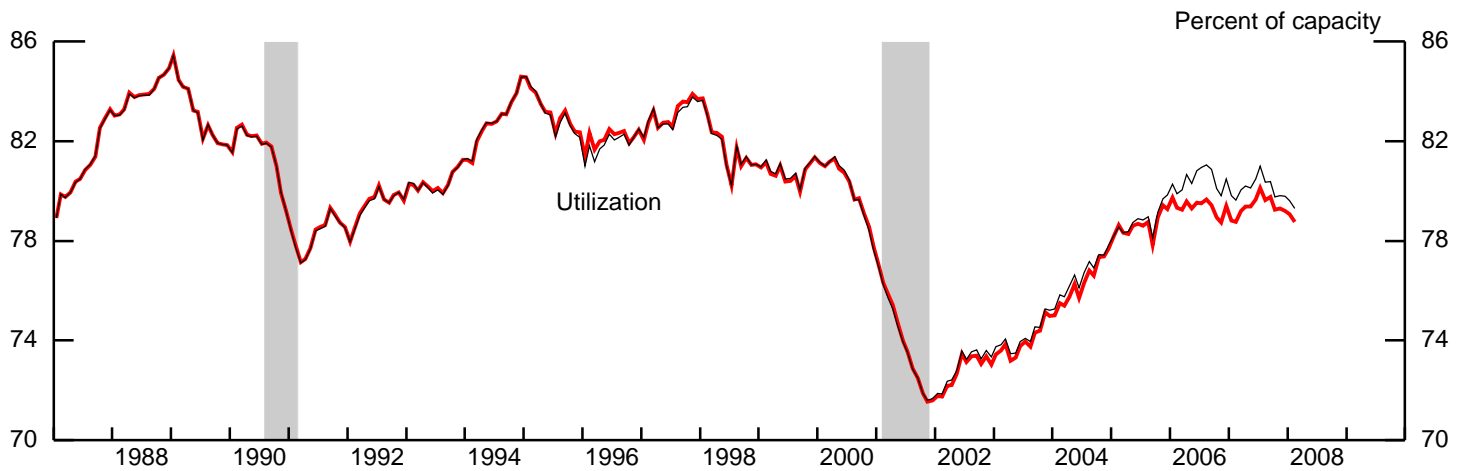
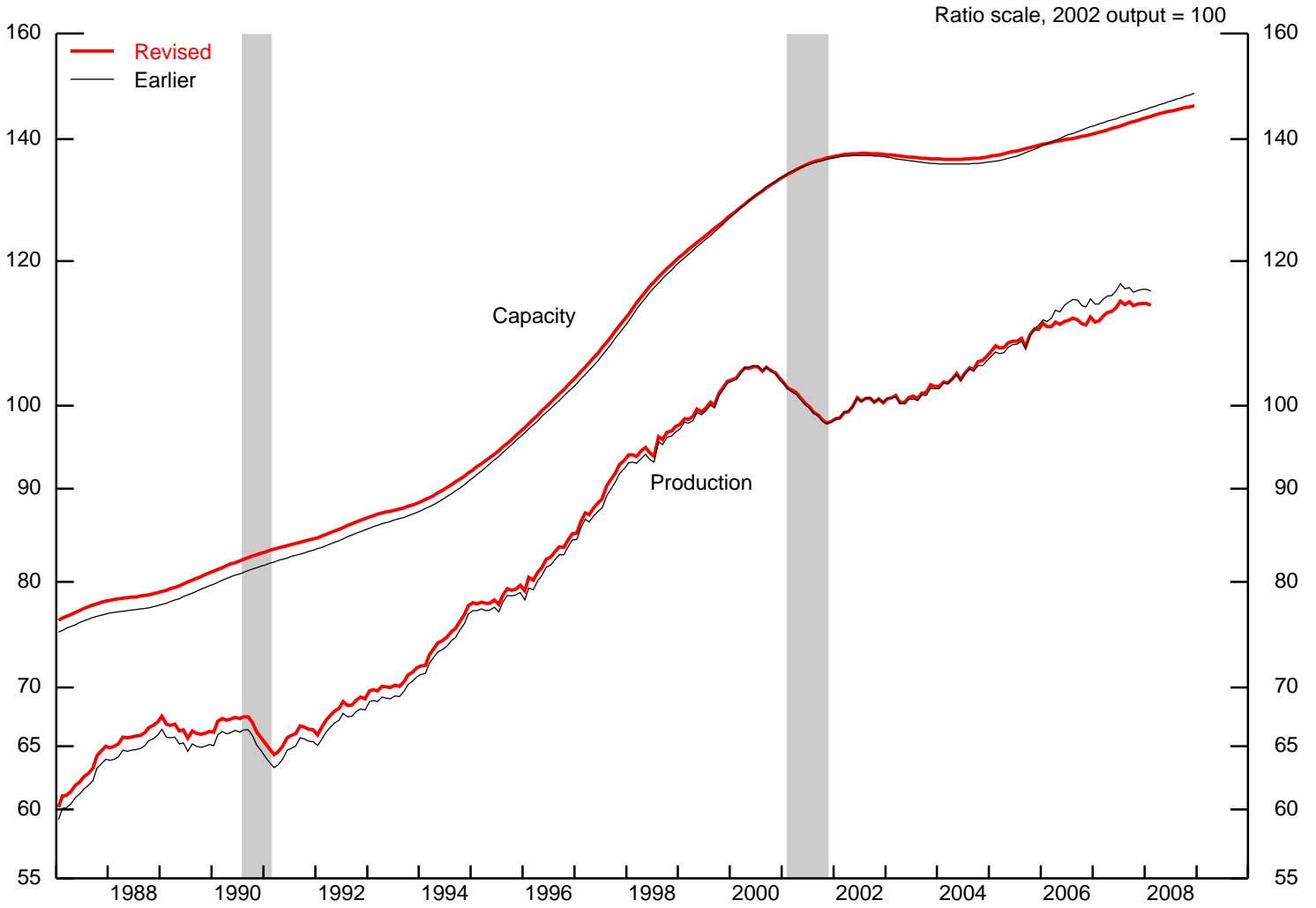
U.S. Networking Equipment, 1997 to 2006			
	Production Index	Price Index	Value of Production (millions of dollars)
Annual Estimates (indexes are 2002=100)			
1997	30.1	317.6	13,870.0
1998	50.6	234.4	17,220.1
1999	72.9	194.4	20,677.1
2000	101.1	174.1	25,691.3
2001	118.6	133.2	23,103.2
2002	100.0	100.0	14,602.6
2003	110.0	76.6	12,158.9
2004	129.3	59.9	11,322.5
2005	146.4	54.1	11,559.9
2006	243.9	51.3	18,137.0
Quarterly Estimates (indexes are 2002=100)			
1997Q1	22.6	338.0	11,126.7
Q2	26.7	313.3	12,177.4
Q3	32.9	309.8	14,843.7
Q4	38.4	309.3	17,302.9
1998Q1	43.0	257.1	16,108.3
Q2	52.4	236.2	18,054.5
Q3	53.8	219.3	17,220.5
Q4	53.6	225.0	17,579.8
1999Q1	68.6	202.0	20,199.2
Q2	75.3	190.0	20,853.4
Q3	72.6	194.8	20,612.7
Q4	75.7	191.0	21,072.1
2000Q1	93.4	179.8	24,499.6
Q2	104.3	167.9	25,526.5
Q3	103.3	174.6	26,285.0
Q4	103.7	174.3	26,358.4
2001Q1	123.8	145.4	26,242.6
Q2	119.5	135.3	23,571.2
Q3	118.9	126.2	21,887.2
Q4	112.3	126.0	20,632.9
2002Q1	105.6	110.2	16,975.2
Q2	95.4	107.1	14,894.0
Q3	103.7	91.7	13,858.8
Q4	95.3	91.0	12,646.6
2003Q1	93.1	88.6	12,025.6
Q2	108.6	81.8	12,951.5
Q3	123.3	71.8	12,908.9
Q4	114.3	64.1	10,680.0
2004Q1	149.4	61.7	13,439.9
Q2	128.4	60.8	11,380.5
Q3	122.4	59.4	10,590.7
Q4	119.0	57.6	9,993.4
2005Q1	133.4	55.0	10,686.1
Q2	139.9	54.6	11,133.7
Q3	147.2	54.0	11,600.7
Q4	164.7	53.0	12,729.0
2006Q1	167.6	53.0	12,953.8
Q2	201.3	51.7	15,165.9
Q3	262.9	50.6	19,392.3
Q4	338.1	49.8	24,525.7

1. Total industrial production, capacity, and utilization



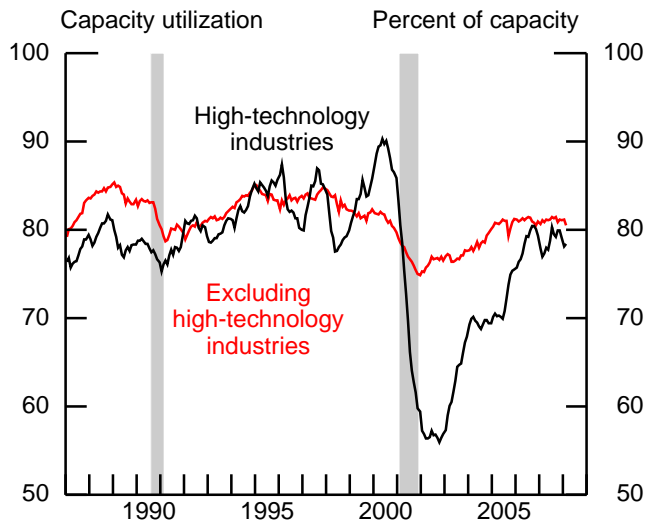
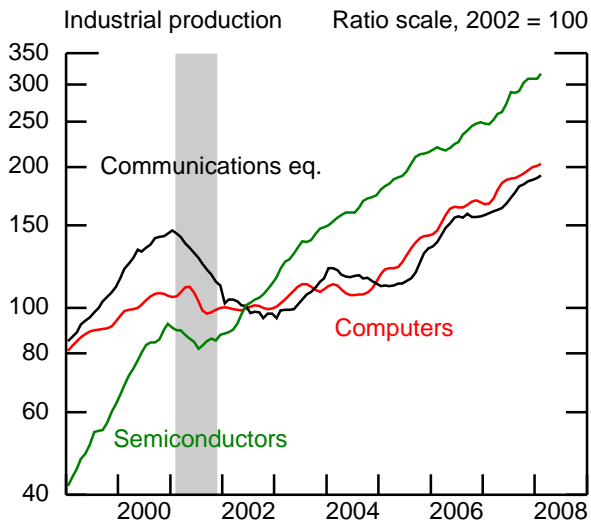
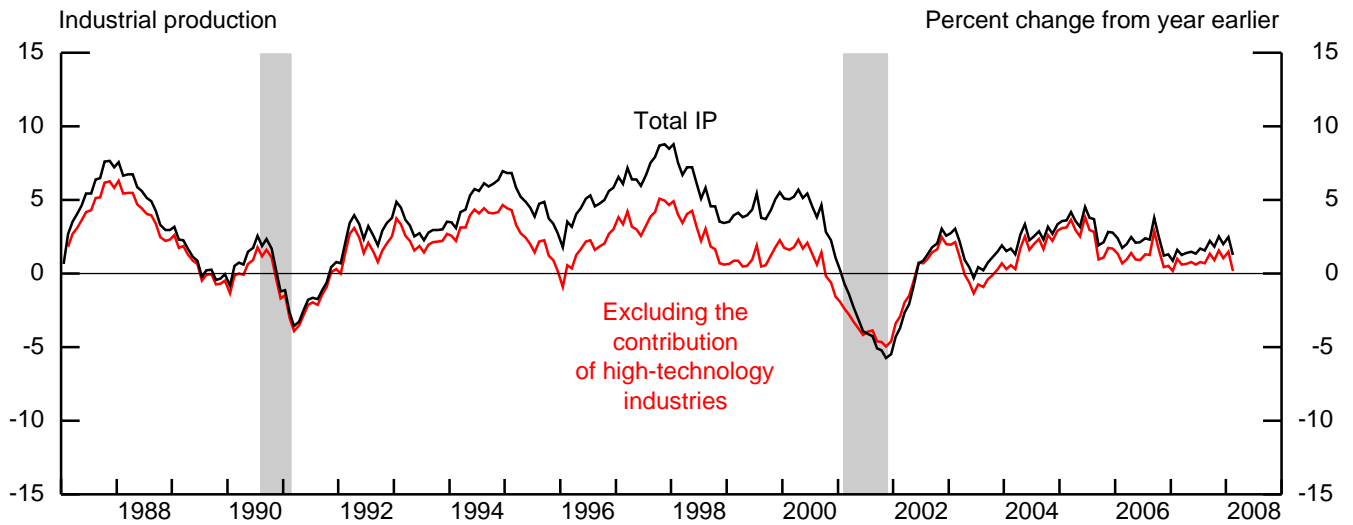
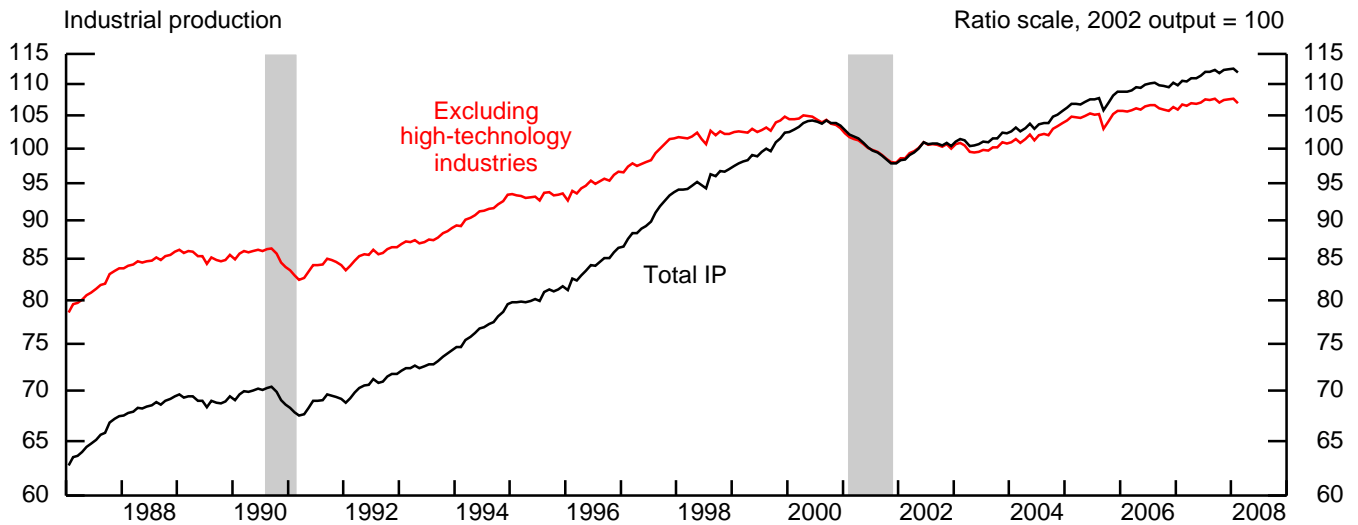
Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

2. Manufacturing industrial production, capacity, and utilization



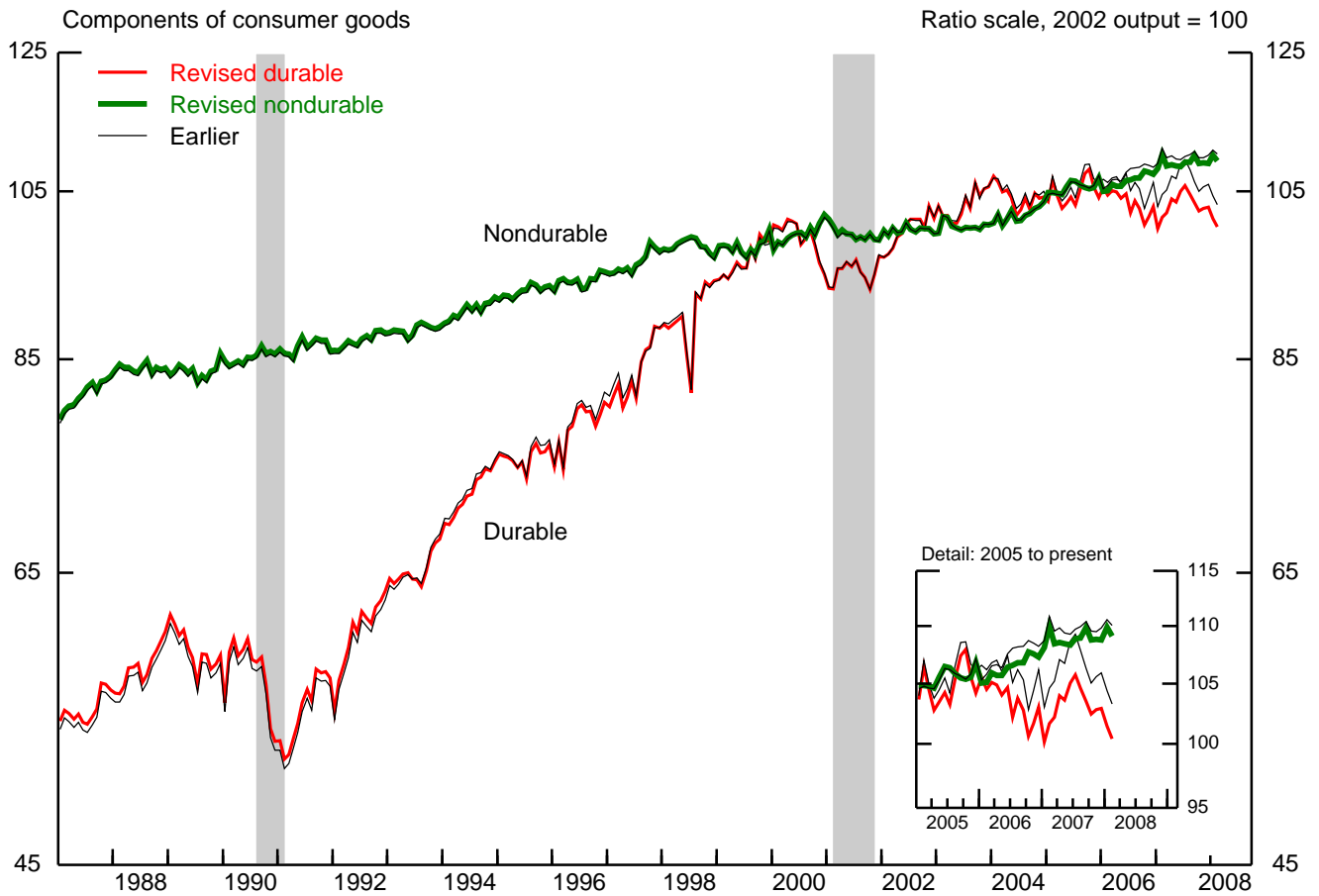
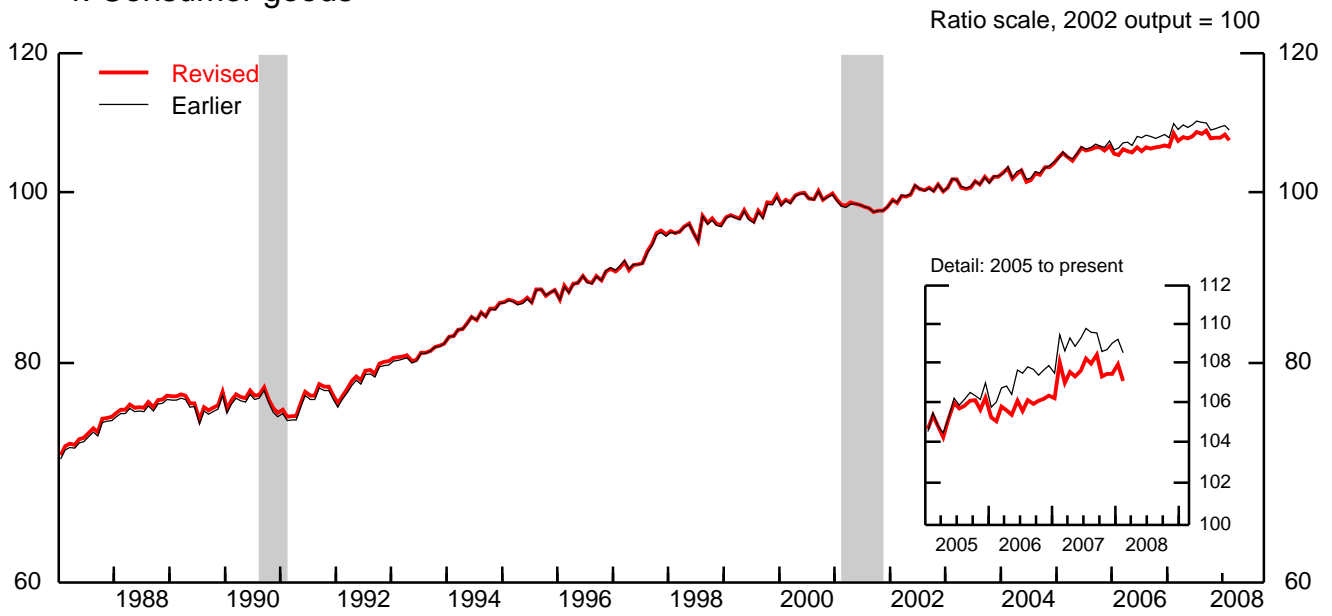
Notes: The shaded areas are periods of business recession as defined by the NBER. Manufacturing consists of those industries in the North American Industry Classification System, or NAICS, definition of manufacturing plus those industries--logging and newspaper, periodical, book and directory publishing--that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

