

Annual Industry Accounts

Revised Statistics for 2009–2011

By Patricia A. Washington, Jeff M. Bellone, Anna M. Jacobson, and Jennifer Lee

THE BUREAU of Economic Analysis (BEA) released revised statistics on real gross domestic product (GDP) by industry for 2009–2011 on November 13, 2012, reflecting the incorporation of newly available and revised source data. The revised statistics incorporate more accurate and more detailed information on the industry composition of GDP growth than was previously available for the advance 2011 statistics released on April 26, 2012.¹ In particular, these updated statistics incorporate revised and newly available Census Bureau annual survey data on industry output, Bureau of Labor Statistics (BLS) data on producer prices, and BEA statistics on GDP and related income measures from the 2012 annual revision of the national income and product accounts (NIPAs).² For in-

formation about the principal sources of data used, see tables F and G on pages 24–27.

Real GDP growth slowed in 2011, increasing 1.8 percent after increasing 2.4 percent in 2010; 12 of 22 major industry groups contributed to the slowdown in real GDP. The leading contributors to the deceleration in U.S. economic growth were retail trade, followed by durable-goods manufacturing, according to revised statistics on the breakout of real GDP by industry. In contrast, professional, scientific, and technical services increased 5.4 percent in 2011 after increasing 2.6 percent in 2010.

Revised annual industry accounts statistics were compiled within an input-output framework that balances and reconciles industry production and commodity usages. The framework provides information on value added for 65 industries and commodities (see the “Methodology” on page 23). The previously published advance statistics for 2011 were developed from summary source data using an abbreviated methodology; value added was presented for 22 industry groups.

1. See Donald D. Kim, Teresa L. Gilmore, and William A. Jolliff, “Annual Industry Accounts: Advance Statistics on GDP by Industry for 2011,” *SURVEY OF CURRENT BUSINESS* 92 (May 2012): 6–22.

2. See Eugene P. Seskin and Alyssa Holdren, “Annual Revision of the National Income and Product Accounts,” *SURVEY* (August 2012): 6–31.

Chart 1. Annual Growth in Real GDP

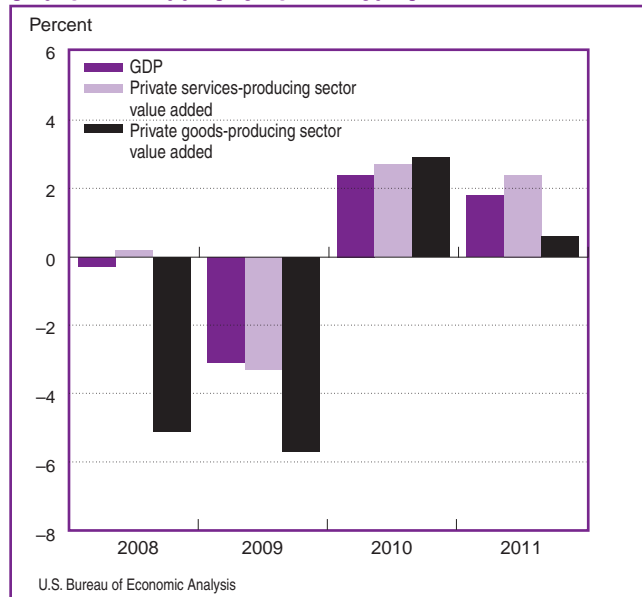
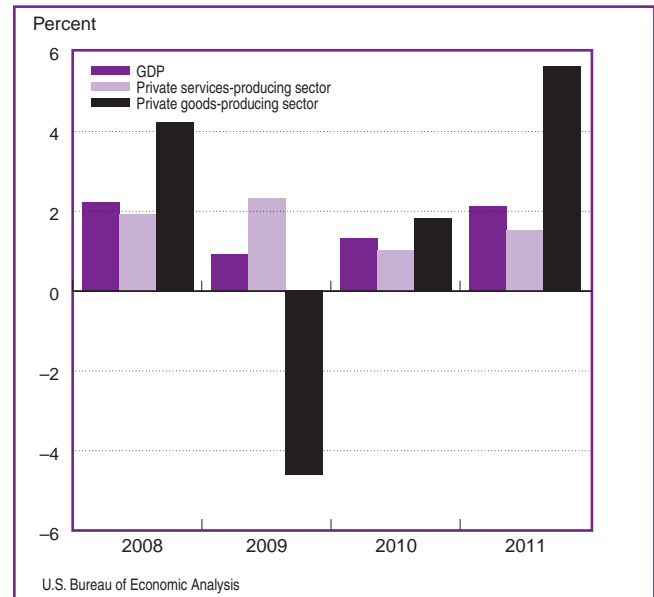


Chart 2. Annual Growth in Value-Added Prices



Highlights for 2011 include the following:

- Retail trade real value added increased 0.2 percent in 2011 after increasing 7.0 percent in 2010.
- Durable-goods manufacturing increased 6.8 percent after increasing 13.3 percent in 2010, primarily reflecting a slowdown in computer and electronic products manufacturing.
- Nondurable-goods manufacturing turned down in 2011, decreasing 2.1 percent after increasing 0.4 percent in 2010; the downturn primarily reflected a downturn in food, beverage, and tobacco manufacturing.
- GDP price growth accelerated in 2011, increasing 2.1 percent after increasing 1.3 percent in 2010. Nondurable-goods manufacturing and retail trade were the largest contributors to the acceleration.

Data Availability

The annual tables for GDP by industry and the input-output (I-O) accounts are available on BEA's Web site. For the GDP by industry accounts, online tools are available for users to customize the tables so that they show data only for the industries and years of interest. Tools are also available for creating graphs of data and downloading tables to update spreadsheets.