3. Industrial production and capacity utilization



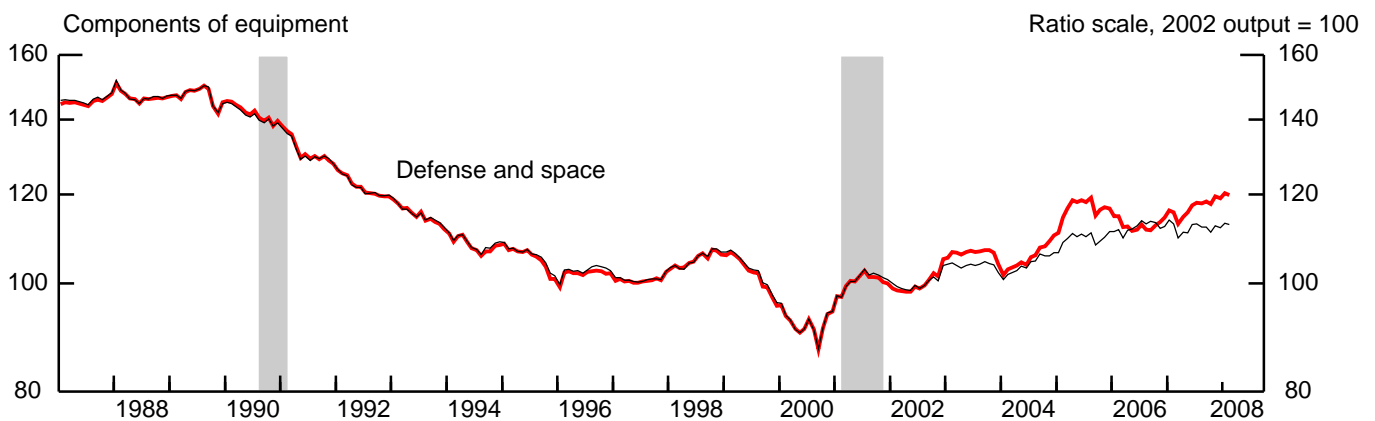
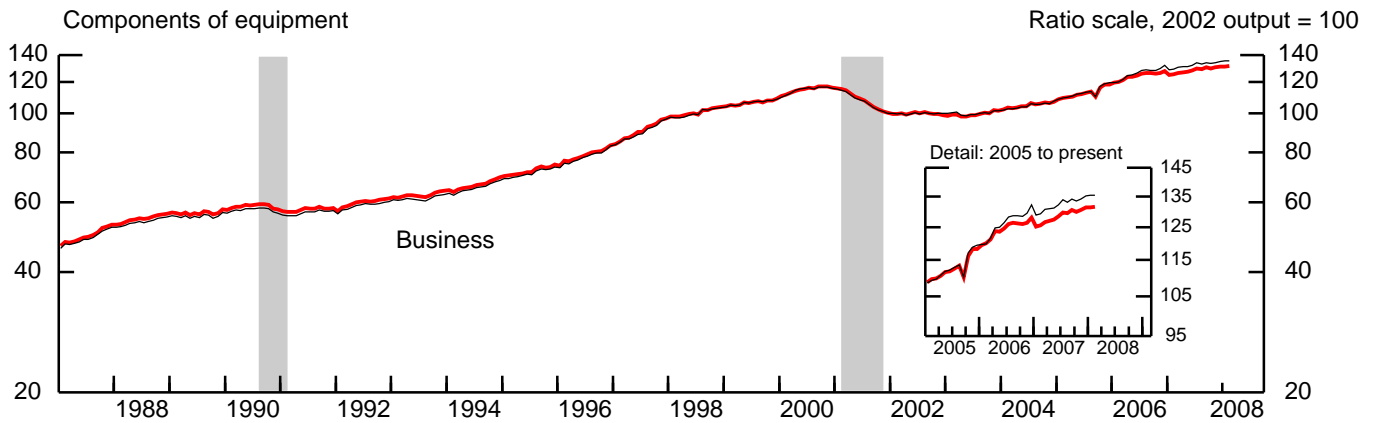
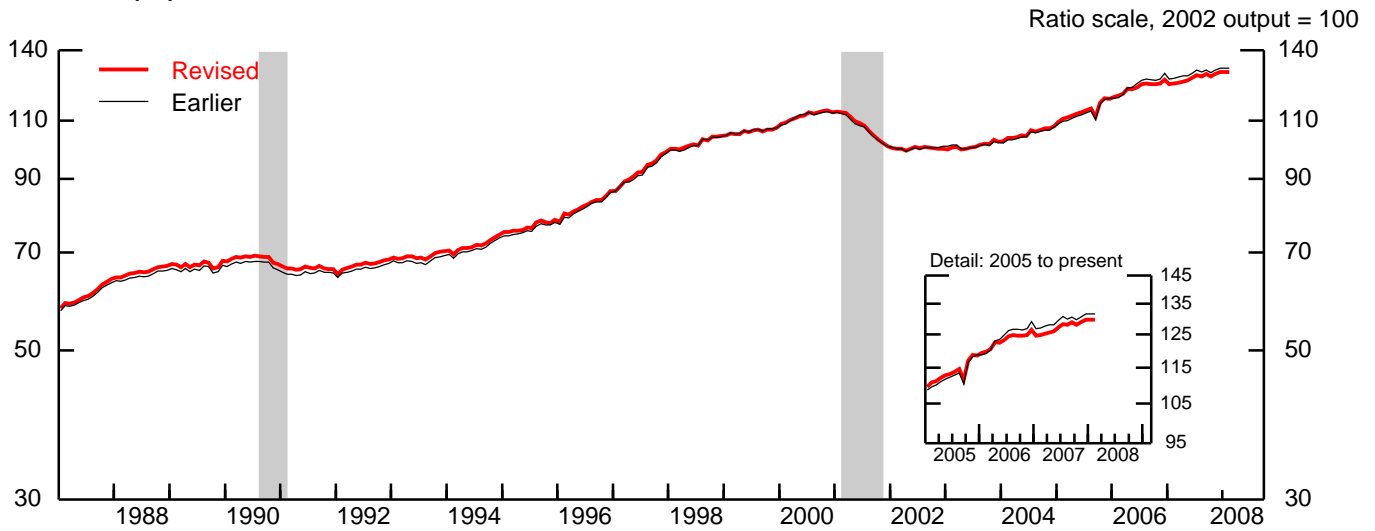
Notes: High-technology industries are defined as semiconductors and related electronic components (NAICS 334412-9), computers (NAICS 3341), and communications equipment (NAICS 3342). The shaded areas are periods of business recession as defined by the NBER.

4. Consumer goods



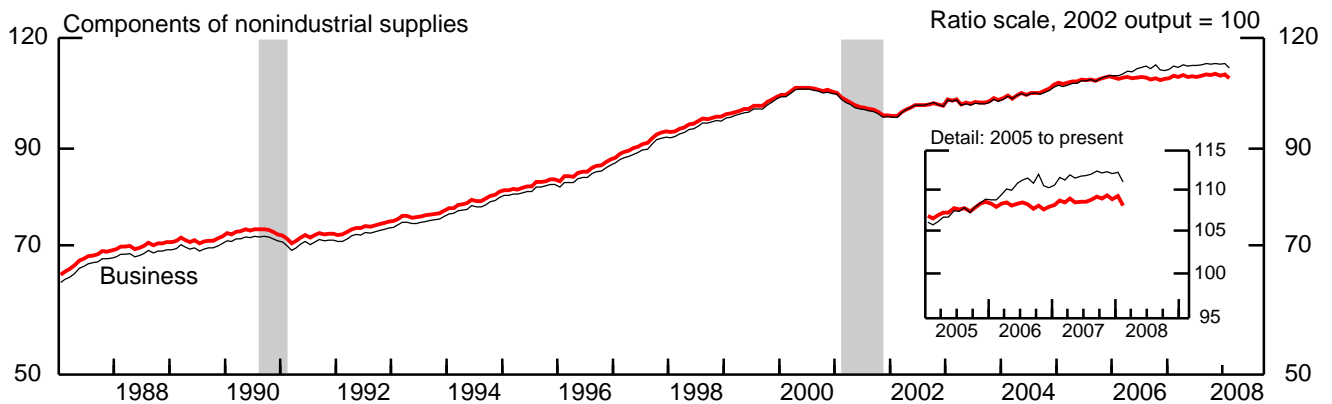
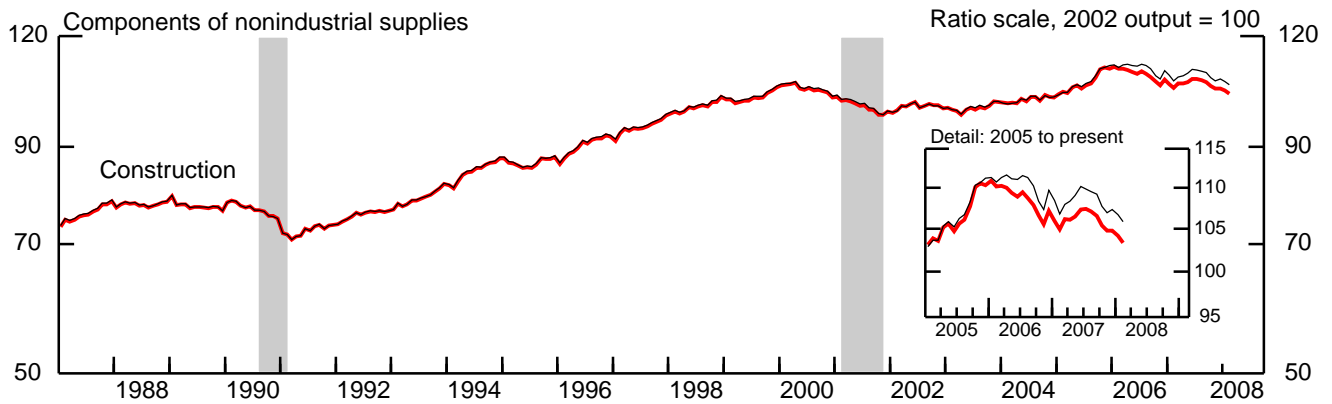
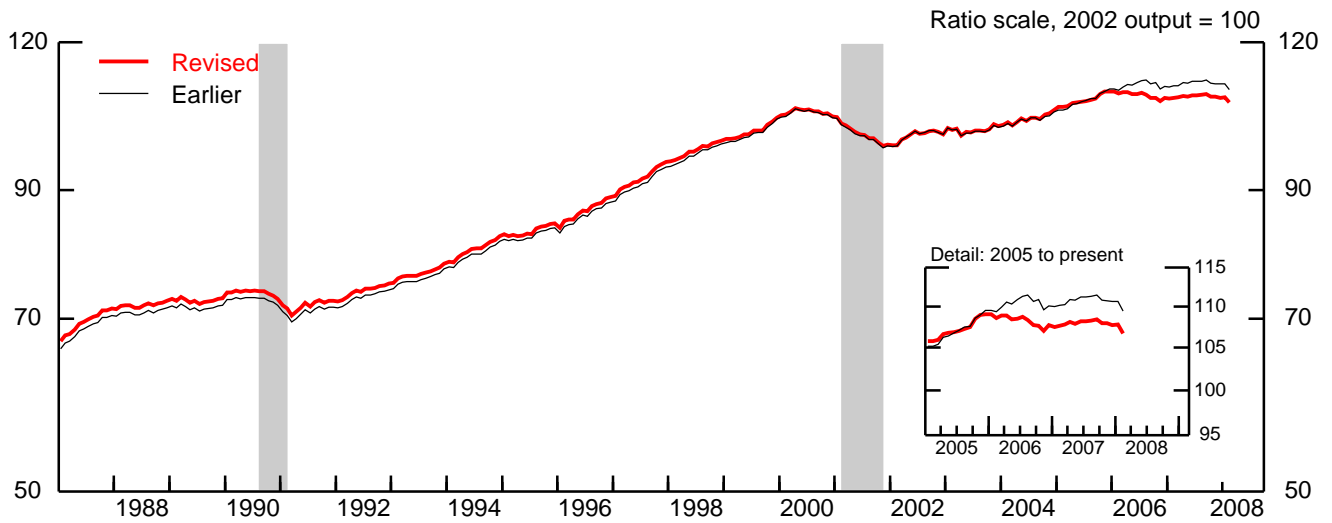
Note: The shaded areas represent periods of business recession as defined by the NBER.

5. Equipment, total



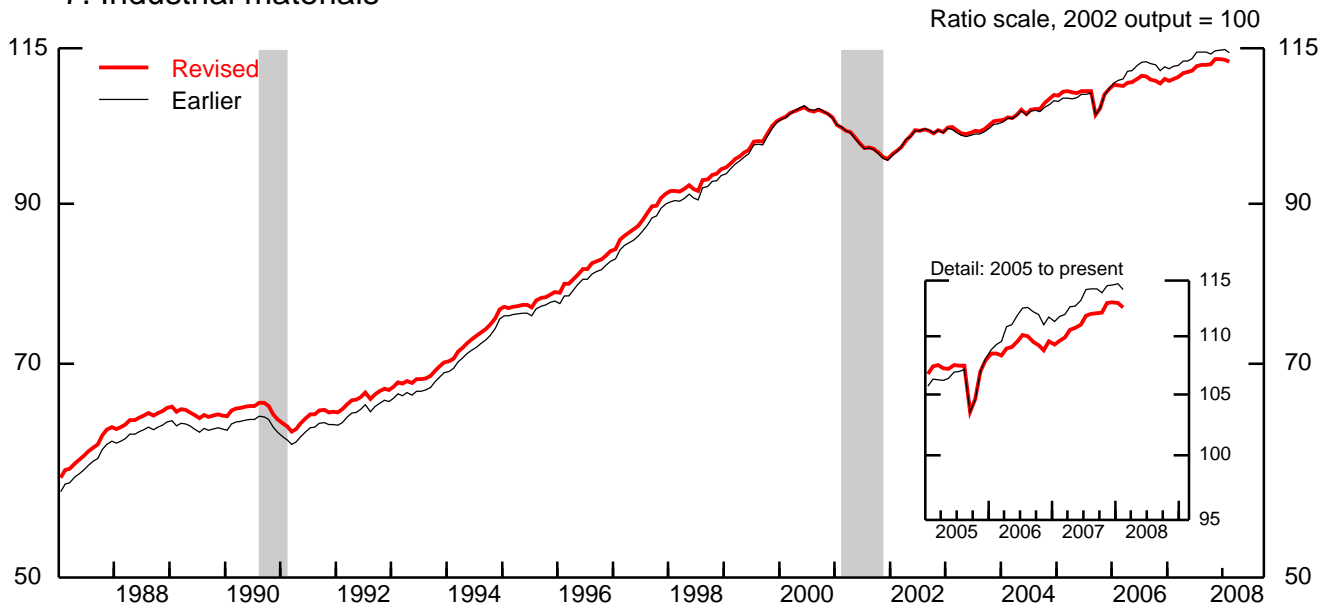
Note: The shaded areas represent periods of business recession as defined by the NBER.

6. Nonindustrial supplies

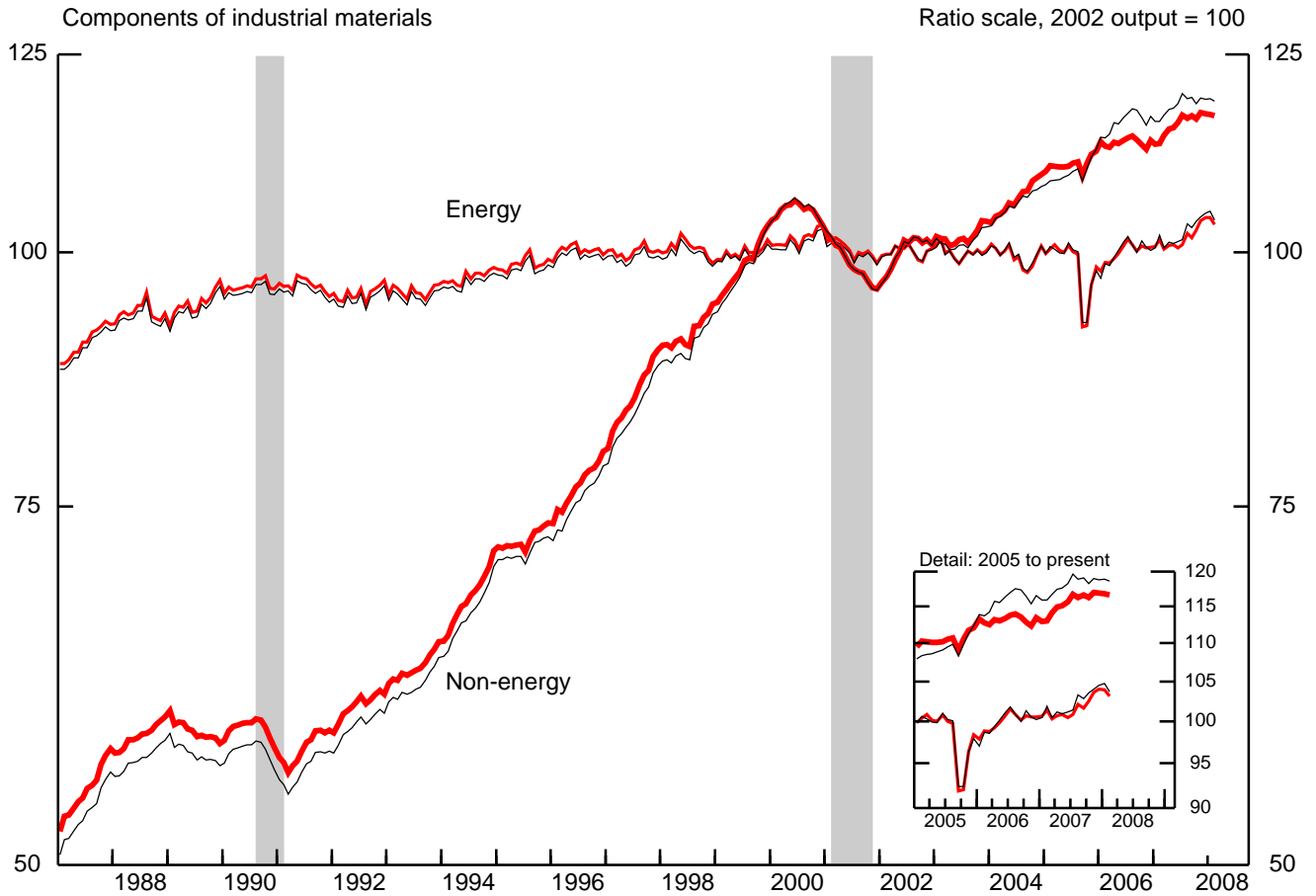


Note: The shaded areas represent periods of business recession as defined by the NBER.

7. Industrial materials

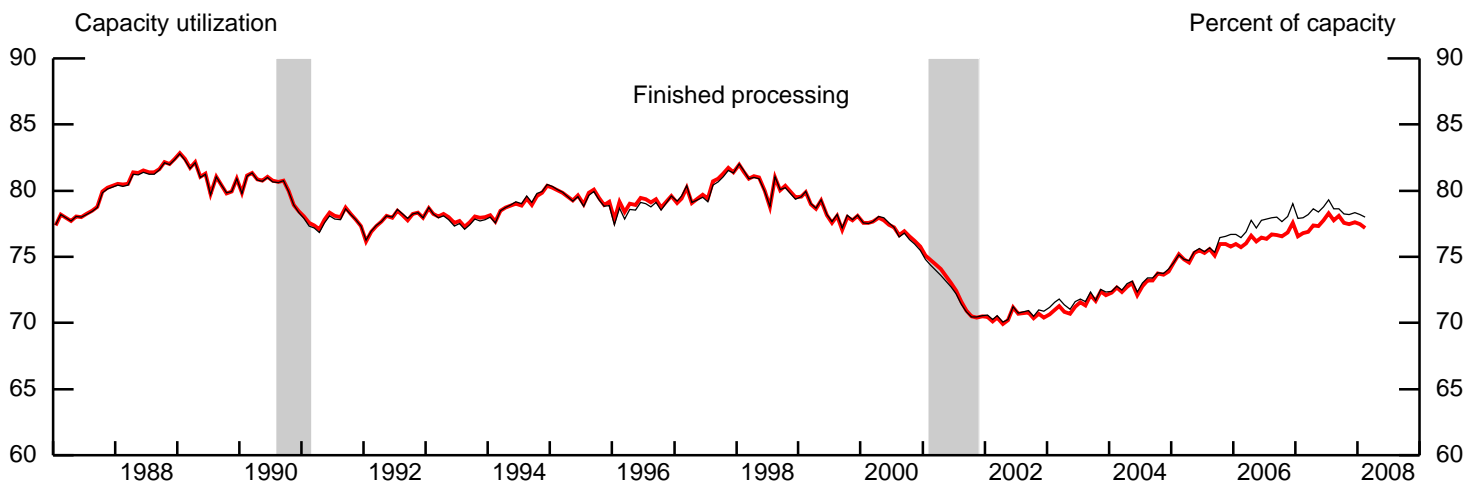
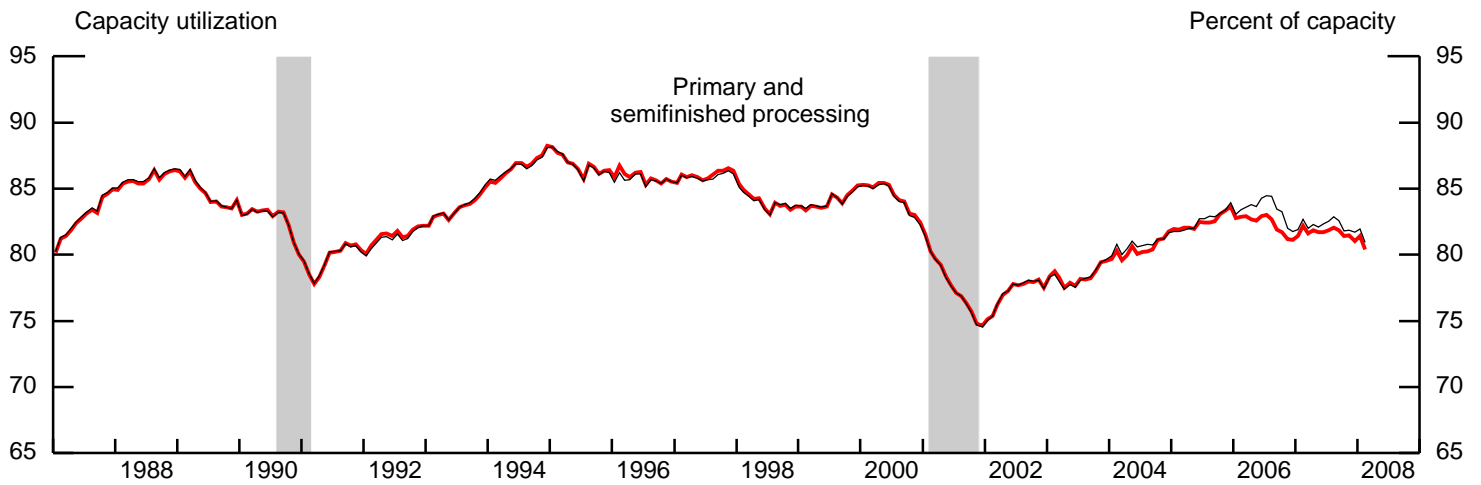
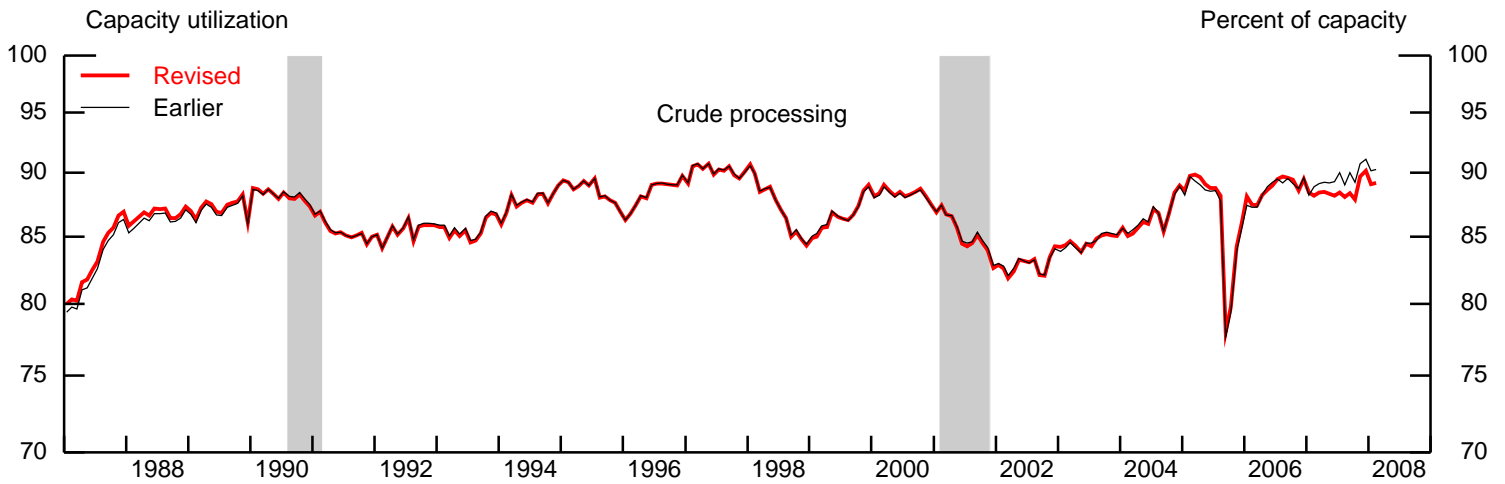


Components of industrial materials



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.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual ¹
IP (percent change)																	
1978	-1.4	.5	1.8	2.1	.3	.7	-1	.4	.3	.8	.7	.6	-1.3	16.7	3.5	7.5	5.5
1979	-.7	.6	.3	-1.1	.8	.0	-2	-.7	.1	.6	-.1	.1	1.9	-.6	-1.4	1.5	3.0
1980	.5	.0	-.3	-2.0	-2.5	-1.2	-.7	.3	1.6	1.3	1.7	.6	1.8	-15.9	-6.3	16.2	-2.5
1981	-.6	-.5	.6	-.5	.7	.5	.7	.0	-.6	-.8	-1.1	-1.1	.8	1.4	4.2	-8.7	1.3
1982	-1.9	1.9	-.7	-.8	-.7	-.4	-.3	-.8	-.4	-.8	-.4	-.8	-7.8	-4.9	-5.8	-7.4	-5.2
1983	1.9	-.6	.9	1.2	.7	.6	1.6	1.1	1.5	.8	.3	.5	4.6	9.5	14.6	10.8	2.8
1984	2.0	.5	.5	.6	.5	.4	.3	.1	-.2	-.1	.4	.1	12.2	6.3	2.7	.3	8.9
1985	-.3	.4	.1	-.2	.1	.1	-.6	.4	.4	-.4	.3	1.0	1.2	.4	-.6	2.4	1.2
1986	.5	-.7	-.6	.1	.1	-.3	.6	-.2	.2	.5	.5	.9	2.3	-2.4	1.7	4.6	1.0
1987	-.3	1.3	.2	.6	.7	.5	.6	.7	.3	1.5	.5	.5	5.4	7.2	7.3	10.2	5.2
1988	.0	.4	.3	.6	-.1	.2	.2	.5	-.3	.6	.2	.4	3.5	3.5	2.1	3.2	5.2
1989	.2	-.5	.2	.0	-.7	.0	-.9	.9	-.3	-.1	.3	.7	1.5	-1.8	-2.5	1.8	.9
1990	-.5	.9	.5	-.1	.2	.3	-.1	.2	.2	-.7	-1.2	-.7	3.2	2.8	1.4	-6.0	1.0
1991	-.5	-.7	-.5	.2	1.0	1.0	.0	.1	.8	-.2	-.2	-.3	-7.5	2.6	5.5	.7	-1.6
1992	-.6	.7	.8	.7	.4	.0	.8	-.5	.2	.7	.4	.0	-.3	7.3	2.9	3.9	2.8
1993	.5	.3	.0	.3	-.4	.2	.3	.0	.4	.7	.4	.5	3.5	1.2	2.1	6.0	3.3
1994	.4	.0	1.1	.5	.6	.7	.2	.5	.2	.8	.7	1.1	5.2	7.4	5.2	8.2	5.3
1995	.3	.0	.1	-.1	.2	.3	-.4	1.3	.4	-.2	.3	.5	5.3	.9	3.8	3.3	4.8
1996	-.6	1.7	-.2	.7	.6	.9	-.1	.6	.5	.0	.9	.7	3.5	7.7	5.1	5.6	4.4
1997	.1	1.2	.8	.0	.6	.5	.6	1.4	.9	.7	.9	.4	8.0	6.3	9.7	10.7	7.3
1998	.4	.0	.0	.5	.6	-.5	-.4	2.1	-.3	.7	-.1	.3	4.1	3.1	2.9	5.2	5.9
1999	.5	.4	.2	.2	.7	-.2	.6	.5	-.4	1.3	.6	.8	4.3	3.8	4.0	8.0	4.3
2000	.1	.4	.4	.6	.2	.1	-.2	-.2	.4	-.4	.0	-.3	4.9	5.0	-.3	-1.3	4.2
2001	-.7	-.6	-.3	-.3	-.7	-.6	-.5	-.4	-.4	-.6	-.5	.0	-5.5	-5.2	-5.9	-5.2	-3.4
2002	.5	.1	.7	.4	.5	1.0	-.3	.1	.0	-.3	.4	-.5	2.3	6.3	2.3	-.5	-.1
2003	.6	.4	-.2	-.8	.0	.2	.4	-.1	.5	.1	.8	-.1	2.7	-2.9	2.8	3.7	1.2
2004	.3	.5	-.5	.5	.7	-.8	.7	.3	-.1	1.0	.3	.6	2.6	2.0	2.0	5.8	2.5
2005	.5	.6	.0	-.1	.3	.4	.0	.2	-1.8	1.2	1.1	.5	5.4	1.9	-.4	3.7	3.3
2006	.1	-.1	.2	.4	-.1	.5	.3	.1	-.4	-.1	-.2	.6	3.2	2.6	1.9	-.9	2.2
2007	-.4	.7	-.1	.5	.0	.3	.6	.0	.3	-.4	.5	.1	1.5	3.2	3.6	.3	1.7
2008	.1	-.5															
IP (2002=100)																	
1978	53.5	53.7	54.7	55.8	56.0	56.4	56.4	56.6	56.7	57.2	57.6	58.0	54.0	56.1	56.6	57.6	56.1
1979	57.6	57.9	58.1	57.5	57.9	57.9	57.8	57.4	57.5	57.8	57.7	57.8	57.9	57.8	57.6	57.8	57.8
1980	58.1	58.1	57.9	56.8	55.3	54.7	54.3	54.5	55.3	56.0	57.0	57.3	58.0	55.6	54.7	56.8	56.3
1981	57.0	56.7	57.0	56.7	57.1	57.4	57.8	57.8	57.5	57.0	56.4	55.8	56.9	57.1	57.7	56.4	57.0
1982	54.7	55.7	55.3	54.9	54.5	54.3	54.1	53.7	53.5	53.0	52.8	52.4	55.3	54.6	53.8	52.7	54.1
1983	53.4	53.1	53.5	54.2	54.6	54.9	55.8	56.4	57.2	57.7	57.9	58.2	53.3	54.6	56.5	57.9	55.6
1984	59.3	59.6	59.9	60.3	60.6	60.8	60.9	61.0	60.9	60.8	61.0	61.1	59.6	60.5	60.9	61.0	60.5
1985	61.0	61.2	61.3	61.2	61.2	61.3	60.9	61.1	61.4	61.2	61.4	62.0	61.2	61.2	61.1	61.5	61.3
1986	62.3	61.8	61.4	61.5	61.6	61.4	61.8	61.7	61.8	62.1	62.3	62.9	61.8	61.5	61.7	62.4	61.9
1987	62.7	63.5	63.6	64.0	64.4	64.7	65.1	65.6	65.8	66.8	67.1	67.4	63.3	64.4	65.5	67.1	65.1
1988	67.5	67.7	67.9	68.3	68.2	68.4	68.5	68.8	68.6	69.0	69.1	69.4	67.7	68.3	68.6	69.2	68.4
1989	69.6	69.3	69.4	69.4	69.0	69.0	68.3	69.0	68.8	68.7	68.9	69.4	69.4	69.1	68.7	69.0	69.1
1990	69.0	69.6	70.0	69.9	70.0	70.2	70.1	70.3	70.4	69.9	69.1	68.6	69.5	70.0	70.3	69.2	69.7
1991	68.3	67.8	67.5	67.6	68.3	69.0	68.9	69.0	69.6	69.5	69.4	69.1	67.8	68.3	69.2	69.3	68.7
1992	68.7	69.2	69.8	70.3	70.6	70.6	71.2	70.8	71.0	71.5	71.8	71.8	69.3	70.5	71.0	71.7	70.6
1993	72.1	72.4	72.4	72.6	72.4	72.5	72.8	72.8	73.1	73.6	73.9	74.3	72.3	72.5	72.9	73.9	72.9
1994	74.6	74.6	75.4	75.8	76.2	76.7	76.9	77.3	77.4	78.1	78.6	79.5	74.9	76.2	77.2	78.7	76.8
1995	79.7	79.7	79.8	79.7	79.9	80.1	79.9	80.9	81.2	81.0	81.3	81.7	79.8	79.9	80.7	81.3	80.4
1996	81.2	82.5	82.4	83.0	83.5	84.2	84.1	84.6	85.1	85.1	85.8	86.4	82.0	83.6	84.6	85.8	84.0
1997	86.5	87.6	88.3	88.3	88.9	89.3	89.8	91.0	91.8	92.5	93.4	93.8	87.5	88.8	90.9	93.2	90.1
1998	94.1	94.2	94.2	94.7	95.3	94.7	94.4	96.3	96.1	96.7	96.7	97.0	94.2	94.9	95.6	96.8	95.4
1999	97.5	97.9	98.1	98.3	99.0	98.9	99.5	100.0	99.6	100.9	101.6	102.4	97.8	98.7	99.7	101.6	99.5
2000	102.5	102.8	103.2	103.9	104.1	104.3	104.0	103.8	104.3	103.8	103.8	103.5	102.8	104.1	104.0	103.7	103.7
2001	102.7	102.2	101.8	101.6	100.9	100.2	99.8	99.4	99.0	98.4	97.9	97.8	102.2	100.9	99.4	98.0	100.1
2002	98.3	98.4	99.1	99.5	100.0	100.9	100.6	100.7	100.7	100.4	100.9	100.4	98.6	100.1	100.7	100.6	100.0
2003	101.0	101.4	101.3	100.4	100.4	100.6	101.1	101.0	101.5	101.6	102.4	102.3	101.2	100.5	101.2	102.1	101.2
2004	102.6	103.1	102.6	103.1	103.8	102.9	103.6	103.9	103.8	104.8	105.2	105.8	102.8	103.3	103.8	105.3	103.8
2005	106.3	106.9	106.8	106.8	107.1	107.6	107.6	107.7	105.8	107.1	108.2	108.8	106.7	107.1	107.0	108.0	107.2
2006	108.8	108.7	109.0	109.4	109.3	109.9	110.1	110.2	109.8	109.7	109.5	110.2	108.9	109.5	110.1	109.8	109.6
2007	109.8	110.5	110.4	111.0	111.0	111.4	112.0	112.0	112.3	111.8	112.3	112.4	110.2	111.1	112.1	112.2	111.4
2008	112.5	111.9															