For the I-O tables, online tools are available for users to create and store unique levels of aggregation of data for specific commodities and industries. Tools are also available for viewing and downloading entire I-O tables, including the "make" and "use" tables.

For a guide to the annual industry accounts, see "[A Primer on BEA's Industry Accounts](#)" in the June 2009 SURVEY OF CURRENT BUSINESS.

Acknowledgments

Erich H. Strassner, Chief of the Industry Applications Division (IAD), and David B. Wasshausen, Chief of the Industry Sector Division (ISD), supervised the preparation of the statistics. Carol E. Moylan, Associate Director for Industry Economic Accounts, provided overall guidance. Thomas F. Howells III, Chief of the Input-Output Statistics Branch in IAD, managed the economic information systems used to produce and review the statistics. The following staff provided guidance and contributed to the preparation of the industry statistics and analysis: Paul V. Kern, Chief of the Information and Business Services Branch in ISD, Edward T. Morgan, Chief of the Inter-Industry Statistics Branch in IAD, Kevin J. Muck, Chief of the Goods and Distributive Services Branch in ISD, and Patricia A. Washington, Chief of the Personal Services and Government Branch in ISD, Robert J. McCahill, Program Coordinator in ISD, Maxine V. Tiggler and Pat A. Wilkinson provided administrative and program assistance.

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Real Value Added

Table A. Percent Changes in Real Value Added by Industry Group

	2008	2009	2010	2011
Gross domestic product	-0.3	-3.1	2.4	1.8
Private industries	-1.0	-3.8	2.7	2.0
Agriculture, forestry, fishing, and hunting	8.7	13.0	-2.8	-13.6
Mining	-3.8	25.2	-9.2	0.0
Utilities	4.6	-9.0	10.1	2.6
Construction	-6.6	-12.9	-1.2	-0.3
Manufacturing	-5.8	-9.2	6.9	2.5
Durable goods	-1.6	-16.3	13.3	6.8
Nondurable goods	-10.9	-0.4	0.4	-2.1
Wholesale trade	-1.1	-13.4	3.4	3.0
Retail trade	-5.7	-1.9	7.0	0.2
Transportation and warehousing	0.9	-10.2	6.6	4.8
Information	1.7	-5.5	3.2	5.9
Finance, insurance, real estate, rental, and leasing	-0.7	1.2	0.4	0.3
Finance and insurance	-6.5	8.5	-2.2	-0.6
Real estate and rental and leasing	2.8	-2.8	2.0	0.9
Professional and business services	3.9	-5.8	2.2	4.8
Professional, scientific, and technical services	5.2	-6.0	2.6	5.4
Management of companies and enterprises	2.0	0.2	-4.8	-0.5
Administrative and waste management services	1.7	-9.0	5.5	6.9
Educational services, health care, and social assistance	4.6	2.0	1.3	1.7
Educational services	2.3	3.2	-1.8	1.2
Health care and social assistance	5.0	1.8	1.7	1.8
Arts, entertainment, recreation, accommodation, and food services	-5.1	-6.2	6.4	5.4
Arts, entertainment, and recreation	-5.8	-3.3	6.2	5.5
Accommodation and food services	-4.8	-7.1	6.5	5.3
Other services, except government	-4.2	-4.3	0.7	1.3
Government	1.8	0.9	0.6	-0.7
Federal	2.7	3.7	2.9	-0.3
State and local	1.4	-0.3	-0.4	-1.0
Addenda:				
Private goods-producing industries ¹	-5.1	-5.7	2.9	0.6
Private services-producing industries ²	0.2	-3.3	2.7	2.4
Information-communications-technology-producing industries ³	6.1	-0.9	11.4	4.3

1. Consists of agriculture, forestry, fishing, and hunting; mining; construction; and manufacturing.

2. Consists of utilities; wholesale trade; retail trade; transportation and warehousing; information; finance, insurance, real estate, rental, and leasing; professional and business services; educational services, health care, and social assistance; arts, entertainment, recreation, accommodation, and food services; and other services, except government.

3. Consists of computer and electronic products; publishing industries (includes software); information and data processing services; and computer systems design and related services.

Real GDP increased 1.8 percent in 2011, reflecting increases in 15 of the 22 major industry groups. Durable-goods manufacturing and “professional, scientific, and technical services were the leading contributors to growth.

Agriculture, forestry, fishing, and hunting declined 13.6 percent, the largest decline among the 22 major industry groups.

Mining growth was flat after declining 9.2 percent, primarily reflecting a smaller decrease in the oil and gas extraction industry in 2011 after exhibiting a large decrease in 2010.

Construction declined for the 8th consecutive year. The 0.3 percent decrease in 2011 was the smallest drop since 2004.

Durable-goods manufacturing increased 6.8 percent, reflecting strong growth in the “motor vehicles, bodies and trailers, and parts manufacturing” and machinery manufacturing industries.

Nondurable-goods manufacturing decreased 2.1 percent, primarily reflecting a decrease in the petroleum and coal products manufacturing industry.

Transportation and warehousing rose 4.8 percent after increasing 6.6 percent. Growth in 2011 was widespread within the sector.

Management of companies declined 0.5 percent after decreasing 4.8 percent, marking the second consecutive annual decline.

Federal government declined 0.3 percent after increasing 2.9 percent. The decrease reflected a 10.9 percent drop in real value added for federal government enterprises.