NOTE Estimates from October 2007 through February 2008 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.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
Capacity (percent of 2002 output)																	
1978	65.0	65.2	65.4	65.6	65.7	65.9	66.1	66.3	66.5	66.6	66.8	66.9	65.2	65.7	66.3	66.8	66.0
1979	67.1	67.3	67.4	67.6	67.7	67.8	68.0	68.1	68.3	68.4	68.6	68.7	67.3	67.7	68.1	68.6	67.9
1980	68.8	69.0	69.1	69.3	69.4	69.6	69.7	69.9	70.1	70.2	70.4	70.5	69.0	69.4	69.9	70.4	69.7
1981	70.7	70.9	71.0	71.2	71.4	71.5	71.7	71.9	72.0	72.2	72.4	72.5	70.9	71.4	71.9	72.4	71.6
1982	72.7	72.8	73.0	73.1	73.3	73.4	73.5	73.6	73.7	73.8	73.9	73.9	72.8	73.3	73.6	73.9	73.4
1983	74.0	74.0	74.1	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	74.6	74.7	74.8	74.9	75.0	75.2	75.4	75.5	75.7	75.9	76.0	74.6	74.9	75.4	75.9	75.2
1985	76.2	76.4	76.6	76.8	77.0	77.2	77.3	77.5	77.6	77.8	77.9	78.0	76.4	77.0	77.5	77.9	77.2
1986	78.2	78.3	78.4	78.4	78.5	78.6	78.7	78.8	78.9	79.0	79.1	79.2	78.3	78.5	78.8	79.1	78.7
1987	79.3	79.5	79.6	79.8	79.9	80.1	80.3	80.4	80.6	80.7	80.8	80.9	79.5	79.9	80.4	80.8	80.2
1988	81.0	81.1	81.2	81.2	81.3	81.3	81.4	81.4	81.5	81.6	81.7	81.8	81.1	81.3	81.4	81.7	81.4
1989	81.9	82.0	82.1	82.2	82.4	82.5	82.7	82.9	83.0	83.2	83.4	83.5	82.0	82.4	82.9	83.4	82.7
1990	83.7	83.9	84.1	84.2	84.4	84.6	84.7	84.9	85.0	85.2	85.3	85.5	83.9	84.4	84.9	85.3	84.6
1991	85.6	85.7	85.8	86.0	86.1	86.2	86.3	86.4	86.5	86.6	86.7	86.9	85.7	86.1	86.4	86.7	86.2
1992	87.0	87.1	87.3	87.4	87.6	87.8	88.0	88.1	88.3	88.5	88.6	88.8	87.1	87.6	88.1	88.6	87.9
1993	88.9	89.1	89.2	89.3	89.4	89.5	89.6	89.7	89.8	90.0	90.1	90.3	89.1	89.4	89.7	90.1	89.6
1994	90.4	90.6	90.9	91.1	91.3	91.6	91.9	92.2	92.5	92.8	93.1	93.4	90.7	91.4	92.2	93.1	91.8
1995	93.8	94.1	94.4	94.8	95.1	95.5	95.8	96.2	96.6	97.0	97.4	97.8	94.1	95.1	96.2	97.4	95.7
1996	98.3	98.7	99.2	99.6	100.1	100.6	101.0	101.5	102.0	102.5	103.0	103.5	98.7	100.1	101.5	103.0	100.8
1997	104.0	104.5	105.1	105.6	106.2	106.8	107.4	108.0	108.7	109.4	110.1	110.8	104.5	106.2	108.0	110.1	107.2
1998	111.5	112.2	112.9	113.6	114.3	115.0	115.6	116.2	116.7	117.3	117.8	118.4	112.2	114.3	116.2	117.8	115.1
1999	118.9	119.4	119.8	120.3	120.8	121.2	121.7	122.1	122.6	123.1	123.5	124.0	119.4	120.8	122.1	123.5	121.4
2000	124.4	124.9	125.3	125.8	126.2	126.6	127.0	127.4	127.8	128.2	128.6	129.0	124.9	126.2	127.4	128.6	126.8
2001	129.4	129.8	130.1	130.5	130.8	131.2	131.5	131.8	132.1	132.4	132.7	132.9	129.8	130.8	131.8	132.7	131.3
2002	133.2	133.4	133.6	133.7	133.8	133.9	133.9	134.0	133.9	133.9	133.8	133.7	133.4	133.8	133.9	133.8	133.7
2003	133.6	133.5	133.4	133.3	133.2	133.1	133.1	133.0	133.0	133.0	132.9	132.9	133.5	133.2	133.0	132.9	133.2
2004	133.0	133.0	133.0	133.0	133.0	133.0	133.1	133.1	133.1	133.1	133.1	133.2	133.0	133.0	133.1	133.2	133.1
2005	133.2	133.3	133.3	133.4	133.5	133.6	133.7	133.8	134.0	134.1	134.3	134.4	133.3	133.5	133.9	134.3	133.7
2006	134.6	134.7	134.9	135.0	135.2	135.3	135.4	135.6	135.7	135.9	136.0	136.2	134.7	135.2	135.6	136.1	135.4
2007	136.4	136.6	136.8	137.0	137.2	137.4	137.6	137.9	138.1	138.3	138.5	138.7	136.6	137.2	137.9	138.5	137.5
2008	139.0	139.1															
Utilization (percent)																	
1978	82.3	82.4	83.6	85.1	85.2	85.6	85.3	85.4	85.4	85.9	86.3	86.6	82.8	85.3	85.3	86.2	84.9
1979	85.8	86.1	86.2	85.1	85.6	85.4	85.0	84.3	84.2	84.5	84.2	84.2	86.0	85.3	84.5	84.3	85.0
1980	84.4	84.2	83.8	81.9	79.7	78.6	77.9	77.9	79.0	79.8	81.0	81.3	84.1	80.1	78.3	80.7	80.8
1981	80.6	80.0	80.3	79.7	80.1	80.3	80.6	80.4	79.8	79.0	77.9	76.9	80.3	80.0	80.3	77.9	79.6
1982	75.2	76.5	75.8	75.0	74.4	74.0	73.6	72.9	72.5	71.8	71.5	70.9	75.9	74.5	73.0	71.4	73.7
1983	72.2	71.7	72.3	73.2	73.7	74.1	75.2	76.0	77.1	77.7	77.9	78.2	72.1	73.6	76.1	77.9	74.9
1984	79.7	80.0	80.2	80.6	80.9	81.0	81.1	81.0	80.6	80.4	80.5	80.4	80.0	80.8	80.9	80.4	80.5
1985	80.0	80.1	80.0	79.7	79.5	79.4	78.7	78.9	79.1	78.6	78.7	79.4	80.0	79.5	78.9	78.9	79.3
1986	79.7	79.0	78.4	78.4	78.4	78.1	78.5	78.3	78.3	78.6	78.8	79.4	79.0	78.3	78.4	78.9	78.7
1987	79.0	79.9	79.9	80.2	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	83.3	83.5	83.7	84.1	83.9	84.1	84.2	84.5	84.2	84.6	84.6	84.9	83.5	84.0	84.3	84.7	84.1
1989	85.0	84.5	84.6	84.4	83.7	83.6	82.6	83.2	82.8	82.6	82.6	83.1	84.7	83.9	82.9	82.8	83.6
1990	82.5	83.0	83.2	82.9	82.9	83.0	82.7	82.8	82.8	82.1	80.9	80.3	82.9	83.0	82.8	81.1	82.4
1991	79.8	79.1	78.6	78.6	79.3	80.0	79.9	79.9	80.5	80.2	80.0	79.6	79.2	79.3	80.1	79.9	79.6
1992	79.0	79.5	80.0	80.4	80.5	80.4	80.9	80.3	80.4	80.8	80.9	80.8	79.5	80.5	80.5	80.9	80.3
1993	81.1	81.2	81.1	81.3	80.9	81.1	81.2	81.1	81.4	81.8	82.0	82.3	81.2	81.1	81.2	82.1	81.4
1994	82.5	82.3	83.0	83.2	83.4	83.7	83.7	83.8	83.7	84.2	84.4	85.1	82.6	83.4	83.7	84.5	83.6
1995	85.0	84.7	84.5	84.1	84.0	83.9	83.3	84.1	84.1	83.6	83.5	83.5	84.7	84.0	83.8	83.5	84.0
1996	82.6	83.6	83.1	83.3	83.4	83.7	83.2	83.4	83.4	83.0	83.4	83.5	83.1	83.5	83.3	83.3	83.3
1997	83.2	83.8	84.0	83.6	83.7	83.6	83.6	84.2	84.5	84.6	84.8	84.6	83.7	83.6	84.1	84.7	84.0
1998	84.4	83.9	83.4	83.3	83.3	82.4	81.6	82.9	82.3	82.5	82.0	82.0	83.9	83.0	82.3	82.2	82.8
1999	82.0	82.0	81.8	81.7	82.0	81.6	81.8	81.9	81.3	82.0	82.2	82.6	82.0	81.8	81.6	82.3	81.9
2000	82.4	82.4	82.4	82.6	82.5	82.4	81.9	81.5	81.6	81.0	80.7	80.2	82.4	82.5	81.6	80.6	81.8
2001	79.4	78.7	78.2	77.8	77.1	76.4	75.9	75.4	74.9	74.3	73.8	73.6	78.8	77.1	75.4	73.9	76.3
2002	73.8	73.8	74.2	74.4	74.7	75.4	75.1	75.2	75.2	75.0	75.4	75.1	73.9	74.8	75.2	75.2	74.8
2003	75.6	75.9	75.9	75.3	75.4	75.6	75.9	75.9	76.3	76.4	77.0	77.0	75.8	75.4	76.1	76.8	76.0
2004	77.2	77.6	77.1	77.5	78.0	77.4	77.9	78.1	78.0	78.7	79.0	79.4	77.3	77.6	78.0	79.1	78.0
2005	79.8	80.2	80.1	80.0	80.2	80.5	80.4	80.5	79.0	79.8	80.6	80.9	80.0	80.3	80.0	80.4	80.2
2006	80.9	80.7	80.8	81.1	80.9	81.2	81.3	81.3	80.9	80.8	80.5	80.9	80.8	81.0	81.2	80.7	80.9
2007	80.5	80.9	80.7	81.0	80.9	81.0	81.4	81.2	81.3	80.8	81.1	81.0	80.7	81.0	81.3	81.0	81.0
2008	81.0	80.4															

NOTE Estimates from October 2007 through February 2008 are subject to further revision in the upcoming monthly releases.

Table 2
RATES OF CHANGE IN INDUSTRIAL PRODUCTION, MARKET AND INDUSTRY GROUP SUMMARY: 2003–07¹

Item	Revised change (percent)					Difference between revised and earlier changes (percentage points)				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Total IP	1.5	3.1	2.6	1.7	2.1	.4	.1	-.6	-1.8	.4
MARKET GROUPS										
Final products and nonindustrial supplies	1.5	2.6	4.4	1.0	1.3	.3	.0	-.4	-1.5	.1
Consumer goods	1.4	1.7	2.4	.2	1.1	.0	-.1	-.4	-.9	.1
Durable	3.4	-.7	1.5	-3.9	.9	.0	-.4	-.8	-1.4	-.1
Automotive products	4.7	-2.9	-1.9	-5.3	3.6	-.1	.3	-.1	-.7	.8
Home electronics	18.5	2.5	11.0	11.5	14.1	-1.9	-11.8	-5.7	-1.6	-4.6
Appliances, furniture, carpeting	2.9	1.6	1.6	-6.1	-6.1	.6	-.6	-1.4	-1.4	-.5
Miscellaneous goods	-1.4	2.0	5.6	-2.8	-1.4	-.1	-.1	-.7	-2.2	-.6
Nondurable	.5	2.6	2.7	1.5	1.2	.0	.0	-.2	-.7	.1
Non-energy	1.1	2.2	3.0	2.1	.9	.0	.0	-.3	-.6	.1
Foods and tobacco	2.6	2.3	3.9	.3	1.5	.0	.0	-.9	-1.9	.2
Clothing	-10.9	-9.8	-2.1	.3	-1.9	.0	.7	-1.9	-.4	1.4
Chemical products	2.1	4.0	3.1	7.7	.0	-.2	.2	2.2	3.9	.3
Paper products	-3.8	2.2	-.9	-2.4	1.0	-.5	-1.0	-3.1	-5.7	-.5
Energy	-1.8	3.9	1.7	-.2	1.9	-.1	.2	.1	-.8	.0
Business equipment	1.9	5.2	10.3	7.8	2.9	.8	.0	-.9	-2.0	-.4
Transit	-1.2	7.2	15.9	9.1	-2.5	-1.6	1.3	-4.6	-7.8	-4.6
Information processing	10.5	6.3	14.6	12.8	8.4	3.5	-.9	.9	2.6	-.1
Industrial and other	-1.9	4.0	5.9	4.4	1.8	.1	.0	-.8	-2.5	.9
Defense and space equipment	2.9	3.1	6.9	-2.6	4.6	1.3	.6	3.1	-4.9	5.2
Construction supplies	.9	1.7	7.5	-3.5	-1.4	-.1	.2	-.5	-1.5	-.3
Business supplies	1.3	3.2	2.6	-.3	1.1	.4	.2	-.7	-2.7	.0
Materials	1.5	3.7	.3	2.5	3.2	.5	.3	-.8	-2.2	.7
Non-energy	2.1	5.4	2.4	1.3	3.4	.7	.6	-1.1	-3.2	1.2
Durable	4.1	6.0	5.4	1.2	5.4	1.1	.7	-1.6	-4.5	1.5
Consumer parts	-1.4	.0	.5	-5.8	-2.0	.1	-.2	-1.2	-2.6	-.4
Equipment parts	12.0	11.1	11.3	9.4	11.9	3.2	1.7	-4.7	-10.0	5.1
Other	.5	4.9	2.9	-2.0	3.3	.0	.5	.2	-1.2	-.3
Nondurable	-1.2	4.3	-2.2	1.6	.4	-.1	.6	-.2	-1.0	.8
Textile	-8.3	-.9	.5	-12.2	-9.2	-.7	2.5	.3	-4.9	.5
Paper	-5.5	3.8	-1.1	1.6	-1.3	-.3	-.1	-1.0	-1.0	.7
Chemical	2.3	8.6	-5.8	4.9	1.8	-.2	.9	.8	.1	1.0
Energy	.2	-.5	-4.0	5.2	2.8	.1	-.3	.1	-.1	-.5
INDUSTRY GROUPS										
Manufacturing	1.7	3.7	3.7	1.1	2.2	.4	.2	-.7	-2.2	.5
Manufacturing (NAICS)	31–33	2.0	3.8	3.9	1.4	2.4	.4	.3	-.6	-.1
Durable manufacturing		3.4	4.0	6.9	1.6	3.8	.8	.2	-1.0	-.9
Wood products	321	4.6	1.4	11.6	-13.3	-6.3	.1	-.3	1.2	-.8
Nonmetallic mineral products	327	1.3	4.4	5.3	-3.5	.9	-.6	.5	-.5	-.8
Primary metal	331	4.5	8.1	-1.1	-4.2	4.3	.2	.7	1.2	-.7
Fabricated metal products	332	-2.4	1.9	6.2	3.2	3.3	-.2	.3	.1	-.6
Machinery	333	-2.0	5.1	8.3	2.5	-.5	.0	.2	-.1	-2.8
Computer and electronic products	334	17.9	10.2	15.1	12.2	13.1	4.3	.0	-3.2	-6.1
Electrical equip., appliances, and components	335	-.9	2.3	1.8	-.5	3.7	.1	.3	-2.0	-2.8
Motor vehicles and parts	3361–3	3.2	-1.4	-.3	-5.9	-2.1	.1	.3	-.6	-2.1
Aerospace and miscellaneous transportation equipment	3364–9	-4.0	3.4	11.5	4.5	11.1	-.2	1.4	-3.6	-10.2
Furniture and related products	337	.2	3.4	1.6	-1.6	-1.8	.1	-.1	.0	-.4
Miscellaneous	339	.3	1.6	6.6	2.7	1.5	.2	-.5	-2.1	-2.0
Nondurable manufacturing		.2	3.5	.7	1.3	.9	-.1	.3	-.2	-1.0
Food, beverage, and tobacco products	311,2	2.5	1.3	4.1	.3	2.2	.0	.1	-1.1	-2.3
Textile and product mills	313,4	-5.1	.5	-.3	-11.7	-8.0	-.4	1.2	-2.2	-4.0
Apparel and leather	315,6	-10.6	-8.9	-1.3	-.8	-2.0	-.1	.7	-1.7	-.7
Paper	322	-5.6	2.8	-.7	.3	-2.2	-.2	-.2	-.6	.4
Printing and support	323	-2.7	2.4	.5	1.9	-1.3	-.3	.6	-1.4	-3.3
Petroleum and coal products	324	.9	10.4	-3.7	2.2	-.4	-.2	.5	-.1	-.4
Chemical	325	1.9	6.6	-1.2	5.0	1.3	-.2	.5	1.3	1.3
Plastics and rubber products	326	-.2	.9	2.6	-3.6	4.3	.0	.1	-.4	-3.9
Other manufacturing (non-NAICS)	1133,5111	-2.8	2.0	-.5	-4.5	-1.4	.6	-.6	-1.2	-4.7
Mining	21	1.0	-.9	-4.9	8.2	.6	.3	-.2	.6	-.7
Utilities	2211,2	.6	1.8	2.0	-.7	3.0	.0	.1	-.1	-1.0
Electric	2211	1.9	2.3	3.5	-1.2	3.3	.1	.1	.1	-1.2
Natural gas	2212	-6.2	-1.1	-4.6	1.5	1.7	-.2	.3	-1.2	-.4

NOTE. Estimates for the fourth quarter of 2007 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.

Table 3
RATES OF CHANGE IN INDUSTRIAL PRODUCTION, SPECIAL AGGREGATES AND SELECTED DETAIL: 2003-07 ¹

Item	Revised change (percent)					Difference between revised and earlier changes (percentage points)				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Total industry	1.5	3.1	2.6	1.7	2.1	.4	.1	-.6	-1.8	.4
Energy	.7	1.3	-1.8	3.7	2.3	.1	-.2	.0	-.3	-.5
Consumer products	-1.8	3.9	1.7	-.2	1.9	-.1	.2	.1	-.8	.0
Commercial products	4.7	4.5	.4	1.2	2.0	.0	.0	-.1	-1.1	-1.2
Oil and gas well drilling	213111	21.3	8.4	11.9	14.8	-.8	.1	.1	.1	-.2
Converted fuel	1.0	2.3	-2.6	2.5	5.2	.0	.2	-.1	.3	-1.1
Primary energy	-.1	-1.7	-4.6	6.4	1.8	.3	-.5	.3	-.4	-.1
Non-energy	1.7	3.5	3.9	1.1	2.1	.4	.2	-.7	-2.2	.6
Selected high-technology industries	23.8	9.4	22.4	17.3	20.9	6.7	-1.0	-5.7	-7.3	4.0
Computers and peripheral equipment	3341	9.9	1.6	28.8	18.0	16.7	5.1	-4.9	-1.5	5.9
Communications equipment	3342	17.4	.7	13.7	20.6	18.6	3.5	-5.5	.8	5.8
Semiconductors and related electronic components	334412-9	34.0	17.3	24.0	15.4	24.2	9.5	3.6	-9.7	-19.4
Excluding selected high-technology industries	.2	3.1	2.7	.0	.9	.0	.3	-.4	-1.9	.3
Motor vehicles and parts	3361-3	3.2	-1.4	-.3	-5.9	-2.1	.1	.3	-.6	-2.1
Motor vehicles	3361	7.7	-2.7	-2.3	-7.0	-2.5	.0	.3	.2	-1.0
Motor vehicle parts	3363	-1.9	-.8	-.6	-4.3	.5	.2	.3	-1.9	-.4
Excluding motor vehicles and parts	-.1	3.6	3.0	.6	1.1	.0	.3	-.4	-1.9	.4
Consumer goods	1.1	2.3	3.1	1.0	.3	.0	-.1	-.5	-.8	.0
Business equipment	-2.0	5.2	7.3	5.8	3.1	-.4	.8	-1.6	-4.4	.8
Construction supplies	.7	1.7	7.5	-3.7	-1.7	-.1	.2	-.4	-1.5	-.5
Business supplies	-.9	2.2	2.4	-1.6	-.1	.1	.2	-.7	-2.6	.0
Materials	-.5	5.0	.6	.7	1.9	-.1	.6	-.2	-1.6	.6
Measures excluding selected high-technology industries										
Total industry	.3	2.7	1.6	.9	1.2	.0	.2	-.4	-1.5	.2
Manufacturing ²	.2	3.3	2.5	.1	1.1	.0	.3	-.4	-1.9	.3
Durable	.6	3.2	4.7	-.5	1.6	-.1	.4	-.5	-2.5	.5
Measures excluding motor vehicles and parts										
Total industry	1.4	3.5	2.8	2.1	2.4	.4	.1	-.6	-1.8	.4
Manufacturing ²	1.6	4.2	4.0	1.7	2.6	.4	.2	-.7	-2.2	.6
Durable	3.5	5.1	8.1	2.8	4.8	.9	.2	-1.1	-3.2	1.2
Measures excluding selected high-technology industries and motor vehicles and parts										
Total industry	.1	3.1	1.7	1.4	1.4	.0	.2	-.3	-1.5	.3
Manufacturing ²	-.1	3.8	2.7	.6	1.4	-.1	.3	-.4	-1.9	.4
Measure of non-energy material inputs to finished processors										
Finished processors	3.7	6.0	5.6	2.8	4.9	1.4	.8	-2.7	-6.2	2.5
Primary and semifinished processors	.7	4.9	.1	.3	2.4	.0	.5	.1	-1.0	.2
STAGE-OF-PROCESS GROUPS										
Crude	-.3	2.6	-6.6	7.2	1.8	.1	-.4	.7	.3	-.4
Primary and semifinished	1.1	3.7	3.3	-1.0	2.5	.5	.5	-1.0	-3.3	.7
Finished	2.7	2.4	5.4	3.4	1.7	.3	-.2	-.2	-.6	.2

NOTE. Estimates for the fourth quarter of 2007 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.

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 PRODUCTION: 2003–07¹**

Item	Revised change (percent)					Difference between revised and earlier changes (percentage points)				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Total IP	1.2	2.5	3.3	2.2	1.7	.2	.0	.1	-1.8	-2
MARKET GROUPS										
Consumer goods	1.3	1.3	2.8	.3	1.7	.0	-.1	-.1	-1.0	-.1
Durable	3.2	1.1	.5	-1.3	-.3	-.1	-.3	-.5	-1.2	-.8
Nondurable	.5	1.4	3.6	.8	2.3	.0	.0	.1	-.9	.1
Business equipment	-.3	5.2	7.3	10.4	3.3	-.5	.9	-.6	-1.3	-1.6
Defense and space equipment	6.3	-.8	10.5	-3.2	3.6	2.5	-1.0	5.1	-5.6	3.7
Construction supplies	-.4	2.1	4.5	2.2	-2.5	-.2	.2	-.3	-1.3	-.6
Business supplies	1.7	2.2	3.4	.6	.6	.3	.0	.0	-2.4	-.7
Materials	1.3	3.0	2.3	2.2	1.9	.4	-.1	.2	-2.4	.0
Non-energy	1.8	4.3	3.9	2.5	2.0	.6	.0	.4	-3.4	-.2
Energy	.0	-.4	-1.2	1.6	1.6	.1	-.2	.1	.0	-.5
INDUSTRY GROUPS										
Manufacturing²	1.3	2.9	4.0	2.4	1.7	.2	.0	.1	-2.2	-.2
Manufacturing (NAICS)	1.5	3.1	4.2	2.8	1.8	.2	.1	.2	-2.2	-.1
Durable manufacturing	2.7	4.1	5.5	4.6	2.6	.4	.1	.0	-3.0	-.2
Nondurable manufacturing	.1	1.9	2.8	.8	.9	-.1	.0	.4	-1.4	.0
Other manufacturing (non-NAICS)	-2.9	.8	.7	-4.3	-1.5	.1	-.1	-1.1	-3.0	-2.1
Mining	.2	-.6	-1.3	3.1	.2	.3	.0	.4	.4	-.6
Utilities	1.9	1.4	2.1	-.6	3.3	.0	.0	.0	-.8	.2

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 to table 3.

Table 5**RATES OF CHANGE IN CAPACITY, BY INDUSTRY GROUPS: 2003–07¹**

Item	Revised change (percent)					Difference between revised and earlier changes (percentage points)				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Total industry	-.6	.2	.8	1.3	1.8	.3	.0	-.2	-1.1	.0
Manufacturing²	-.6	.2	1.4	1.4	2.0	.3	.1	-.3	-1.3	-.2
Manufacturing (NAICS)	-.3	.2	1.5	1.4	2.0	.3	.1	-.3	-1.4	-.2
Durable manufacturing	.3	.5	2.6	2.4	3.3	.5	.0	-.7	-1.8	-.2
Nondurable manufacturing	-1.0	-.1	.5	.3	.7	.2	.3	.2	-.8	-.1
Other manufacturing (non-NAICS)	-4.8	-.6	-.2	1.1	.6	-1.0	-.5	-.8	.1	-.2
Mining	-1.4	-1.3	-1.1	1.4	1.7	.7	-1.0	.6	.8	1.3
Utilities	3.6	2.9	.7	.8	1.2	.5	.3	.7	-1.2	-.3
Selected high-technology industries	4.2	5.5	13.1	10.3	21.4	2.8	1.2	-5.2	-9.3	1.9
Manufacturing ² ex. selected high-technology industries	-.7	-.2	.7	.8	.8	.1	.0	.1	-.6	-.2
STAGE-OF-PROCESS GROUPS										
Crude	-1.8	-.7	-.8	.9	1.4	.4	-.6	.3	.7	1.0
Primary and semifinished	-.8	.7	.8	1.2	2.1	.6	.3	-.6	-1.8	-.1
Finished	.3	.4	2.3	1.8	1.7	.0	-.1	.3	-.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)			
	1972-2007 Ave.	2004 Q4	2005 Q4	2006 Q4	2007 Q4	2004 Q4	2005 Q4	2006 Q4	2007 Q4
Total industry	81.0	79.1	80.4	80.7	81.0	.0	-.2	-.8	-.5
Manufacturing¹	79.7	77.5	79.2	79.0	79.2	-.1	-.3	-1.1	-.5
Manufacturing (NAICS) 31-33	79.5	77.1	78.9	78.9	79.2	-.1	-.4	-.9	-.3
Durable manufacturing	78.0	74.8	78.0	77.3	77.8	.0	-.2	-1.1	-.3
Wood products 321	80.1	81.4	89.9	75.9	70.5	.1	1.4	1.6	.3
Nonmetallic mineral products 327	79.4	80.3	83.3	78.9	78.2	-.8	-.5	-.8	-.2
Primary metal 331	80.8	86.7	83.9	80.8	84.0	-.1	.2	-1.4	-2.6
Fabricated metal products 332	77.4	73.8	78.0	79.9	81.3	.2	.1	-.3	.2
Machinery 333	78.7	73.2	78.5	79.4	77.3	-.2	-.2	-1.5	-.6
Computer and electronic products 334	78.4	71.1	74.7	78.0	77.3	-.6	-.4	.7	3.2
Electrical equip., appliances, and components 335	83.2	79.9	83.2	82.1	83.4	.8	-.2	-2.2	-2.1
Motor vehicles and parts 3361-3	77.5	79.2	78.3	72.3	72.4	.3	-.3	-2.4	-3.7
Aerospace and miscellaneous transportation equipment 3364-9	72.5	63.0	70.0	72.8	80.5	1.6	-.2	-5.9	-2.4
Furniture and related products 337	78.6	77.0	79.0	77.5	76.6	.5	.3	-.8	.6
Miscellaneous 339	76.6	74.9	76.9	76.5	74.7	-.1	-1.4	-2.3	-3.0
Nondurable manufacturing	81.6	79.8	80.0	80.8	81.0	-.3	-.6	-.8	-.5
Food, beverage, and tobacco products 311,2	81.5	78.4	80.7	80.3	81.1	.3	-.7	-1.9	-1.0
Textile and product mills 313,4	82.3	77.2	79.7	72.5	68.9	1.6	-.1	-3.3	-2.8
Apparel and leather 315,6	78.5	67.9	69.6	71.8	73.0	.0	-1.9	-2.3	-1.3
Paper 322	87.7	83.7	84.0	84.3	82.6	-.8	-1.0	-1.2	-1.4
Printing and support 323	83.7	76.5	77.7	78.5	76.4	.6	-.3	-1.9	-.7
Petroleum and coal products 324	85.8	92.0	87.3	88.9	88.9	-2.4	-.6	-1.2	-1.3
Chemical 325	78.2	78.1	75.5	79.1	78.9	-.4	-.1	1.4	1.4
Plastics and rubber products 326	83.6	83.8	85.9	82.3	84.6	-1.2	-1.4	-2.5	-2.2
Other manufacturing (non-NAICS) 1133,5111	84.6	85.7	85.4	80.7	79.1	.5	.2	-3.9	-4.3
Mining 21	87.5	88.8	85.5	91.2	90.2	.4	.4	-.1	-1.9
Utilities 2211,2	86.8	84.6	85.7	84.4	85.9	.0	-.8	-.6	-.2
Selected high-technology industries	78.0	69.5	75.2	80.0	79.6	-1.2	-1.3	.3	1.7
Computers and peripheral equipment 3341	77.9	78.2	74.3	77.5	78.5	-1.6	-1.9	-.8	-2.2
Communications equipment 3342	75.7	52.4	61.8	73.3	79.5	-2.0	-2.0	.0	-2.4
Semiconductors and related electronic components 334412-9	80.8	77.4	84.2	85.1	80.2	.6	1.0	2.4	5.2
Measures excluding selected high-technology industries	81.2	79.7	80.7	80.7	81.0	.2	-.2	-1.0	-.9
Total industry	79.8	78.1	79.5	79.0	79.2	.0	-.3	-1.4	-1.0
Manufacturing ¹									
STAGE-OF-PROCESS GROUPS									
Crude	86.6	88.0	83.3	89.2	89.2	.1	.4	.0	-1.1
Primary and semifinished	82.2	81.4	83.4	81.3	81.3	.0	-.1	-1.0	-.5
Finished	77.7	73.8	75.9	77.0	77.5	-.1	-.6	-1.3	-.7

NOTE. Estimates for the fourth quarter of 2007 are subject to further revision in the upcoming monthly releases.

1. See footnote 2 to table 3.

Table 7A
INDUSTRIAL PRODUCTION: Manufacturing ¹
 Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual ²
IP (percent change)																	
1978	-1.4	.3	1.6	1.6	.3	.8	-.1	.5	.4	.8	.9	.8	.4	13.9	4.2	8.8	6.0
1979	-.9	.5	.4	-1.5	1.2	.2	.1	-1.3	.2	.4	-.3	.3	1.9	-.9	-.9	.0	3.1
1980	.4	-.1	-.8	-2.1	-3.0	-1.5	-1.0	.7	1.6	1.8	1.9	.3	1.2	-18.7	-7.7	19.3	-3.5
1981	-.4	-.6	.4	.5	.6	-.5	.2	.1	-.5	-1.0	-1.2	-1.7	.6	3.2	.1	-10.1	1.1
1982	-2.4	2.7	-.8	-.7	-.2	-.2	-.1	-.8	-.3	-1.1	-.7	-.4	-9.2	-2.0	-3.8	-8.4	-5.4
1983	2.4	-.1	1.0	1.2	1.3	.8	1.5	.8	1.9	1.1	.3	.3	9.1	12.4	15.3	12.4	4.8
1984	1.8	1.1	.5	.5	.3	.4	.4	.2	-.2	.4	.3	.4	12.6	6.2	3.5	2.6	9.8
1985	-.3	-.3	.7	-.4	.1	.2	-.6	.6	.1	-.3	.6	.4	.2	.7	.1	2.2	1.6
1986	1.1	-.6	-.3	.4	.1	-.3	.6	.2	.2	.4	.5	.9	4.4	-.1	2.6	5.0	2.2
1987	-.3	1.4	.1	.5	.8	.4	.7	.5	.6	1.6	.6	.6	6.0	6.9	7.1	11.7	5.7
1988	-.2	.2	.3	.9	-.1	.1	.1	.1	.3	.6	.3	.4	2.5	4.5	1.4	4.9	5.4
1989	.7	-1.0	-.1	.1	-.8	.1	-1.1	.9	-.2	-.2	.2	.2	1.7	-3.2	-3.0	.6	.8
1990	-.1	1.4	.4	-.3	.1	.2	-.2	.3	.0	-.8	-1.1	-.7	4.7	2.6	.7	-6.6	.8
1991	-.8	-.6	-.7	.3	.7	1.1	.2	.3	1.0	-.2	-.3	-.1	-8.8	2.1	7.1	1.4	-2.0
1992	-.6	.9	1.0	.6	.6	.3	.8	-.5	.1	.6	.4	-.2	.7	8.3	3.9	2.7	3.6
1993	1.0	.2	-.1	.6	-.1	-.1	.3	-.1	.6	.8	.4	.5	4.3	1.8	1.3	6.7	3.5
1994	.2	.1	1.3	.8	.7	.3	.5	.7	.3	1.0	.8	1.2	5.0	9.4	6.1	9.9	5.9
1995	.3	-.1	.2	-.2	.0	.4	-.6	1.2	.8	-.2	.1	.5	5.6	.3	3.1	4.1	5.2
1996	-.7	1.7	-.3	1.0	.6	1.1	.3	.6	.6	-.1	.8	.9	2.8	8.7	7.5	5.9	4.8
1997	.1	1.4	1.2	-.2	.9	.7	.5	1.7	.9	.7	1.1	.5	9.6	7.5	10.9	11.6	8.5
1998	.7	.0	-.2	.7	.5	-.7	-.5	2.5	-.3	.9	.2	.5	5.7	2.6	3.1	7.5	6.7
1999	.3	.7	-.1	.4	.9	-.3	.5	-.7	-.4	1.6	.8	.7	4.8	4.2	3.7	9.6	5.0
2000	.2	.3	.7	.6	-.1	.2	.0	-.5	.4	-.4	-.3	-.6	5.4	4.8	-.4	-2.9	4.5
2001	-.6	-.6	-.3	-.2	-.7	-.7	-.4	-.7	-.4	-.7	-.3	.2	-6.3	-5.4	-6.4	-5.1	-4.1
2002	.4	.1	.7	.1	.7	1.1	-.4	.3	.0	-.5	.4	-.5	2.8	5.7	3.1	-1.1	-.1
2003	.5	.2	.3	-1.0	.1	.6	.2	-.3	.7	.1	1.0	-.2	2.0	-1.9	2.6	4.1	1.3
2004	.0	.6	-.1	.5	.7	-.7	.8	.7	-.2	1.0	.1	.5	2.1	3.3	3.9	5.4	2.9
2005	.7	.7	-.3	.0	.6	.2	.0	.3	-1.0	1.5	.8	-.1	5.8	2.2	1.0	6.0	4.0
2006	.7	-.4	.0	.5	-.3	.4	.1	.3	-.2	-.5	-.1	1.0	2.7	1.4	1.6	-1.1	2.4
2007	-.6	.1	.7	.4	.2	.5	.8	-.4	.4	-.5	.2	.1	1.1	4.7	4.0	-.8	1.7
2008	.0	-.3															
IP (2002=100)																	
1978	49.9	50.1	50.9	51.7	51.9	52.3	52.2	52.5	52.7	53.1	53.6	54.1	50.3	52.0	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	53.7	53.5	53.7	53.9	53.7	53.6	53.6	53.7
1980	53.9	53.9	53.5	52.4	50.8	50.0	49.6	49.9	50.7	51.6	52.6	52.7	53.8	51.1	50.1	52.3	51.8
1981	52.5	52.2	52.4	52.7	53.0	52.7	52.9	52.9	52.7	52.1	51.5	50.7	52.4	52.8	52.8	51.4	52.4
1982	49.5	50.8	50.4	50.1	50.0	49.8	49.8	49.4	49.2	48.7	48.4	48.2	50.2	50.0	49.5	48.4	49.5
1983	49.3	49.3	49.8	50.4	51.0	51.4	52.2	52.6	53.6	54.2	54.4	54.5	49.5	50.9	52.8	54.4	51.9
1984	55.5	56.1	56.4	56.7	56.8	57.1	57.3	57.4	57.3	57.5	57.7	57.9	56.0	56.8	57.3	57.7	57.0
1985	57.7	57.5	58.0	57.7	57.8	57.9	57.6	57.9	58.0	57.8	58.2	58.5	57.7	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	59.2	59.9	59.2
1987	60.2	61.0	61.1	61.4	61.9	62.1	62.5	62.8	63.2	64.2	64.6	65.0	60.8	61.8	62.9	64.6	62.5
1988	64.9	65.0	65.2	65.8	65.7	65.8	65.9	65.9	66.1	66.5	66.7	67.0	65.0	65.8	66.0	66.8	65.9
1989	67.5	66.9	66.8	66.8	66.3	66.4	65.7	66.3	66.1	66.0	66.1	66.2	67.1	66.5	66.0	66.1	66.4
1990	66.2	67.1	67.3	67.2	67.3	67.4	67.3	67.5	67.5	66.9	66.2	65.7	66.9	67.3	67.4	66.3	67.0
1991	65.2	64.8	64.3	64.5	65.0	65.7	65.9	66.1	66.7	66.6	66.4	66.4	64.8	65.1	66.2	66.5	65.6
1992	66.0	66.6	67.2	67.6	68.0	68.2	68.8	68.4	68.5	68.9	69.2	69.0	66.6	67.9	68.6	69.0	68.0
1993	69.7	69.8	69.7	70.1	70.1	70.0	70.2	70.1	70.5	71.1	71.4	71.8	69.8	70.1	70.3	71.4	70.4
1994	72.0	72.0	73.0	73.6	74.1	74.3	74.6	75.2	75.4	76.1	76.8	77.7	72.3	74.0	75.1	76.9	74.5
1995	77.9	77.8	78.0	77.9	77.9	78.2	77.7	78.7	79.3	79.2	79.3	79.7	77.9	78.0	78.6	79.4	78.5
1996	79.1	80.5	80.2	81.0	81.5	82.4	82.6	83.1	83.6	83.6	84.3	85.0	79.9	81.6	83.1	84.3	82.2
1997	85.1	86.3	87.3	87.1	87.9	88.4	88.8	90.3	91.1	91.8	92.8	93.3	86.2	87.8	90.1	92.6	89.2
1998	94.0	93.9	93.8	94.4	94.9	94.2	93.8	96.1	95.8	96.7	96.8	97.3	93.9	94.5	95.2	97.0	95.1
1999	97.7	98.4	98.3	98.6	99.5	99.2	99.7	100.4	100.0	101.6	102.4	103.1	98.1	99.1	100.0	102.4	99.9
2000	103.3	103.6	104.3	104.9	104.8	105.1	105.0	104.5	104.9	104.5	104.1	103.5	103.7	104.9	104.8	104.0	104.4
2001	102.9	102.3	101.9	101.7	100.9	100.2	99.9	99.2	98.8	98.1	97.8	98.0	102.3	100.9	99.3	98.0	100.1
2002	98.4	98.4	99.1	99.2	99.9	101.0	100.6	100.9	100.9	100.4	100.8	100.3	98.7	100.0	100.8	100.5	100.0
2003	100.8	101.0	101.3	100.3	100.4	101.0	101.2	100.9	101.6	101.7	102.7	102.4	101.0	100.6	101.2	102.2	101.3
2004	102.4	103.0	102.9	103.4	104.1	103.3	104.2	104.9	104.7	105.7	105.8	106.4	102.8	103.6	104.6	106.0	104.2
2005	107.1	107.8	107.5	107.6	108.2	108.4	108.4	108.8	107.7	109.4	110.2	110.1	107.5	108.1	108.3	109.9	108.4
2006	110.9	110.5	110.5	111.1	110.8	111.2	111.3	111.7	111.5	110.9	110.8	111.8	110.6	111.0	111.5	111.2	111.1
2007	111.1	111.3	112.0	112.4	112.6	113.2	114.1	113.6	114.0	113.4	113.7	113.8	111.5	112.8	113.9	113.6	112.9
2008	113.8	113.5															