Real Value Added

Table B. Contributions to Percent Change in Real GDP by Industry Group
[Percentage points]

	2008	2009	2010	2011
Gross domestic product ¹	-0.3	-3.1	2.4	1.8
Private industries	-0.87	-3.35	2.35	1.76
Agriculture, forestry, fishing, and hunting.....	0.09	0.13	-0.03	-0.17
Mining	-0.08	0.44	-0.16	0.00
Utilities	0.08	-0.17	0.19	0.05
Construction.....	-0.30	-0.55	-0.04	-0.01
Manufacturing	-0.71	-1.07	0.75	0.28
Durable goods	-0.10	-1.05	0.73	0.40
Nondurable goods.....	-0.60	-0.02	0.02	-0.11
Wholesale trade.....	-0.06	-0.79	0.19	0.16
Retail trade	-0.36	-0.12	0.42	0.01
Transportation and warehousing.....	0.03	-0.30	0.19	0.14
Information	0.08	-0.25	0.13	0.25
Finance, insurance, real estate, rental, and leasing	-0.15	0.24	0.09	0.07
Finance and insurance.....	-0.51	0.60	-0.18	-0.05
Real estate and rental and leasing.....	0.36	-0.36	0.26	0.12
Professional and business services.....	0.47	-0.73	0.26	0.59
Professional, scientific, and technical services	0.38	-0.46	0.20	0.40
Management of companies and enterprises.....	0.04	0.00	-0.09	-0.01
Administrative and waste management services	0.05	-0.27	0.16	0.20
Educational services, health care, and social assistance	0.35	0.17	0.11	0.15
Educational services.....	0.02	0.03	-0.02	0.01
Health care and social assistance.....	0.33	0.13	0.13	0.13
Arts, entertainment, recreation, accommodation, and food services	-0.20	-0.24	0.24	0.20
Arts, entertainment, and recreation.....	-0.06	-0.03	0.06	0.05
Accommodation and food services	-0.14	-0.21	0.18	0.15
Other services, except government	-0.10	-0.10	0.02	0.03
Government	0.22	0.12	0.09	-0.10
Federal.....	0.11	0.15	0.13	-0.01
State and local.....	0.12	-0.03	-0.04	-0.09
Addenda:				
Private goods-producing industries ²	-1.00	-1.06	0.51	0.11
Private services-producing industries ³	0.13	-2.29	1.83	1.65
Information-communications-technology-producing industries ⁴	0.25	-0.04	0.47	0.18

1. The estimates of gross domestic product under the contributions columns are percent changes.

2. Consists of agriculture, forestry, fishing, and hunting; mining; construction; and manufacturing.

3. Consists of utilities; wholesale trade; retail trade; transportation and warehousing; information; finance, insurance, real estate, rental, and leasing; professional and business services; educational services, health care, and social assistance; arts, entertainment, recreation, accommodation, and food services; and other services, except government.

4. Consists of computer and electronic products; publishing industries (includes software); information and data processing services; and computer systems design and related services.

NOTE: Percentage-point contributions do not sum to the percent change in real gross domestic product because the contribution of the "Not allocated by industry" line is excluded.

The slowdown in real GDP growth in 2011 was primarily due to a deceleration in both retail trade and durable-goods manufacturing. Overall, 12 of 22 industry groups contributed to the slowdown.

Utilities accounted for about one-fifth of the slowdown in real GDP, contributing 0.05 percentage point to real GDP after contributing 0.19 percentage point in 2010.

Durable-goods manufacturing slowed, contributing 0.40 percentage point to the increase in real GDP after contributing 0.73 percentage point in 2010. The leading contributor to the slowdown was computer and electronic product manufacturing, which contributed 0.02 percentage point after contributing 0.26 percentage point.

Nondurable-goods manufacturing turned down. The leading contributor to the downturn was the "food and beverage and tobacco product manufacturing" industry.

Retail trade was the leading contributor to the slowdown in real GDP growth. Retail trade increased 0.2 percent and contributed 0.01 percentage point to real GDP after increasing 7.0 percent and contributing 0.42 percentage point.

Information services accelerated, contributing 0.25 percentage point to real GDP growth after contributing 0.13 percentage point. The acceleration primarily reflected an acceleration in the broadcasting and telecommunications industry.

Professional, scientific, and technical services accelerated, primarily reflecting an acceleration in the "miscellaneous professional, scientific, and technical services" industry, which includes "accounting and payroll services" and "management, scientific, and technical consulting services."

Federal government turned down, primarily reflecting a notable slowdown in real value added for federal general government.

Value-Added Prices

Table C. Percent Changes in Chain-Type Price Indexes for Value Added by Industry Group

	2008	2009	2010	2011
Gross domestic product	2.2	0.9	1.3	2.1
Private industries	2.4	0.8	1.2	2.3
Agriculture, forestry, fishing, and hunting	1.4	-20.9	13.9	27.4
Mining.....	30.3	-44.5	25.0	15.1
Utilities.....	-0.9	12.9	-2.4	2.1
Construction.....	0.6	1.5	-2.5	1.5
Manufacturing.....	1.9	4.1	-1.0	3.6
Durable goods.....	-2.3	4.0	-2.8	-1.7
Nondurable goods.....	7.2	4.4	1.0	9.8
Wholesale trade	2.0	7.3	0.9	2.7
Retail trade.....	1.4	1.7	-3.3	3.2
Transportation and warehousing	1.6	6.4	-0.1	1.1
Information	-1.5	0.5	-1.9	-0.3
Finance, insurance, real estate, rental, and leasing	2.8	-0.3	2.3	0.9
Finance and insurance	3.2	-3.2	8.2	0.8
Real estate and rental and leasing	2.6	1.4	-1.1	0.9
Professional and business services	1.1	0.8	2.3	1.6
Professional, scientific, and technical services	2.0	1.2	1.0	0.8
Management of companies and enterprises	0.1	-5.9	11.2	8.5
Administrative and waste management services.....	-0.6	4.5	0.4	-0.7
Educational services, health care, and social assistance.....	2.4	4.1	2.3	1.6
Educational services.....	4.6	7.1	3.9	3.5
Health care and social assistance	2.1	3.7	2.0	1.3
Arts, entertainment, recreation, accommodation, and food services.....	3.1	4.3	-0.2	0.5
Arts, entertainment, and recreation	2.4	2.1	0.5	0.6
Accommodation and food services.....	3.3	5.0	-0.5	0.5
Other services, except government.....	4.1	5.0	2.6	2.6
Government	3.5	2.4	2.0	2.1
Federal	2.4	1.8	2.6	1.9
State and local.....	4.0	2.8	1.6	2.2
Addenda:				
Private goods-producing industries ¹	4.2	-4.6	1.8	5.6
Private services-producing industries ²	1.9	2.3	1.0	1.5
Information-communications-technology-producing industries ³	-3.9	-0.8	-3.2	-2.2

1. Consists of agriculture, forestry, fishing, and hunting; mining; construction; and manufacturing.

2. Consists of utilities; wholesale trade; retail trade; transportation and warehousing; information; finance, insurance, real estate, rental, and leasing; professional and business services; educational services, health care, and social assistance; arts, entertainment, recreation, accommodation, and food services; and other services, except government.

3. Consists of computer and electronic products; publishing industries (includes software); information and data processing services; and computer systems design and related services.

Growth in the GDP price index accelerated in 2011, primarily reflecting an acceleration in value-added prices for nondurable-goods manufacturing and an upturn in value-added prices for retail trade.

Value-added prices for agriculture, forestry, fishing, and hunting accelerated, rising 27.4 percent after rising 13.9 percent, reflecting accelerations in crop prices.

Value-added prices for mining decelerated, increasing 15.1 percent after increasing 25.0 percent in 2010, reflecting a deceleration in the value-added prices for the oil and gas extraction industry.

Value-added prices for construction turned up, increasing 1.5 percent after falling 2.5 percent. Value-added prices for the construction industry have risen in 18 of the last 19 years.

Value-added prices for nondurable goods manufacturing accelerated, rising 9.8 percent after rising 1.0 percent; the pickup primarily reflected an acceleration in the value-added price for the petroleum and coal product manufacturing industry.

Value-added prices for retail trade turned up, increasing 3.2 percent after falling 3.3 percent, primarily reflecting an upturn in retail margin prices.

Value-added prices for finance and insurance increased 0.8 percent after increasing 8.2 percent. The deceleration reflected a downturn in value-added prices for the "Federal Reserve banks, credit intermediation, and related activities" industry.

Value-added prices for real estate and rental and leasing turned up, increasing 0.9 percent after falling 1.1 percent, primarily reflecting an upturn in value-added prices for real estate.

Revisions

Annual revisions incorporate source data that are more complete, more detailed, and otherwise more reliable than those previously available. Revisions primarily reflect the incorporation of newly available and revised annual source data (for example, Census' Annual Survey of Manufactures (ASM) and the Internal Revenue Service Statistics of Income (SOI)). Compared to the previously published statistics, the overall picture of the economy for 2009–2011 did not change.

Revisions to real value added reflect revisions to real gross output and real intermediate inputs. Table E presents revisions to percent change for real gross output, real intermediate inputs, and real value added by industry group. This table has been added to this article, as well as the November 13, 2012, news release, in order to better illustrate the relationship among these three measures. In most instances, changes in real value added are largely consistent with changes in real gross output.

2009

In 2009, the direction of growth in real value added was unchanged for 21 of the 22 industry groups. All of the top five contributors to the larger decrease in real GDP

remained in the top five. Both private services and private goods-producing industries were revised up.

- The upward revision to real value added for nondurable-goods manufacturing primarily reflected an upward revision to current-dollar value added and to current-dollar gross output for the “food and beverage and tobacco products manufacturing” industry. The revision to value added reflected an upward revision to profits before tax, which reflected the incorporation of revised SOI data. The revision to gross output reflected the incorporation of revised shipments data from the ASM.
- The upward revision to real value added for finance and insurance primarily reflected an upward revision to current-dollar value added for the insurance carriers and related activities industry. This reflected an upward revision to corporate net interest, which in turn reflected the incorporation of revised SOI data.

2010

In 2010, the direction of growth in real value added was unchanged for 19 of the 22 industry groups. Nine of the top 10 contributors to the upturn in real GDP remained