NOTE Estimates from October 2007 through February 2008 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: Manufacturing ¹
 Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
Capacity (percent of 2002 output)																	
1978	60.8	61.0	61.1	61.3	61.5	61.7	61.9	62.0	62.2	62.4	62.6	62.7	61.0	61.5	62.0	62.6	61.8
1979	62.9	63.1	63.3	63.4	63.6	63.8	63.9	64.1	64.2	64.4	64.6	64.7	63.1	63.6	64.1	64.6	63.8
1980	64.9	65.0	65.2	65.4	65.5	65.7	65.9	66.1	66.3	66.5	66.6	66.8	65.0	65.5	66.1	66.6	65.8
1981	67.0	67.2	67.4	67.6	67.8	68.0	68.1	68.3	68.5	68.6	68.8	68.9	67.2	67.8	68.3	68.8	68.0
1982	69.1	69.2	69.4	69.5	69.7	69.8	69.9	70.0	70.1	70.2	70.3	70.4	69.2	69.7	70.0	70.3	69.8
1983	70.4	70.5	70.5	70.5	70.5	70.6	70.6	70.6	70.7	70.7	70.8	70.8	70.5	70.5	70.6	70.8	70.6
1984	70.9	71.0	71.1	71.2	71.4	71.5	71.7	71.9	72.1	72.3	72.5	72.7	71.0	71.4	71.9	72.5	71.7
1985	72.9	73.1	73.3	73.5	73.7	73.9	74.1	74.3	74.5	74.6	74.7	74.9	73.1	73.7	74.3	74.7	74.0
1986	75.0	75.1	75.1	75.2	75.3	75.4	75.5	75.6	75.7	75.8	75.9	76.1	75.0	75.3	75.6	75.9	75.5
1987	76.2	76.4	76.6	76.8	77.0	77.2	77.4	77.5	77.7	77.8	78.0	78.1	76.4	77.0	77.5	78.0	77.2
1988	78.2	78.2	78.3	78.4	78.4	78.5	78.5	78.6	78.6	78.7	78.8	78.9	78.2	78.4	78.6	78.8	78.5
1989	79.0	79.2	79.3	79.5	79.6	79.8	80.0	80.2	80.4	80.6	80.7	80.9	79.2	79.6	80.2	80.7	79.9
1990	81.1	81.3	81.5	81.7	81.8	82.0	82.2	82.3	82.5	82.7	82.8	83.0	81.3	81.8	82.3	82.8	82.1
1991	83.1	83.3	83.4	83.5	83.6	83.8	83.9	84.0	84.1	84.2	84.3	84.5	83.3	83.6	84.0	84.3	83.8
1992	84.6	84.8	84.9	85.1	85.3	85.5	85.7	85.9	86.1	86.3	86.5	86.7	84.8	85.3	85.9	86.5	85.6
1993	86.9	87.0	87.1	87.3	87.4	87.5	87.6	87.8	87.9	88.0	88.2	88.4	87.0	87.4	87.8	88.2	87.6
1994	88.6	88.8	89.0	89.3	89.5	89.8	90.1	90.5	90.8	91.1	91.5	91.8	88.8	89.6	90.5	91.5	90.1
1995	92.2	92.5	92.9	93.3	93.7	94.1	94.5	94.9	95.3	95.8	96.2	96.7	92.5	93.7	94.9	96.2	94.3
1996	97.2	97.7	98.2	98.8	99.3	99.9	100.4	100.9	101.5	102.0	102.6	103.1	97.7	99.3	100.9	102.6	100.1
1997	103.7	104.3	104.9	105.6	106.2	106.9	107.6	108.3	109.1	109.8	110.6	111.4	104.3	106.2	108.3	110.6	107.4
1998	112.3	113.1	113.9	114.7	115.5	116.2	116.9	117.6	118.3	118.9	119.5	120.1	113.1	115.4	117.6	119.5	116.4
1999	120.7	121.3	121.8	122.4	122.9	123.5	124.0	124.5	125.1	125.6	126.2	126.8	121.3	122.9	124.5	126.2	123.7
2000	127.3	127.9	128.4	129.0	129.5	130.1	130.6	131.1	131.6	132.1	132.6	133.0	127.9	129.5	131.1	132.6	130.3
2001	133.5	133.9	134.3	134.7	135.1	135.4	135.7	136.0	136.3	136.5	136.7	136.9	133.9	135.1	136.0	136.7	135.4
2002	137.1	137.2	137.3	137.4	137.4	137.5	137.5	137.5	137.5	137.5	137.4	137.4	137.2	137.4	137.5	137.4	137.4
2003	137.3	137.2	137.1	137.1	137.0	136.9	136.8	136.8	136.7	136.6	136.6	136.6	137.2	137.0	136.8	136.6	136.9
2004	136.5	136.5	136.5	136.5	136.5	136.5	136.6	136.6	136.7	136.7	136.8	136.9	136.5	136.5	136.6	136.8	136.6
2005	137.0	137.2	137.3	137.5	137.6	137.8	138.0	138.2	138.4	138.6	138.8	138.9	137.2	137.6	138.2	138.8	137.9
2006	139.1	139.3	139.4	139.6	139.7	139.9	140.0	140.2	140.3	140.5	140.7	140.8	139.3	139.7	140.2	140.7	140.0
2007	141.0	141.2	141.4	141.7	141.9	142.1	142.4	142.7	142.9	143.2	143.4	143.7	141.2	141.9	142.7	143.4	142.3
2008	143.9	144.1															
Utilization (percent)																	
1978	82.1	82.1	83.2	84.3	84.3	84.8	84.5	84.6	84.8	85.2	85.7	86.2	82.5	84.5	84.6	85.7	84.3
1979	85.2	85.4	85.5	84.0	84.8	84.7	84.6	83.2	83.2	83.3	82.9	83.0	85.4	84.5	83.7	83.1	84.2
1980	83.1	82.9	82.0	80.1	77.5	76.1	75.2	75.5	76.5	77.7	78.9	78.9	82.7	77.9	75.7	78.5	78.7
1981	78.4	77.7	77.8	77.9	78.2	77.6	77.6	77.5	76.9	76.0	74.9	73.5	77.9	77.9	77.3	74.8	77.0
1982	71.6	73.3	72.6	72.0	71.7	71.4	71.2	70.5	70.2	69.3	68.8	68.5	72.5	71.7	70.7	68.9	70.9
1983	70.1	70.0	70.6	71.4	72.3	72.9	73.9	74.5	75.8	76.6	76.8	77.0	70.2	72.2	74.7	76.8	73.5
1984	78.3	79.0	79.3	79.5	79.6	79.8	79.9	79.9	79.5	79.6	79.6	79.7	78.9	79.6	79.8	79.6	79.5
1985	79.1	78.7	79.0	78.5	78.4	78.3	77.7	78.0	77.9	77.5	77.9	78.1	78.9	78.4	77.9	77.8	78.3
1986	78.8	78.2	77.9	78.2	78.2	77.9	78.2	78.3	78.4	78.5	78.8	79.3	78.3	78.1	78.3	78.9	78.4
1987	78.9	79.9	79.7	80.0	80.4	80.5	80.8	81.1	81.4	82.5	82.9	83.3	79.5	80.3	81.1	82.9	80.9
1988	83.0	83.1	83.3	83.9	83.8	83.8	83.9	83.9	84.1	84.5	84.7	84.9	83.1	83.8	84.0	84.7	83.9
1989	85.4	84.5	84.2	84.1	83.2	83.2	82.1	82.6	82.2	81.9	81.9	81.8	84.7	83.5	82.3	81.9	83.1
1990	81.6	82.5	82.6	82.3	82.2	82.2	81.9	81.9	81.8	81.0	79.9	79.2	82.2	82.2	81.9	80.0	81.6
1991	78.4	77.8	77.1	77.3	77.7	78.5	78.5	78.6	79.3	79.1	78.7	78.6	77.8	77.8	78.8	78.8	78.3
1992	78.0	78.5	79.1	79.4	79.7	79.8	80.2	79.7	79.5	79.8	79.9	79.6	78.5	79.6	79.8	79.8	79.4
1993	80.3	80.3	80.0	80.4	80.2	80.0	80.1	79.9	80.3	80.8	81.0	81.2	80.2	80.2	80.1	81.0	80.4
1994	81.2	81.1	82.0	82.4	82.7	82.7	82.8	83.1	83.1	83.6	83.9	84.6	81.4	82.6	83.0	84.0	82.8
1995	84.5	84.1	83.9	83.5	83.2	83.1	82.3	82.9	83.2	82.7	82.4	82.4	84.2	83.3	82.8	82.5	83.2
1996	81.4	82.3	81.6	82.0	82.0	82.5	82.3	82.3	82.4	81.9	82.2	82.4	81.8	82.2	82.3	82.2	82.1
1997	82.0	82.7	83.2	82.5	82.7	82.8	82.6	83.4	83.6	83.5	83.9	83.7	82.7	82.7	83.2	83.7	83.1
1998	83.7	83.1	82.4	82.3	82.2	81.1	80.2	81.7	81.0	81.3	81.0	81.1	83.1	81.9	81.0	81.1	81.8
1999	80.9	81.1	80.7	80.6	81.0	80.4	80.4	80.6	80.0	80.9	81.1	81.3	80.9	80.7	80.3	81.1	80.7
2000	81.1	81.0	81.2	81.3	80.9	80.8	80.4	79.7	79.7	79.1	78.5	77.8	81.1	81.0	79.9	78.5	80.1
2001	77.0	76.4	75.9	75.5	74.7	74.0	73.6	72.9	72.5	71.9	71.5	71.6	76.4	74.7	73.0	71.7	73.9
2002	71.8	71.8	72.2	72.2	72.7	73.5	73.1	73.4	73.4	73.1	73.4	73.0	71.9	72.8	73.3	73.2	72.8
2003	73.4	73.6	73.8	73.2	73.3	73.8	73.9	73.8	74.3	74.4	75.1	75.0	73.6	73.4	74.0	74.8	74.0
2004	75.0	75.5	75.4	75.8	76.3	75.7	76.3	76.8	76.6	77.3	77.4	77.7	75.3	75.9	76.6	77.5	76.3
2005	78.1	78.6	78.3	78.3	78.6	78.7	78.6	78.7	77.8	78.9	79.4	79.3	78.4	78.5	78.4	79.2	78.6
2006	79.7	79.3	79.2	79.6	79.3	79.5	79.5	79.7	79.4	78.9	78.7	79.4	79.4	79.4	79.5	79.0	79.4
2007	78.8	78.8	79.2	79.4	79.4	79.6	80.1	79.6	79.8	79.2	79.3	79.2	78.9	79.5	79.8	79.2	79.4
2008	79.1	78.7															

NOTE Estimates from October 2007 through February 2008 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.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual ²
IP (percent change)																	
1978	-1.4	.4	1.7	2.1	.3	.7	-.2	.3	.2	.8	.6	.6	-2.0	16.3	2.7	6.6	4.7
1979	-.8	.5	.2	-1.1	.7	-.1	-.3	-.8	.0	.5	-.2	.0	.9	-1.4	-2.7	.3	2.1
1980	.4	.0	-.4	-2.2	-2.6	-1.3	-.7	.2	1.7	1.2	1.7	.5	.7	-17.0	-6.9	15.9	-3.6
1981	-.7	-.6	.5	-.6	.7	.5	.6	-.1	-.7	-.9	-1.1	-1.2	.0	.6	3.6	-9.7	.6
1982	-2.0	1.8	-.7	-.9	-.7	-.5	-.5	-.8	-.5	-.9	-.5	-.9	-8.6	-5.8	-6.5	-8.2	-6.0
1983	1.9	-.7	.8	1.2	.7	.5	1.4	1.2	1.3	.7	.2	.5	3.7	8.5	13.7	9.6	1.8
1984	2.0	.3	.4	.5	.4	.2	.2	.0	-.2	-.2	.3	.1	11.4	5.1	1.6	-.4	7.9
1985	-.3	.5	.1	-.1	.1	.0	-.5	.4	.5	-.4	.3	1.1	1.0	.9	-.2	2.5	1.0
1986	.5	-.8	-.7	.1	.1	-.2	.4	-.3	.1	.4	.4	.8	2.3	-2.6	.6	4.0	.9
1987	-.5	1.2	.2	.5	.6	.4	.5	.6	.2	1.4	.5	.4	4.4	6.4	6.0	9.2	4.3
1988	.0	.4	.2	.5	-.2	.2	.1	.5	-.4	.5	.2	.4	3.0	2.8	1.4	2.9	4.4
1989	.3	-.5	.3	-.1	-.7	.0	-1.1	.9	-.3	-.2	.2	.7	1.8	-2.0	-3.3	1.0	.6
1990	-.7	.9	.4	-.2	.1	.2	-.2	.2	.1	-.8	-1.3	-.7	2.4	2.2	1.0	-6.6	.3
1991	-.5	-.8	-.6	.2	.9	1.0	.0	.1	.9	-.2	-.2	-.5	-8.0	2.1	5.4	.3	-2.0
1992	-.8	.7	.8	.6	.3	-.1	.8	-.6	.1	.6	.3	.0	-1.8	6.2	1.7	2.8	1.9
1993	.5	.3	-.1	.3	-.4	.2	.3	-.1	.3	.6	.3	.5	3.0	.5	1.5	5.1	2.5
1994	.4	-.1	.9	.3	.4	.6	.1	.3	.0	.6	.4	.9	4.3	5.5	3.3	5.5	4.0
1995	.2	-.2	-.2	-.3	.1	.1	-.5	1.1	.1	-.5	.1	.2	3.1	-1.4	1.4	.3	2.5
1996	-1.0	1.4	-.4	.7	.5	.7	-.5	.4	.4	-.3	.8	.5	-.2	6.1	2.2	3.3	1.7
1997	-.1	.9	.5	-.4	.3	.2	.3	1.0	.7	.7	.7	.2	5.0	2.2	6.0	8.2	4.2
1998	.2	-.1	-.1	.3	.5	-.9	-.8	2.0	-.6	.5	-.3	.0	1.6	1.0	-.4	2.1	3.1
1999	.2	.1	-.1	-.1	.6	-.5	.3	.4	-.5	1.2	.3	.6	.8	.4	1.0	5.6	1.2
2000	-.3	.0	.1	.4	-.1	.0	-.5	-.4	.4	-.5	-.2	-.5	.7	1.7	-2.8	-2.8	1.1
2001	-.7	-.5	-.3	-.1	-.6	-.5	-.3	-.3	-.5	-.6	-.5	-.1	-6.2	-4.3	-4.6	-5.3	-4.0
2002	.7	.0	.7	.3	.4	.9	-.3	.0	.0	-.3	.3	-.6	2.7	5.8	1.6	-1.1	.0
2003	.6	.2	-.3	-1.0	-.1	.1	.3	-.1	.5	.0	.7	-.1	1.3	-4.4	1.6	3.0	.2
2004	.2	.5	-.6	.6	.7	-.9	.7	.2	-.2	1.0	.3	.6	1.7	2.1	1.8	5.4	1.8
2005	.4	.5	-.1	-.1	.3	.4	-.2	.0	-2.1	1.1	1.0	.5	4.8	1.3	-1.8	2.2	2.7
2006	.0	-.2	.2	.3	-.2	.4	.2	.0	-.5	-.1	-.2	.6	2.6	1.7	1.1	-1.7	1.3
2007	-.4	.7	-.2	.4	-.1	.2	.4	-.1	.2	-.6	.4	.0	1.4	2.2	2.2	-.8	.9
2008	.1	-.7															
IP (2002=100)																	
1978	71.5	71.8	73.0	74.6	74.8	75.3	75.2	75.4	75.5	76.1	76.6	77.0	72.1	74.9	75.4	76.6	74.7
1979	76.4	76.8	77.0	76.1	76.7	76.6	76.4	75.7	75.7	76.1	75.9	76.0	76.7	76.5	76.0	76.0	76.3
1980	76.3	76.2	75.9	74.3	72.3	71.4	70.9	71.0	72.2	73.1	74.4	74.7	76.1	72.7	71.4	74.1	73.6
1981	74.2	73.8	74.2	73.7	74.2	74.6	75.1	75.0	74.4	73.8	73.0	72.1	74.1	74.2	74.8	72.9	74.0
1982	70.7	71.9	71.4	70.7	70.2	69.9	69.6	69.0	68.7	68.1	67.7	67.1	71.3	70.3	69.1	67.6	69.6
1983	68.4	67.9	68.4	69.2	69.7	70.0	71.0	71.9	72.8	73.4	73.5	73.9	68.2	69.7	71.9	73.6	70.9
1984	75.3	75.6	75.9	76.3	76.6	76.8	76.9	76.9	76.7	76.6	76.8	76.9	75.6	76.6	76.9	76.8	76.5
1985	76.7	77.1	77.2	77.1	77.2	77.2	76.8	77.1	77.5	77.2	77.4	78.2	77.0	77.2	77.1	77.6	77.2
1986	78.6	78.0	77.5	77.5	77.6	77.5	77.8	77.6	77.7	78.0	78.3	79.0	78.1	77.5	77.7	78.4	77.9
1987	78.6	79.5	79.7	80.1	80.6	80.9	81.3	81.8	81.9	83.1	83.5	83.8	79.3	80.5	81.7	83.5	81.2
1988	83.8	84.2	84.3	84.7	84.6	84.7	84.8	85.2	84.9	85.3	85.5	85.9	84.1	84.7	85.0	85.6	84.8
1989	86.1	85.7	86.0	85.9	85.3	85.3	84.4	85.2	84.9	84.7	84.9	85.5	86.0	85.5	84.8	85.0	85.3
1990	84.9	85.6	86.0	85.8	86.0	86.2	86.0	86.2	86.3	85.7	84.6	84.0	85.5	86.0	86.2	84.7	85.6
1991	83.6	82.9	82.4	82.6	83.4	84.2	84.2	84.3	85.0	84.9	84.7	84.2	83.0	83.4	84.5	84.6	83.9
1992	83.6	84.2	84.8	85.3	85.6	85.5	86.1	85.6	85.7	86.3	86.5	86.5	84.2	85.5	85.8	86.4	85.5
1993	86.9	87.2	87.1	87.4	87.0	87.2	87.4	87.4	87.7	88.3	88.6	89.0	87.1	87.2	87.5	88.6	87.6
1994	89.3	89.2	90.0	90.3	90.7	91.2	91.3	91.6	91.6	92.1	92.5	93.4	89.5	90.7	91.5	92.7	91.1
1995	93.6	93.4	93.2	93.0	93.1	93.2	92.7	93.7	93.8	93.4	93.4	93.6	93.4	93.1	93.4	93.5	93.3
1996	92.7	94.0	93.6	94.3	94.7	95.4	94.9	95.3	95.7	95.4	96.2	96.7	93.4	94.8	95.3	96.1	94.9
1997	96.5	97.4	97.9	97.5	97.8	98.0	98.3	99.3	100.0	100.7	101.4	101.6	97.3	97.8	99.2	101.2	98.9
1998	101.7	101.6	101.5	101.8	102.4	101.5	100.7	102.7	102.0	102.5	102.2	102.2	101.6	101.9	101.8	102.3	101.9
1999	102.5	102.6	102.5	102.4	103.0	102.5	102.8	103.2	102.7	103.9	104.2	104.8	102.5	102.6	102.9	104.3	103.1
2000	104.4	104.4	104.5	105.0	104.9	104.9	104.3	103.9	104.3	103.7	103.6	103.0	104.5	104.9	104.2	103.5	104.3
2001	102.3	101.7	101.4	101.3	100.7	100.1	99.9	99.6	99.1	98.5	98.1	97.9	101.8	100.7	99.5	98.2	100.0
2002	98.6	98.6	99.3	99.6	100.1	100.9	100.6	100.6	100.6	100.3	100.7	100.0	98.8	100.2	100.6	100.3	100.0
2003	100.6	100.8	100.5	99.6	99.5	99.5	99.8	99.7	100.2	100.2	100.9	100.8	100.7	99.5	99.9	100.6	100.2
2004	100.9	101.4	100.8	101.4	102.1	101.3	102.0	102.2	102.0	103.0	103.3	103.9	101.1	101.6	102.0	103.4	102.0
2005	104.3	104.8	104.7	104.6	104.9	105.3	105.2	105.2	103.0	104.2	105.2	105.8	104.6	104.9	104.5	105.0	104.8
2006	105.8	105.6	105.8	106.2	106.0	106.4	106.6	106.6	106.1	106.0	105.7	106.3	105.7	106.2	106.5	106.0	106.1
2007	106.0	106.7	106.5	106.9	106.9	107.1	107.5	107.4	107.6	107.0	107.5	107.5	106.4	107.0	107.5	107.3	107.1
2008	107.6	106.9															