Table D. Revisions to Percent Changes in Real Value Added by Industry Group

	2008			2009			2010			2011		
	Revised	Previously published	Revision	Revised	Previously published	Revision	Revised	Previously published	Revision	Revised	Previously published	Revision
Gross domestic product	-0.3	-0.3	0.0	-3.1	-3.5	0.4	2.4	3.0	-0.6	1.8	1.7	0.1
Private industries	-1.0	-1.0	0.0	-3.8	-4.4	0.6	2.7	3.6	-0.9	2.0	1.8	0.2
Agriculture, forestry, fishing, and hunting.....	8.7	8.7	0.0	13.0	10.8	2.2	-2.8	-3.1	0.3	-13.6	-12.4	-1.2
Mining.....	-3.8	-3.8	0.0	25.2	20.9	4.3	-9.2	-6.1	-3.1	0.0	6.4	-6.4
Utilities.....	4.6	4.6	0.0	-9.0	-11.4	2.4	10.1	3.3	6.8	2.6	-6.2	8.8
Construction.....	-6.6	-6.6	0.0	-12.9	-12.9	0.0	-1.2	-3.2	2.0	-0.3	-0.3	0.0
Manufacturing.....	-5.8	-5.8	0.0	-9.2	-9.4	0.2	6.9	11.2	-4.3	2.5	4.3	-1.8
Durable goods.....	-1.6	-1.6	0.0	-16.3	-14.9	-1.4	13.3	17.0	-3.7	6.8	7.9	-1.1
Nondurable goods.....	-10.9	-10.9	0.0	-0.4	-2.7	2.3	0.4	5.1	-4.7	-2.1	0.3	-2.4
Wholesale trade.....	-1.1	-1.1	0.0	-13.4	-13.5	0.1	3.4	3.9	-0.5	3.0	3.3	-0.3
Retail trade.....	-5.7	-5.7	0.0	-1.9	-2.4	0.5	7.0	10.1	-3.1	0.2	2.0	-1.8
Transportation and warehousing.....	0.9	0.9	0.0	-10.2	-12.0	1.8	6.6	3.5	3.1	4.8	0.3	4.5
Information.....	1.7	1.7	0.0	-5.5	-3.6	-1.9	3.2	3.0	0.2	5.9	5.1	0.8
Finance, insurance, real estate, rental, and leasing.....	-0.7	-0.7	0.0	1.2	1.1	0.1	0.4	-0.2	0.6	0.3	-0.8	1.1
Finance and insurance.....	-6.5	-6.5	0.0	8.5	6.8	1.7	-2.2	6.6	-8.8	-0.6	1.8	-2.4
Real estate and rental and leasing.....	2.8	2.8	0.0	-2.8	-1.9	-0.9	2.0	-4.4	6.4	0.9	-2.6	3.5
Professional and business services.....	3.9	3.9	0.0	-5.8	-6.9	1.1	2.2	3.8	-1.6	4.8	4.2	0.6
Professional, scientific, and technical services.....	5.2	5.2	0.0	-6.0	-7.0	1.0	2.6	4.9	-2.3	5.4	4.9	0.5
Management of companies and enterprises.....	2.0	2.0	0.0	0.2	-2.4	2.6	-4.8	-4.4	-0.4	-0.5	2.0	-2.5
Administrative and waste management services.....	1.7	1.7	0.0	-9.0	-9.5	0.5	5.5	6.4	-0.9	6.9	3.7	3.2
Educational services, health care, and social assistance.....	4.6	4.6	0.0	2.0	1.0	1.0	1.3	2.8	-1.5	1.7	2.1	-0.4
Educational services.....	2.3	2.3	0.0	3.2	0.8	2.4	-1.8	0.2	-2.0	1.2	-0.9	2.1
Health care and social assistance.....	5.0	5.0	0.0	1.8	1.0	0.8	1.7	3.2	-1.5	1.8	2.6	-0.8
Arts, entertainment, recreation, accommodation, and food services.....	-5.1	-5.1	0.0	-6.2	-7.6	1.4	6.4	7.8	-1.4	5.4	3.3	2.1
Arts, entertainment, and recreation.....	-5.8	-5.8	0.0	-3.3	-3.8	0.5	6.2	6.5	-0.3	5.5	3.3	2.2
Accommodation and food services.....	-4.8	-4.8	0.0	-7.1	-8.8	1.7	6.5	8.2	-1.7	5.3	3.3	2.0
Other services, except government.....	-4.2	-4.2	0.0	-4.3	-5.1	0.8	0.7	2.1	-1.4	1.3	-0.2	1.5
Government	1.8	1.8	0.0	0.9	0.9	0.0	0.6	0.6	0.0	-0.7	-0.5	-0.2
Federal.....	2.7	2.7	0.0	3.7	3.7	0.0	2.9	3.2	-0.3	-0.3	0.7	-1.0
State and local.....	1.4	1.4	0.0	-0.3	-0.4	0.1	-0.4	-0.7	0.3	-1.0	-1.0	0.0
Addenda:												
Private goods-producing industries ¹	-5.1	-5.1	0.0	-5.7	-6.4	0.7	2.9	5.6	-2.7	0.6	2.5	-1.9
Private services-producing industries ²	0.2	0.2	0.0	-3.3	-3.9	0.6	2.7	3.0	-0.3	2.4	1.6	0.8
Information-communications-technology-producing industries ³	6.1	6.1	0.0	-0.9	1.7	-2.6	11.4	14.7	-3.3	4.3	6.9	-2.6

1. Consists of agriculture, forestry, fishing, and hunting; mining; construction; and manufacturing.

2. Consists of utilities; wholesale trade; retail trade; transportation and warehousing; information; finance, insurance, real estate, rental, and leasing; professional and business services; educational services, health care, and social assistance; arts, entertainment, recreation, accommodation, and food

services; and other services, except government.

3. Consists of computer and electronic products; publishing industries (includes software); information and data processing services; and computer systems design and related services.

Revisions

in the top 10, while six of the top 10 contributors to the increase in real GDP remained in the top 10. Both private goods-producing and private services-producing industries were revised down.

- The downward revision to finance and insurance was widespread within the industry group; the leading contributor to the revision was the insurance carriers and related activities industry. The revision to the insurance carriers and related activities industry reflected a downward revision to current-dollar value added; the revision to current-dollar value added reflected a revision to corporate net interest, which resulted from the incorporation of newly available SOI data that replaced projections based primarily on the Federal Reserve Board's flow of funds statistics.
- The downward revision to nondurable-goods manufacturing primarily reflected a downward revision to current-dollar value added and to current-dollar gross output for the petroleum and coal products industry. The downward revision to current-dollar value added reflected a downward revision to corporate profits,

resulting from the incorporation of newly available SOI data, which replaced data from the Census Bureau's Quarterly Financial Report (QFR). The downward revision to current-dollar gross output reflected the incorporation of newly available shipments data from the ASM, which replaced a composite indicator based on data on refined petroleum and coal products from the Energy Information Administration (EIA) and price indexes from the BLS.

- The downward revision to durable-goods manufacturing primarily reflected a downward revision to current-dollar value added and to current-dollar gross output for the computer and electronic products manufacturing industry. The downward revision to current-dollar value added reflected a downward revision to profits before tax, reflecting the incorporation of newly available SOI data, which replaced data from the QFR. The downward revision to nominal gross output reflected the incorporation of newly available ASM shipments data, which replaced a composite indicator based on data from the Census Bureau's

Table E. Revisions to Percent Changes in Real Gross Output, Real Intermediate Inputs, and Real Value Added by Industry Group

	Revised percent changes									Revision in percent changes (Percentage points)								
	Real gross output			Real intermediate inputs			Real value added			Real gross output			Real intermediate inputs			Real value added		
	2009	2010	2011	2009	2010	2011	2009	2010	2011	2009	2010	2009	2010	2009	2010	2009	2010	2011
Gross domestic product							-3.1	2.4	1.8							0.4	-0.6	0.1
Private industries	-6.6	2.7	2.1	-9.9	2.7	2.1	-3.8	2.7	2.0	0.0	0.1	-0.8	1.2	0.6	-0.9	0.2		
Agriculture, forestry, fishing, and hunting.....	3.9	-1.4	-4.6	-2.0	-0.4	2.6	13.0	-2.8	-13.6	0.8	-1.3	-0.2	-2.5	2.2	0.3	-1.2		
Mining.....	-8.2	5.2	8.6	-40.5	31.0	20.4	25.2	-9.2	0.0	0.5	0.0	-3.2	7.4	4.3	-3.1	-6.4		
Utilities.....	-15.2	5.6	-4.7	-25.9	-5.5	-24.5	-9.0	10.1	2.6	-0.1	6.6	-4.3	5.7	2.4	6.8	8.8		
Construction.....	-12.4	-8.4	-4.7	-12.0	-15.3	-9.4	-12.9	-1.2	-0.3	0.4	0.7	0.7	-0.4	0.0	2.0	0.0		
Manufacturing.....	-12.7	6.0	3.2	-14.4	5.6	3.5	-9.2	6.9	2.5	-0.5	1.0	-0.8	3.8	0.2	-4.3	-1.8		
Durable goods.....	-20.0	11.0	7.1	-22.1	9.6	7.2	-16.3	13.3	6.8	-1.3	4.0	-1.2	8.7	-1.4	-3.7	-1.1		
Nondurable goods.....	-5.5	1.8	-0.2	-7.6	2.4	0.6	-0.4	0.4	-2.1	0.3	-1.4	-0.5	0.0	2.3	-4.7	-2.4		
Wholesale trade.....	-20.1	13.7	7.0	-34.8	44.4	15.6	-13.4	3.4	3.0	-0.2	-5.1	-1.2	-18.2	0.1	-0.5	-0.3		
Retail trade.....	-7.2	10.8	1.4	-18.0	20.1	4.1	-1.9	7.0	0.2	-1.1	-2.8	-4.4	-1.6	0.5	-3.1	-1.8		
Transportation and warehousing.....	-11.4	4.8	3.7	-12.7	2.6	2.4	-10.2	6.6	4.8	-0.1	-0.1	-2.2	-3.9	1.8	3.1	4.5		
Information.....	-3.1	3.1	4.9	-0.3	3.0	3.8	-5.5	3.2	5.9	-0.4	-0.4	1.3	-1.2	-1.9	0.2	0.8		
Finance, insurance, real estate, rental, and leasing.....	0.7	-1.6	-0.9	0.0	-4.7	-2.8	1.2	0.4	0.3	1.0	-0.2	2.5	-1.3	0.1	0.6	1.1		
Finance and insurance.....	5.2	-4.7	-2.2	2.5	-7.1	-3.9	8.5	-2.2	-0.6	3.5	-4.4	5.2	0.0	1.7	-8.8	-2.4		
Real estate and rental and leasing.....	-3.1	1.2	0.4	-3.9	-0.8	-1.1	-2.8	2.0	0.9	-1.1	3.6	-1.7	-3.3	-0.9	6.4	3.5		
Professional and business services.....	-4.9	2.1	3.4	-3.0	2.1	0.5	-5.8	2.2	4.8	-0.3	1.9	-3.2	9.2	1.1	-1.6	0.6		
Professional, scientific, and technical services.....	-5.2	2.1	3.2	-3.1	0.8	-2.0	-6.0	2.6	5.4	0.0	0.5	-2.3	6.6	1.0	-2.3	0.5		
Management of companies and enterprises.....	-1.1	-0.4	1.9	-3.5	8.5	6.4	0.2	-4.8	-0.5	2.0	-0.3	1.1	0.0	2.6	-0.4	-2.5		
Administrative and waste management services.....	-6.5	3.8	4.8	-2.5	1.0	1.5	-9.0	5.5	6.9	-2.3	6.9	-7.0	17.9	0.5	-0.9	3.2		
Educational services, health care, and social assistance.....	1.4	2.3	3.5	0.3	4.2	6.7	2.0	1.3	1.7	-0.7	0.3	-3.8	3.6	1.0	-1.5	-0.4		
Educational services.....	-1.3	3.4	3.8	-10.5	16.1	9.5	3.2	-1.8	1.2	-2.0	-0.4	-11.2	4.7	2.4	-2.0	2.1		
Health care and social assistance.....	1.8	2.2	3.5	1.6	2.9	6.3	1.8	1.7	1.8	-0.5	0.5	-2.9	3.6	0.8	-1.5	-0.8		
Arts, entertainment, recreation, accommodation, and food services.....	-5.5	1.9	4.3	-4.7	-3.4	2.8	-6.2	6.4	5.4	-0.3	-0.5	-2.3	0.4	1.4	-1.4	2.1		
Arts, entertainment, and recreation.....	-4.8	-0.2	2.6	-6.8	-9.2	-2.2	-3.3	6.2	5.5	0.3	-1.7	0.2	-3.6	0.5	-0.3	2.2		
Accommodation and food services.....	-5.7	2.6	4.7	-4.1	-1.9	4.0	-7.1	6.5	5.3	-0.4	-0.1	-2.9	1.4	1.7	-1.7	2.0		
Other services, except government.....	-7.0	-0.3	1.4	-11.3	-2.1	1.6	-4.3	0.7	1.3	-0.4	-0.4	-2.4	1.2	0.8	-1.4	1.5		
Government	3.5	0.7	-1.6	7.5	0.7	-2.8	0.9	0.6	-0.7	1.5	-0.2	3.9	-0.7	0.0	0.0	-0.2		
Federal.....	4.8	3.7	-2.0	6.4	4.7	-4.2	3.7	2.9	-0.3	0.1	0.4	0.4	1.3	0.0	-0.3	-1.0		
State and local.....	2.8	-0.9	-1.4	8.2	-1.7	-2.0	-0.3	-0.4	-1.0	2.3	-0.5	6.1	-1.8	0.1	0.3	0.0		
Addenda:																		
Private goods-producing industries ¹	-11.5	3.0	1.9	-14.9	3.1	2.7	-5.7	2.9	0.6	-0.2	0.7	-0.7	2.9	0.7	-2.7	-1.9		
Private services-producing industries ²	-4.4	2.6	2.1	-6.2	2.4	1.7	-3.3	2.7	2.4	0.0	-0.2	-0.9	0.1	0.6	-0.3	0.8		
Information-communications-technology-producing industries ³	-7.0	6.7	5.9	-14.3	0.3	8.1	-0.9	11.4	4.3	-1.6	-2.0	-0.5	-0.2	-2.6	-3.3	-2.6		