NOTE Estimates from October 2007 through February 2008 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.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
Capacity (percent of 2002 output)																	
1978	86.7	86.9	87.1	87.3	87.5	87.7	87.9	88.1	88.3	88.4	88.6	88.7	86.9	87.5	88.1	88.6	87.8
1979	88.9	89.1	89.2	89.3	89.5	89.6	89.8	89.9	90.0	90.2	90.3	90.5	89.1	89.5	89.9	90.3	89.7
1980	90.6	90.7	90.9	91.0	91.2	91.3	91.4	91.6	91.7	91.9	92.0	92.2	90.7	91.2	91.6	92.0	91.4
1981	92.4	92.5	92.7	92.8	93.0	93.1	93.3	93.4	93.6	93.7	93.9	94.0	92.5	93.0	93.4	93.9	93.2
1982	94.2	94.3	94.4	94.5	94.6	94.7	94.8	94.9	94.9	95.0	95.0	95.0	94.3	94.6	94.9	95.0	94.7
1983	95.0	95.0	95.0	94.9	94.9	94.9	94.9	94.8	94.8	94.8	94.8	94.9	95.0	94.9	94.8	94.8	94.9
1984	94.9	94.9	95.0	95.1	95.2	95.3	95.4	95.5	95.6	95.8	95.9	96.1	94.9	95.2	95.5	95.9	95.4
1985	96.2	96.4	96.6	96.7	96.9	97.1	97.3	97.4	97.6	97.7	97.9	98.0	96.4	96.9	97.4	97.9	97.1
1986	98.1	98.2	98.3	98.4	98.5	98.6	98.7	98.8	98.9	98.9	99.0	99.1	98.2	98.5	98.8	99.0	98.6
1987	99.2	99.3	99.5	99.6	99.7	99.8	99.9	100.0	100.1	100.1	100.2	100.3	99.3	99.7	100.0	100.2	99.8
1988	100.3	100.4	100.4	100.4	100.5	100.5	100.5	100.6	100.6	100.7	100.8	100.8	100.4	100.5	100.6	100.8	100.5
1989	100.9	101.1	101.2	101.3	101.4	101.6	101.7	101.9	102.0	102.2	102.4	102.5	101.1	101.4	101.9	102.4	101.7
1990	102.7	102.8	103.0	103.1	103.3	103.4	103.6	103.7	103.9	104.0	104.2	104.3	102.8	103.3	103.7	104.2	103.5
1991	104.4	104.6	104.7	104.9	105.0	105.1	105.3	105.4	105.5	105.6	105.7	105.8	104.6	105.0	105.4	105.7	105.2
1992	105.9	106.0	106.1	106.2	106.3	106.4	106.5	106.6	106.6	106.7	106.8	106.9	106.0	106.3	106.6	106.8	106.4
1993	107.0	107.1	107.2	107.2	107.3	107.4	107.5	107.6	107.7	107.8	107.9	108.0	107.1	107.3	107.6	107.9	107.5
1994	108.1	108.2	108.3	108.5	108.6	108.8	108.9	109.1	109.3	109.4	109.6	109.8	108.2	108.6	109.1	109.6	108.9
1995	110.0	110.2	110.4	110.6	110.8	111.1	111.3	111.5	111.7	111.9	112.1	112.3	110.2	110.8	111.5	112.1	111.2
1996	112.5	112.8	113.0	113.2	113.4	113.7	113.9	114.1	114.4	114.7	115.0	115.3	112.8	113.4	114.2	115.0	113.8
1997	115.6	115.9	116.3	116.7	117.1	117.5	117.9	118.3	118.7	119.2	119.6	120.0	115.9	117.1	118.3	119.6	117.7
1998	120.4	120.9	121.3	121.7	122.1	122.4	122.8	123.2	123.5	123.8	124.1	124.4	120.9	122.1	123.2	124.1	122.5
1999	124.7	125.0	125.3	125.6	125.8	126.1	126.3	126.5	126.7	127.0	127.2	127.3	125.0	125.8	126.5	127.2	126.1
2000	127.5	127.7	127.9	128.1	128.2	128.4	128.5	128.7	128.8	129.0	129.1	129.2	127.7	128.2	128.7	129.1	128.4
2001	129.4	129.5	129.7	129.8	130.0	130.1	130.2	130.4	130.5	130.6	130.8	130.9	129.5	130.0	130.4	130.8	130.2
2002	131.0	131.1	131.1	131.2	131.2	131.2	131.2	131.1	131.1	131.0	130.9	130.8	131.1	131.2	131.1	130.9	131.1
2003	130.6	130.5	130.4	130.3	130.2	130.1	130.1	130.0	130.0	130.0	130.0	129.9	130.5	130.2	130.0	130.0	130.2
2004	129.9	130.0	130.0	130.0	129.9	129.9	129.9	129.9	129.9	129.8	129.8	129.8	130.0	129.9	129.9	129.8	129.9
2005	129.7	129.7	129.7	129.7	129.7	129.8	129.8	129.9	129.9	130.0	130.1	130.2	129.7	129.7	129.9	130.1	129.9
2006	130.3	130.4	130.5	130.6	130.7	130.8	130.9	131.0	131.1	131.2	131.3	131.4	130.4	130.7	131.0	131.3	130.9
2007	131.5	131.5	131.6	131.7	131.8	131.9	132.0	132.1	132.2	132.3	132.4	132.5	131.5	131.8	132.1	132.4	132.0
2008	132.7	132.8															
Utilization (percent)																	
1978	82.4	82.6	83.8	85.4	85.4	85.8	85.5	85.6	85.6	86.1	86.5	86.8	82.9	85.5	85.6	86.4	85.1
1979	85.9	86.3	86.3	85.2	85.7	85.5	85.1	84.3	84.1	84.4	84.1	84.0	86.2	85.5	84.5	84.1	85.1
1980	84.2	84.0	83.6	81.6	79.4	78.2	77.5	77.6	78.7	79.5	80.8	81.1	83.9	79.7	77.9	80.5	80.5
1981	80.4	79.8	80.1	79.4	79.8	80.1	80.5	80.2	79.5	78.7	77.7	76.7	80.1	79.8	80.1	77.7	79.4
1982	75.0	76.3	75.6	74.8	74.2	73.8	73.4	72.7	72.4	71.7	71.3	70.6	75.6	74.2	72.8	71.2	73.5
1983	72.0	71.5	72.1	72.9	73.4	73.8	74.9	75.8	76.8	77.4	77.5	77.9	71.9	73.4	75.8	77.6	74.7
1984	79.4	79.6	79.9	80.2	80.5	80.6	80.7	80.5	80.2	80.0	80.1	80.1	79.6	80.5	80.5	80.1	80.2
1985	79.7	80.0	79.9	79.7	79.6	79.5	79.0	79.2	79.4	79.0	79.1	79.8	79.9	79.6	79.2	79.3	79.5
1986	80.2	79.4	78.8	78.8	78.8	78.6	78.8	78.5	78.6	78.8	79.1	79.6	79.5	78.7	78.6	79.2	79.0
1987	79.2	80.1	80.1	80.4	80.8	81.1	81.4	81.8	81.9	83.0	83.3	83.6	79.8	80.8	81.7	83.3	81.4
1988	83.6	83.9	84.0	84.4	84.2	84.3	84.4	84.7	84.4	84.7	84.9	85.2	83.8	84.3	84.5	84.9	84.4
1989	85.3	84.8	85.0	84.8	84.1	84.0	83.0	83.6	83.2	82.9	82.9	83.4	85.1	84.3	83.2	83.1	83.9
1990	82.7	83.3	83.5	83.2	83.2	83.3	83.0	83.1	83.1	82.4	81.2	80.5	83.2	83.2	83.1	81.4	82.7
1991	80.0	79.3	78.7	78.8	79.4	80.1	80.0	80.0	80.6	80.3	80.1	79.6	79.3	79.5	80.2	80.0	79.8
1992	78.9	79.4	79.9	80.4	80.5	80.3	80.9	80.3	80.4	80.8	81.0	80.9	79.4	80.4	80.5	80.9	80.3
1993	81.2	81.4	81.3	81.5	81.1	81.1	81.3	81.2	81.4	81.9	82.1	82.4	81.3	81.2	81.3	82.1	81.5
1994	82.6	82.5	83.1	83.3	83.5	83.9	83.8	83.9	83.8	84.2	84.4	85.0	82.7	83.5	83.8	84.5	83.7
1995	85.0	84.7	84.4	84.1	83.9	83.9	83.3	84.1	84.0	83.4	83.3	83.3	84.7	84.0	83.8	83.4	84.0
1996	82.3	83.3	82.8	83.3	83.5	83.9	83.4	83.5	83.6	83.2	83.6	83.8	82.8	83.6	83.5	83.6	83.4
1997	83.5	84.0	84.2	83.6	83.6	83.5	83.4	84.0	84.3	84.5	84.8	84.6	83.9	83.5	83.9	84.6	84.0
1998	84.5	84.1	83.7	83.7	83.9	82.9	82.0	83.4	82.6	82.8	82.3	82.2	84.1	83.5	82.7	82.4	83.2
1999	82.1	82.1	81.8	81.5	81.9	81.3	81.4	81.6	81.0	81.8	82.0	82.3	82.0	81.6	81.3	82.0	81.7
2000	81.9	81.8	81.8	82.0	81.8	81.7	81.2	80.8	81.0	80.4	80.2	79.7	81.8	81.8	81.0	80.1	81.2
2001	79.1	78.5	78.2	78.0	77.5	77.0	76.7	76.4	75.9	75.4	75.0	74.8	78.6	77.5	76.3	75.1	76.9
2002	75.3	75.2	75.7	76.0	76.3	76.9	76.7	76.7	76.8	76.6	76.9	76.5	75.4	76.4	76.7	76.7	76.3
2003	77.0	77.2	77.1	76.4	76.4	76.5	76.8	76.7	77.1	77.1	77.7	77.6	77.1	76.4	76.8	77.4	77.0
2004	77.7	78.1	77.6	78.0	78.6	77.9	78.5	78.6	78.5	79.3	79.6	80.1	77.8	78.2	78.6	79.7	78.5
2005	80.4	80.8	80.8	80.6	80.9	81.2	81.0	81.0	79.3	80.1	80.9	81.2	80.6	80.9	80.4	80.7	80.7
2006	81.2	81.0	81.1	81.3	81.0	81.3	81.4	81.4	80.9	80.8	80.5	80.9	81.1	81.2	81.2	80.7	81.1
2007	80.6	81.1	80.9	81.2	81.1	81.2	81.4	81.3	81.4	80.9	81.1	81.1	80.9	81.1	81.4	81.0	81.1
2008	81.1	80.5															

NOTE Estimates from October 2007 through February 2008 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.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual ³
IP (percent change)																	
1978	-1.5	.2	1.6	1.6	.2	.8	-.2	.4	.4	.7	.8	.8	-.4	13.3	3.2	7.7	5.2
1979	-1.0	.4	.4	-1.6	1.2	.0	.0	-1.5	.1	.3	-.4	.2	.6	-1.8	-2.4	-1.5	2.0
1980	.3	-.2	-.9	-2.3	-3.2	-1.6	-1.0	.6	1.7	1.8	1.9	.2	-.2	-20.2	-8.7	19.0	-4.9
1981	-.5	-.7	.4	.3	.6	-.5	.2	.0	-.6	-1.2	-1.2	-1.8	-.6	2.1	-1.0	-11.4	.1
1982	-2.4	2.5	-.8	-.8	-.3	-.3	-.3	-.8	-.4	-1.2	-.8	-.6	-10.3	-3.0	-4.7	-9.5	-6.6
1983	2.4	-.2	.9	1.1	1.2	.7	1.3	.9	1.6	1.1	.2	.2	8.1	11.2	14.1	11.0	3.7
1984	1.8	.9	.3	.4	.1	.3	.3	.0	-.3	.4	.3	.4	11.5	4.6	2.0	1.8	8.5
1985	-.4	-.2	.8	-.2	.1	.1	-.4	.6	.2	-.3	.6	.4	.0	1.5	.7	2.3	1.4
1986	1.2	-.7	-.3	.4	.1	-.2	.2	.2	.2	.4	.4	.8	4.7	-.2	1.3	4.3	2.1
1987	-.5	1.4	.1	.4	.7	.3	.6	.3	.5	1.5	.6	.5	4.7	5.9	5.5	10.5	4.6
1988	-.2	.2	.2	.8	-.2	.0	.0	.1	.3	.5	.3	.4	1.8	3.6	.5	4.5	4.4
1989	.8	-1.0	-1.1	.0	-.8	.1	-1.3	.9	-.3	-.3	.1	.2	2.1	-3.5	-4.1	-.5	.4
1990	-.2	1.4	.3	-.3	.1	.2	-.2	.3	-.1	-.9	-1.2	-.8	3.8	1.9	.2	-7.4	.0
1991	-.8	-.8	-.8	.4	.6	1.1	.3	.2	1.1	-.2	-.4	-.3	-9.6	1.5	7.1	.9	-2.6
1992	-.8	.9	.9	.4	.5	.1	.8	-.5	-.1	.5	.3	-.3	-1.1	7.0	2.6	1.3	2.6
1993	1.1	.1	-.3	.5	-.2	-.2	.3	-.2	.5	.7	.3	.5	3.9	.9	.5	5.7	2.5
1994	.1	.0	1.2	.6	.5	.2	.3	.5	.1	.7	.6	1.0	3.9	7.2	3.8	6.7	4.4
1995	.2	-.3	-.1	-.4	-.2	.2	-.8	.9	.6	-.5	-.1	.1	3.1	-2.5	.2	.6	2.5
1996	-1.2	1.4	-.5	1.0	.4	.9	-.1	.3	.4	-.4	.7	.7	-1.7	6.8	4.2	3.1	1.5
1997	-.2	1.0	.9	-.7	.5	.4	.1	1.3	.6	.6	.9	.2	6.0	2.6	6.6	8.7	4.9
1998	.5	-.2	-.3	.4	.4	-1.1	-.9	2.4	-.7	.7	-.1	.2	2.9	.1	-.8	4.0	3.5
1999	.0	.4	-.4	.0	.8	-.7	.0	.6	-.5	1.4	.4	.4	.8	.3	.2	7.0	1.4
2000	-.3	-.2	.3	.4	-.5	.1	-.4	-.8	.4	-.5	-.6	-.9	.4	.9	-3.5	-4.9	.8
2001	-.6	-.5	-.3	-.1	-.7	-.5	-.1	-.7	-.4	-.7	-.2	.1	-7.3	-4.4	-4.9	-5.1	-4.9
2002	.6	.0	.7	.0	.6	1.0	-.5	.3	.0	-.5	.3	-.7	3.3	5.0	2.3	-1.9	.0
2003	.4	-.1	.1	-1.1	.0	.4	.0	-.4	.7	-.1	.9	-.3	.4	-3.7	1.2	3.2	.0
2004	-.2	.6	-.2	.6	.7	-.8	.9	.6	-.3	1.0	.1	.5	1.1	3.5	3.7	4.9	2.2
2005	.6	.6	-.3	.0	.5	.2	-.1	.1	-1.3	1.5	.7	-.1	5.0	1.4	-.7	4.3	3.3
2006	.7	-.5	.0	.5	-.4	.3	.0	.2	-.3	-.6	-.2	1.0	1.9	.3	.5	-2.1	1.2
2007	-.6	.1	.6	.3	.1	.4	.5	-.5	.3	-.7	.1	.0	.9	3.5	2.3	-2.2	.7
2008	.0	-.4															
IP (2002=100)																	
1978	70.7	70.9	72.0	73.2	73.3	73.9	73.7	74.1	74.3	74.8	75.4	76.0	71.2	73.5	74.0	75.4	73.5
1979	75.3	75.6	75.8	74.6	75.5	75.5	75.5	74.3	74.4	74.6	74.3	74.5	75.5	75.2	74.7	74.4	75.0
1980	74.7	74.6	73.9	72.2	69.9	68.8	68.1	68.5	69.6	70.9	72.2	72.3	74.4	70.3	68.7	71.8	71.3
1981	72.0	71.4	71.7	71.9	72.3	71.9	72.1	72.0	71.6	70.8	69.9	68.6	71.7	72.1	71.9	69.8	71.4
1982	66.9	68.6	68.1	67.6	67.4	67.2	67.0	66.5	66.2	65.4	64.9	64.5	67.9	67.4	66.6	64.9	66.7
1983	66.1	66.0	66.5	67.3	68.1	68.6	69.4	70.1	71.2	71.9	72.1	72.2	66.2	68.0	70.2	72.1	69.1
1984	73.5	74.2	74.5	74.8	74.9	75.1	75.4	75.4	75.1	75.4	75.6	75.9	74.1	74.9	75.3	75.6	75.0
1985	75.6	75.4	76.0	75.8	75.9	76.0	75.7	76.2	76.3	76.1	76.5	76.9	75.6	75.9	76.1	76.5	76.0
1986	77.8	77.3	77.0	77.3	77.4	77.3	77.4	77.6	77.7	78.0	78.3	78.9	77.4	77.3	77.6	78.4	77.7
1987	78.5	79.6	79.7	80.0	80.5	80.8	81.2	81.5	81.9	83.1	83.6	84.0	79.3	80.4	81.5	83.6	81.2
1988	83.8	83.9	84.2	84.8	84.6	84.7	84.7	84.8	85.0	85.5	85.7	86.1	84.0	84.7	84.8	85.8	84.8
1989	86.8	85.9	85.9	85.9	85.2	85.3	84.2	84.9	84.6	84.4	84.4	84.6	86.2	85.4	84.6	84.5	85.2
1990	84.4	85.6	85.8	85.5	85.6	85.8	85.6	85.8	85.7	85.0	84.0	83.3	85.2	85.7	85.7	84.1	85.2
1991	82.6	82.0	81.3	81.6	82.1	83.1	83.3	83.5	84.3	84.2	83.9	83.6	82.0	82.3	83.7	83.9	83.0
1992	82.9	83.7	84.4	84.8	85.2	85.3	86.0	85.5	85.5	85.8	86.1	85.9	83.7	85.1	85.6	85.9	85.1
1993	86.8	86.8	86.6	87.1	87.0	86.8	87.0	86.9	87.3	87.9	88.2	88.6	86.7	86.9	87.0	88.3	87.2
1994	88.8	88.8	89.8	90.3	90.8	90.9	91.2	91.7	91.7	92.4	92.9	93.8	89.1	90.7	91.5	93.0	91.1
1995	94.0	93.7	93.6	93.2	93.0	93.2	92.5	93.3	93.8	93.4	93.3	93.4	93.7	93.2	93.2	93.4	93.4
1996	92.3	93.6	93.1	94.0	94.4	95.2	95.1	95.5	95.9	95.5	96.2	96.9	93.0	94.5	95.5	96.2	94.8
1997	96.7	97.7	98.5	97.8	98.3	98.7	98.8	100.1	100.7	101.3	102.2	102.4	97.6	98.3	99.9	102.0	99.4
1998	102.9	102.8	102.4	102.9	103.2	102.1	101.2	103.6	102.8	103.5	103.4	103.6	102.7	102.7	102.5	103.5	102.9
1999	103.6	104.1	103.6	103.5	104.3	103.6	103.6	104.3	103.7	105.2	105.7	106.1	103.8	103.8	103.9	105.7	104.3
2000	105.8	105.6	106.0	106.3	105.8	105.9	105.5	104.7	105.1	104.5	103.9	103.0	105.8	106.0	105.1	103.8	105.2
2001	102.3	101.8	101.4	101.3	100.6	100.1	100.0	99.3	99.0	98.2	98.0	98.1	101.8	100.7	99.4	98.1	100.0
2002	98.7	98.7	99.4	99.4	100.0	101.0	100.5	100.8	100.8	100.3	100.6	99.9	98.9	100.1	100.7	100.2	100.0
2003	100.3	100.3	100.4	99.3	99.2	99.7	99.7	99.3	100.1	100.0	100.9	100.6	100.3	99.4	99.7	100.5	100.0
2004	100.4	101.0	100.8	101.4	102.1	101.3	102.2	102.8	102.5	103.5	103.6	104.1	100.7	101.6	102.5	103.7	102.2
2005	104.7	105.4	105.0	105.0	105.5	105.7	105.6	105.7	104.4	105.9	106.6	106.5	105.0	105.4	105.2	106.3	105.5
2006	107.2	106.6	106.6	107.1	106.7	107.0	107.0	107.2	106.9	106.2	106.1	107.1	106.8	106.9	107.0	106.5	106.8
2007	106.4	106.5	107.2	107.5	107.5	107.9	108.5	108.0	108.3	107.5	107.7	107.7	106.7	107.6	108.3	107.6	107.6
2008	107.7	107.3															