1. Consists of agriculture, forestry, fishing, and hunting; mining; construction; and manufacturing.

2. Consists of utilities; wholesale trade; retail trade; transportation and warehousing; information; finance, insurance, real estate, rental, and leasing; professional and business services; educational services, health care, and social assistance; arts, entertainment, recreation, accommodation, and food

services; and other services, except government.

3. Consists of computer and electronic products; publishing industries (includes software); information and data processing services; and computer systems design and related services.

Revisions

Manufacturers' Shipments, Inventories, and Orders (M3) and from the Federal Reserve Board's Industrial Production Indexes.

- The upward revision to real estate and rental and leasing primarily reflected upward revisions to nominal gross output and to current-dollar value added for real estate. The current-dollar gross output revision is due to the incorporation of newly available SOI data on corporate receipts for rents paid. The upward revision to value added was primarily attributed to upward revisions to noncorporate net interest and proprietors' income. The revision to noncorporate net interest reflected the incorporation of newly available SOI data, which replaced projections based primarily on the Federal Reserve Board's flow of funds statistics. The revision to proprietors' income reflected the incorporation of newly available SOI data, which replaced real estate brokers' commissions.

2011

In 2011, the direction of growth in real value added was unchanged for 14 of 22 industry groups. Four of the top five contributors to the deceleration in real GDP remained in the top five, while seven of the top 10 contributors to the increase in real GDP remained in the top 10. An upward revision to private services-producing industries was partly offset by a downward revision to private goods-producing industries.

- The upward revision to real estate, rental, and leasing primarily reflected an upward revision to current-dollar value added for the real estate industry due to the incorporation of revised data on owner-occupied housing.
- The upward revision to utilities primarily reflected an upward revision to current-dollar value added, which in turn reflected an upward revision to corporate capital consumption allowances.
- The upward revision to transportation and warehousing primarily reflected upward revisions to intermediate input prices, which increased at a faster rate than was projected in the advance release of GDP by industry.
- The downward revision to finance and insurance primarily reflected downward revisions to the "Federal Reserve Banks, credit intermediation, and related services" industry and to the securities and commodity contracts industry. The downward revision to the "Federal Reserve Banks, credit intermediation, and related services" industry primarily reflected a downward revision to current-dollar value added, which in turn reflected a downward revision to corporate net

interest. The downward revision to the securities and commodity contracts industry reflected the combination of a downward revision to nominal gross output and an upward revision to the gross output price index. The revision to nominal gross output reflected the incorporation of newly available SAS data, which replaced data from the Census Quarterly Services Survey. The revision to the gross output price index reflected the incorporation of a more complete set of price data than was available for the advance release.

- The downward revision to durable-goods manufacturing primarily reflected a downward revision to current-dollar value added for the computer and electronic products manufacturing industry. This revision reflected a downward revision to profits before tax resulting from the incorporation of revised data from the QFR.
- The downward revision to mining primarily reflected downward revisions to current-dollar value added for the oil and gas extraction industry and the support activities for mining industry. This reflected a downward revision to profits before tax, reflecting the incorporation of revised data from the QFR.

Improvements

These estimates reflect a number of improvements in the source data and are consistent with the results of the annual revision of the national income and product accounts. The improvements did not meaningfully alter the overall picture of the economy in 2009–2011. These improvements include the following:

- Expanded use of the Census Bureau Service Annual Survey (SAS) revenue data to measure gross output for urban transit systems, for transit and ground passenger transportation, and for pipeline transportation. The SAS data replace a variety of composite indicators, including BEA data on personal consumption expenditures (PCE), and data from the American Public Transit Ridership Association, Energy Information Administration (EIA), and Federal Energy Regulatory Commission.
- Introduced EIA data to measure gross output for federal utilities, which replaced data collected from annual reports.
- Introduced Bureau of Labor Statistics producer price indexes for measuring gross output prices for air transportation's domestic and international scheduled air services, which replaced a PCE price index for general transportation fares.

A Note on the Upcoming 2013 Comprehensive Revision of the Industry Accounts

In 2013, BEA will release the 2007 benchmark input-output (I-O) accounts fully, which will be integrated with the time series of annual industry accounts, as part of the 2013 comprehensive revision of the industry accounts. The benchmark I-O accounts, which are released approximately every 5 years, provide the most comprehensive information available on the production of goods and services (commodities) by industries and the flow of these goods and services (1) to industries for use in their production processes and (2) to final users in the economy. These accounts are based on data from the economic census and are used to establish the level of gross domestic product (GDP) for the benchmark year and to provide critical information for estimating GDP for periods after the benchmark year.

This release will be the next step in BEA's continuing efforts to better integrate the national and industry accounts.¹ Traditionally, the benchmark I-O accounts have been released before the comprehensive revision of the National Income and Product Accounts (NIPAs), and as a consequence, they have not been fully consistent with the NIPAs and with the annual industry accounts. With this comprehensive revision, the benchmark I-O accounts will

be released after the NIPA comprehensive revision and will be fully integrated with the NIPAs and the annual industry accounts. Beginning with the 2007 benchmark I-O accounts, the benchmark I-O accounts will be revised to reflect revisions to the NIPAs and to the annual industry accounts.

The benchmark I-O accounts will continue to be a critical source of information to benchmark the NIPAs and the annual industry accounts. The enhanced integration will allow for a higher degree of consistency among the NIPAs, the benchmark I-O accounts, and the annual industry accounts.

The 2013 comprehensive revision will also include five major improvements recommended by the *System of National Accounts, 2008*.² These major improvements include the following: treating research and development expenditures and production costs for entertainment, literary, and artistic originals as investment in the calculation of GDP; adopting accrual accounting for defined benefit pension plans; improving the treatment of borrowers' and depositors' services; and classifying additional ownership transfer costs as investment.

1. See Brian C. Moyer "Future Directions for the Industry Accounts," SURVEY 89 (March 2009): 29–32.

2. See Seskin and Holdren 2012.

Methodology for Annual Revisions

The annual input-output (I-O) accounts and the GDP by industry accounts are created using an integrated methodology that makes the annual estimates of gross output, intermediate inputs, and value added by industry more timely and more consistent than previously published estimates.¹ Industry estimates are published for 65 detailed industries that are based on the 2002 North American Industry Classification System (NAICS). Commodity estimates are published at the same level of detail as the industry estimates. Estimates of final uses and value added are also included in the annual estimates. The integrated methodology is applied at a finer level of industry and commodity detail than the previous methodologies in order to enhance the accuracy of aggregate-level estimates.

The integrated annual I-O accounts and GDP by industry accounts are prepared in five steps:

Step one. Industry estimates of current-dollar value added for 2009–2011 are extrapolated forward from the annual industry accounts estimates for 2008 using the percent changes in the annual estimates of gross domestic income (GDI) from the national income and product accounts (NIPAs). The GDI by industry estimates consist of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus. Additionally, corporate data on profits before tax, net interest, and capital consumption allowances are converted from an enterprise basis to an establishment basis using data on employment. Finally, the statistical discrepancy (the difference between GDP and GDI) is distributed among the industries. In general, annual revisions to the industry estimates of value added largely reflect revisions to the components of GDI and to the statistical discrepancy from the annual NIPA revision.

Step two. Industry estimates of gross domestic output for 2009–2011 are extrapolated from the 2008 estimates. The extrapolators for these estimates are prepared using a wide array of source data, including surveys from the Census Bureau, the Bureau of Labor Statistics, and other public and private sources.² Annual revisions to industry

estimates of gross output are due to revisions in these source data.

Step three. The initial commodity composition of intermediate inputs for 2009–2010 is calculated for each industry by a process that uses the previously published intermediate input estimates and Census Bureau data on broad business expense categories by industry. In order to calculate the composition for 2011, the previously published intermediate input estimates are used from 2010. As a final step, the commodity mix of detailed intermediate inputs for all years is updated to be consistent with business expense data from the Census Bureau's Service Annual Survey and Annual Survey of Manufactures.

Step four. The initial commodity composition of each GDP expenditure component for 2009–2010 is prepared using previously published expenditure estimates. In order to calculate the composition for 2011, the previously published expenditure estimates are used from 2010. The annual I-O use tables are then balanced using a biproportional adjustment procedure to ensure that intermediate and final use of commodities is consistent with domestic supply, that intermediate use and value added are consistent with gross output and value added, and that final use is consistent with the final expenditure components from the NIPAs. The current-dollar measures of gross output, intermediate inputs, and value added are then incorporated into the GDP by industry accounts.

Step five. Price and quantity indexes for the GDP by industry accounts are prepared in three steps. First, indexes are derived for gross output by deflating each commodity produced by an industry that is included as part of its gross output. Second, indexes for intermediate inputs are derived by deflating all commodities that are consumed by an industry as intermediate inputs in the annual I-O use tables. Third, indexes for value added by industry are calculated using the double-deflation method in which real value added is computed as the difference between real gross output and real intermediate inputs.³

1. See Nicole M. Mayerhauser and Erich H. Strassner, "Preview of the Comprehensive Revision of the Annual Industry Accounts," *SURVEY OF CURRENT BUSINESS* 90 (March 2010): 21–34.

2. See table F on pages 24–25. The estimates of the commodity composition of extrapolated industry gross output are largely consistent with the 2002 benchmark I-O relationships for nonmanufacturing industries and with most recent survey data for manufacturing industries.

3. Estimates of gross output and intermediate inputs are combined in a Fisher index-number formula in order to generate the indexes for value added by industry. This method is preferred because it requires the fewest assumptions about the relationships between gross output by industry and intermediate inputs by industry.

Tables F and G and 1 through 7 follow.