NOTE Estimates from October 2007 through February 2008 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.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
Capacity (percent of 2002 output)																	
1978	85.9	86.1	86.3	86.5	86.7	86.9	87.1	87.3	87.4	87.6	87.8	88.0	86.1	86.7	87.3	87.8	87.0
1979	88.2	88.3	88.5	88.7	88.9	89.0	89.2	89.4	89.6	89.7	89.9	90.0	88.3	88.9	89.4	89.9	89.1
1980	90.2	90.4	90.5	90.7	90.9	91.0	91.2	91.4	91.6	91.8	92.0	92.1	90.4	90.9	91.4	92.0	91.2
1981	92.3	92.5	92.7	92.9	93.0	93.2	93.3	93.5	93.6	93.8	93.9	94.0	92.5	93.0	93.5	93.9	93.2
1982	94.2	94.3	94.4	94.5	94.6	94.6	94.7	94.8	94.8	94.8	94.8	94.8	94.3	94.6	94.8	94.8	94.6
1983	94.8	94.8	94.8	94.7	94.7	94.6	94.6	94.5	94.5	94.5	94.5	94.5	94.8	94.7	94.5	94.5	94.6
1984	94.5	94.5	94.6	94.7	94.7	94.9	95.0	95.1	95.3	95.4	95.6	95.8	94.5	94.8	95.1	95.6	95.0
1985	96.0	96.2	96.4	96.6	96.8	97.0	97.2	97.3	97.5	97.6	97.8	97.9	96.2	96.8	97.3	97.8	97.0
1986	98.0	98.1	98.2	98.3	98.4	98.5	98.6	98.7	98.8	98.9	99.0	99.1	98.1	98.4	98.7	99.0	98.5
1987	99.3	99.4	99.6	99.7	99.8	100.0	100.1	100.2	100.3	100.4	100.5	100.5	99.4	99.8	100.2	100.4	100.0
1988	100.5	100.6	100.6	100.6	100.6	100.7	100.7	100.7	100.8	100.8	100.9	101.0	100.6	100.6	100.7	100.9	100.7
1989	101.2	101.3	101.4	101.6	101.7	101.9	102.1	102.3	102.5	102.6	102.8	103.0	101.3	101.8	102.3	102.8	102.0
1990	103.2	103.3	103.5	103.6	103.8	104.0	104.1	104.3	104.4	104.6	104.7	104.9	103.3	103.8	104.3	104.7	104.0
1991	105.1	105.2	105.4	105.5	105.7	105.8	105.9	106.1	106.2	106.3	106.5	106.6	105.2	105.7	106.1	106.5	105.8
1992	106.7	106.8	106.9	107.0	107.1	107.2	107.3	107.4	107.5	107.6	107.7	107.8	106.8	107.1	107.4	107.7	107.2
1993	107.9	108.0	108.1	108.2	108.4	108.5	108.6	108.7	108.8	108.9	109.0	109.1	108.0	108.4	108.7	109.0	108.5
1994	109.2	109.3	109.5	109.6	109.7	109.9	110.1	110.2	110.4	110.6	110.8	111.0	109.3	109.8	110.2	110.8	110.0
1995	111.2	111.4	111.6	111.9	112.1	112.3	112.6	112.8	113.1	113.3	113.6	113.8	111.4	112.1	112.8	113.6	112.5
1996	114.1	114.3	114.6	114.8	115.1	115.3	115.6	115.9	116.2	116.5	116.8	117.1	114.3	115.1	115.9	116.8	115.5
1997	117.5	117.9	118.3	118.7	119.1	119.6	120.1	120.6	121.1	121.6	122.1	122.5	117.9	119.2	120.6	122.1	119.9
1998	123.0	123.5	124.0	124.4	124.9	125.3	125.7	126.2	126.6	126.9	127.3	127.6	123.5	124.9	126.1	127.3	125.5
1999	128.0	128.3	128.6	128.9	129.3	129.6	129.9	130.1	130.4	130.7	131.0	131.2	128.3	129.3	130.1	131.0	129.7
2000	131.5	131.7	132.0	132.2	132.4	132.6	132.8	133.0	133.2	133.4	133.6	133.8	131.7	132.4	133.0	133.6	132.7
2001	133.9	134.0	134.2	134.3	134.4	134.5	134.5	134.6	134.6	134.7	134.7	134.7	134.0	134.4	134.6	134.7	134.4
2002	134.7	134.7	134.7	134.6	134.6	134.5	134.4	134.4	134.3	134.2	134.1	134.0	134.7	134.6	134.4	134.1	134.4
2003	133.9	133.8	133.7	133.6	133.5	133.4	133.4	133.3	133.2	133.2	133.1	133.1	133.8	133.5	133.3	133.1	133.4
2004	133.0	133.0	133.0	132.9	132.9	132.9	132.9	132.9	132.9	132.9	132.9	132.9	133.0	132.9	132.9	132.9	132.9
2005	132.9	133.0	133.0	133.1	133.1	133.2	133.3	133.4	133.5	133.7	133.8	133.9	133.0	133.2	133.4	133.8	133.3
2006	134.0	134.1	134.2	134.3	134.4	134.5	134.6	134.6	134.7	134.8	134.8	134.9	134.1	134.4	134.6	134.8	134.5
2007	135.0	135.1	135.1	135.2	135.3	135.4	135.5	135.6	135.7	135.8	135.9	136.0	135.1	135.3	135.6	135.9	135.5
2008	136.1	136.2															
Utilization (percent)																	
1978	82.3	82.3	83.4	84.6	84.6	85.0	84.7	84.9	85.0	85.4	85.9	86.4	82.7	84.7	84.9	85.9	84.6
1979	85.3	85.5	85.7	84.1	84.9	84.8	84.6	83.2	83.1	83.2	82.6	82.7	85.5	84.6	83.6	82.8	84.1
1980	82.8	82.5	81.6	79.6	76.9	75.6	74.7	74.9	76.0	77.2	78.5	78.5	82.3	77.4	75.2	78.1	78.3
1981	77.9	77.2	77.4	77.5	77.8	77.2	77.2	77.1	76.5	75.5	74.4	73.0	77.5	77.5	76.9	74.3	76.5
1982	71.1	72.8	72.1	71.5	71.2	71.0	70.7	70.2	69.8	68.9	68.4	68.0	72.0	71.2	70.2	68.5	70.5
1983	69.7	69.6	70.2	71.0	71.9	72.5	73.4	74.2	75.3	76.2	76.3	76.5	69.8	71.8	74.3	76.3	73.1
1984	77.8	78.5	78.8	79.0	79.0	79.2	79.3	79.3	78.9	79.0	79.1	79.2	78.4	79.1	79.2	79.1	78.9
1985	78.7	78.4	78.8	78.5	78.4	78.4	77.9	78.3	78.3	77.9	78.3	78.5	78.6	78.4	78.1	78.2	78.4
1986	79.4	78.8	78.4	78.7	78.7	78.5	78.6	78.6	78.7	78.8	79.1	79.6	78.9	78.6	78.6	79.2	78.8
1987	79.1	80.1	80.1	80.2	80.7	80.8	81.1	81.3	81.6	82.8	83.2	83.6	79.8	80.6	81.4	83.2	81.2
1988	83.3	83.5	83.7	84.3	84.1	84.1	84.1	84.1	84.3	84.7	84.9	85.2	83.5	84.2	84.2	85.0	84.2
1989	85.8	84.9	84.7	84.5	83.7	83.7	82.4	83.0	82.6	82.2	82.1	82.1	85.1	84.0	82.7	82.1	83.5
1990	81.8	82.8	82.9	82.5	82.5	82.5	82.2	82.3	82.1	81.3	80.2	79.4	82.5	82.5	82.2	80.3	81.9
1991	78.7	77.9	77.2	77.4	77.7	78.5	78.6	78.7	79.4	79.2	78.8	78.5	77.9	77.9	78.9	78.8	78.4
1992	77.8	78.4	79.0	79.3	79.6	79.6	80.1	79.6	79.5	79.8	79.9	79.6	78.4	79.5	79.8	79.8	79.3
1993	80.4	80.4	80.1	80.5	80.3	80.0	80.2	79.9	80.2	80.7	80.9	81.2	80.3	80.2	80.1	81.0	80.4
1994	81.3	81.2	82.0	82.4	82.7	82.7	82.9	83.2	83.1	83.5	83.9	84.5	81.5	82.6	83.0	84.0	82.8
1995	84.5	84.1	83.8	83.3	83.0	83.0	82.2	82.7	83.0	82.4	82.1	82.1	84.1	83.1	82.6	82.2	83.0
1996	80.9	81.9	81.2	81.8	82.0	82.5	82.3	82.4	82.5	82.0	82.4	82.7	81.3	82.1	82.4	82.4	82.1
1997	82.3	82.9	83.3	82.4	82.5	82.5	82.3	83.0	83.2	83.3	83.7	83.6	82.8	82.5	82.8	83.5	82.9
1998	83.6	83.2	82.6	82.6	82.7	81.5	80.5	82.1	81.3	81.6	81.3	81.2	83.1	82.3	81.3	81.3	82.0
1999	81.0	81.1	80.5	80.3	80.7	80.0	79.8	80.1	79.5	80.5	80.7	80.9	80.9	80.3	79.8	80.7	80.4
2000	80.4	80.2	80.3	80.4	79.9	79.8	79.4	78.7	78.8	78.3	77.7	77.0	80.3	80.1	79.0	77.7	79.3
2001	76.4	75.9	75.6	75.5	74.9	74.4	74.3	73.8	73.5	72.9	72.8	72.8	76.0	74.9	73.9	72.8	74.4
2002	73.3	73.3	73.8	73.8	74.3	75.1	74.8	75.0	75.1	74.7	75.0	74.5	73.4	74.4	74.9	74.7	74.4
2003	74.9	74.9	75.1	74.3	74.3	74.7	74.7	74.5	75.1	75.1	75.8	75.6	75.0	74.4	74.8	75.5	74.9
2004	75.5	75.9	75.8	76.3	76.8	76.2	76.9	77.4	77.2	77.9	78.0	78.3	75.7	76.4	77.2	78.1	76.9
2005	78.8	79.2	79.0	78.9	79.3	79.3	79.2	79.2	78.1	79.2	79.7	79.5	79.0	79.2	78.9	79.5	79.1
2006	80.0	79.5	79.4	79.7	79.4	79.5	79.5	79.6	79.4	78.8	78.6	79.4	79.7	79.5	79.5	79.0	79.4
2007	78.8	78.9	79.3	79.5	79.5	79.7	80.1	79.6	79.8	79.2	79.3	79.2	79.0	79.6	79.8	79.2	79.4
2008	79.1	78.8															

NOTE Estimates from October 2007 through February 2008 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	2000	2001	2002	2003	2004	2005	2006	2007
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	57.2	58.7	58.5	57.8	56.6	56.6	56.5	56.1
Consumer goods	28.3	29.8	30.8	30.7	29.9	29.6	29.1	29.3
Durable	7.8	8.1	8.9	8.7	7.9	7.4	7.0	6.7
Automotive products	3.7	4.0	4.7	4.6	4.0	3.6	3.3	3.2
Home electronics	.4	.4	.4	.4	.4	.3	.3	.3
Appliances, furniture, carpeting	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.1
Miscellaneous goods	2.3	2.3	2.4	2.3	2.2	2.2	2.2	2.1
Nondurable	20.5	21.7	21.9	22.0	22.0	22.2	22.1	22.7
Non-energy	16.8	17.9	18.0	17.8	17.1	16.5	16.2	16.3
Foods and tobacco	9.3	9.9	9.7	9.7	9.4	9.0	8.8	9.0
Clothing	1.2	1.1	.9	.8	.7	.6	.6	.5
Chemical products	3.9	4.4	4.9	4.9	4.8	4.7	4.8	4.7
Paper products	1.9	2.0	2.0	1.8	1.7	1.7	1.6	1.6
Energy	3.7	3.8	3.9	4.2	4.9	5.7	5.8	6.4
Business equipment	11.6	11.2	10.2	9.6	9.4	9.3	9.6	9.4
Transit	2.0	2.0	1.8	1.6	1.6	1.6	1.8	1.7
Information processing	4.1	3.8	3.1	2.9	2.9	2.8	2.8	2.7
Industrial and other	5.6	5.3	5.3	5.0	4.9	4.9	5.0	5.0
Defense and space equipment	1.5	1.8	1.8	1.8	1.7	1.8	1.7	1.7
Construction supplies	4.2	4.3	4.3	4.3	4.3	4.4	4.4	4.2
Business supplies	11.1	11.1	11.0	11.0	10.8	10.9	10.8	10.6
Materials	42.8	41.3	41.5	42.2	43.4	43.4	43.5	43.9
Non-energy	32.1	30.6	30.5	30.0	30.0	29.6	29.6	29.3
Durable	20.8	19.5	19.0	18.6	18.5	18.1	18.0	17.5
Consumer parts	4.1	3.8	4.0	3.8	3.5	3.3	3.1	2.9
Equipment parts	8.1	7.3	6.6	6.5	6.4	6.2	6.1	6.0
Other	8.6	8.4	8.4	8.3	8.6	8.6	8.8	8.6
Nondurable	11.3	11.2	11.5	11.4	11.5	11.5	11.6	11.7
Textile	.9	.8	.8	.7	.7	.7	.6	.5
Paper	2.8	2.8	2.7	2.5	2.4	2.3	2.3	2.2
Chemical	4.2	4.1	4.5	4.6	5.2	5.4	5.5	5.8
Energy	10.6	10.6	11.0	12.2	13.3	13.8	13.9	14.6
INDUSTRY GROUPS								
Manufacturing	84.0	83.5	83.2	81.7	80.5	79.5	79.2	78.7
Manufacturing (NAICS) 31–33	79.2	78.6	78.5	77.2	76.2	75.4	75.4	75.0
Durable manufacturing	45.3	44.0	43.2	42.0	40.7	39.6	39.6	38.5
Wood products 321	1.4	1.4	1.5	1.6	1.6	1.5	1.4	1.2
Nonmetallic mineral products 327	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2
Primary metal 331	2.5	2.3	2.3	2.3	2.7	2.6	2.8	2.7
Fabricated metal products 332	6.0	5.8	5.7	5.5	5.3	5.3	5.5	5.6
Machinery 333	5.9	5.5	5.3	5.0	4.9	4.9	5.0	4.9
Computer and electronic products 334	10.4	9.4	8.1	7.9	7.8	7.4	7.2	6.8
Electrical equip., appliances, and components 335	2.5	2.4	2.2	2.0	1.9	1.9	1.9	1.9
Motor vehicles and parts 3361–3	6.6	6.5	7.4	7.2	6.4	5.9	5.5	5.1
Aerospace and miscellaneous transportation equipment 3364–9	3.2	3.7	3.5	3.3	3.1	3.2	3.3	3.5
Furniture and related products 337	1.7	1.7	1.8	1.7	1.6	1.6	1.5	1.4
Miscellaneous 339	2.9	3.1	3.3	3.3	3.1	3.1	3.1	3.1
Nondurable manufacturing	33.9	34.6	35.3	35.2	35.5	35.8	35.7	36.5
Food, beverage, and tobacco products 311,2	10.6	11.3	11.3	11.4	10.9	10.5	10.4	10.7
Textile and product mills 313,4	1.4	1.3	1.4	1.3	1.2	1.2	1.0	.9
Apparel and leather 315,6	1.3	1.2	1.0	.9	.7	.6	.6	.6
Paper 322	3.1	3.1	3.1	2.9	2.7	2.6	2.6	2.5
Printing and support 323	2.6	2.6	2.4	2.2	2.1	2.0	1.9	1.9
Petroleum and coal products 324	1.8	1.7	1.8	2.1	3.2	4.2	4.5	5.2
Chemical 325	9.3	9.7	10.7	10.8	11.2	11.3	11.4	11.6
Plastics and rubber products 326	3.7	3.7	3.8	3.6	3.4	3.3	3.2	3.0
Other manufacturing (non-NAICS) 1133,5111	4.8	4.8	4.7	4.5	4.3	4.1	3.9	3.7
Mining 21	7.1	7.1	7.2	8.5	9.8	10.7	11.0	11.6
Utilities 2211,2	8.9	9.4	9.6	9.8	9.7	9.8	9.7	9.7
Electric 2211	7.6	8.0	8.2	8.2	8.0	8.0	8.1	8.0
Natural gas 2212	1.4	1.4	1.4	1.6	1.7	1.8	1.6	1.7

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 2007 and 2008 would account for a 0.385 percent increase in total IP.

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). Changes in output for the market and industry groups are summarized in table 1 and the levels of output (in index form) are shown in table 4. Special aggregates, that highlight the relative importance and contributions of several key industries, such as high-technology and motor vehicles, are summarized in tables 2 and 5. For a detailed description of the contents of the statistical tables, see below.

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:

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

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, beginning with the release of March 2008 data, subject to revision in each of the subsequent five 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 84 percent for estimates in the second month that the estimate is published, 98 percent in the third month, and 98 percent in the fourth month. Data availability by data type, based on the four-month reporting window used in 2007, is summarized in the table below:

Availability of Monthly IP Data in Publication Window
(Percent of value added in 2007)

Type of data	Month of estimate			
	1st	2nd	3rd	4th
Physical product	29	42	56	56
Production-worker hours	42	42	42	42
IP data received	70	84	98	98
IP data estimated	30	16	2	2

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 (29 percent out of total of 56 percent). Of the 29 percent, about two-thirds (19 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. The incorporation of a six-month window is expected to allow an additional 3 percent to 4 percent of IP to reflect primary source data.

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 April

2006; 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 1987–2005 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 1987–2005 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 87 detailed industries (69 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 25 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 70 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 5 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 1972–2007 period, the average total industry utilization rate was 81.0 percent; for manufacturing, the average factory operating rate was 79.7 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. The highs and lows in capacity utilization shown in table 7 are specific to each series and do not all occur in the same month.

REFERENCES AND RELEASE DATES

References. The annual revision published in November 2005 is described in an article published in the *Federal Reserve Bulletin*, vol. 92, pp. A39–A58. 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

2008: January 16, February 15, March 17, April 16, May 15, June 17, July 16, August 15, September 15, October 16, November 17, and December 15.