Gross Domestic Product by State

Advance Statistics for 2011 and Revised Statistics for 1997–2010

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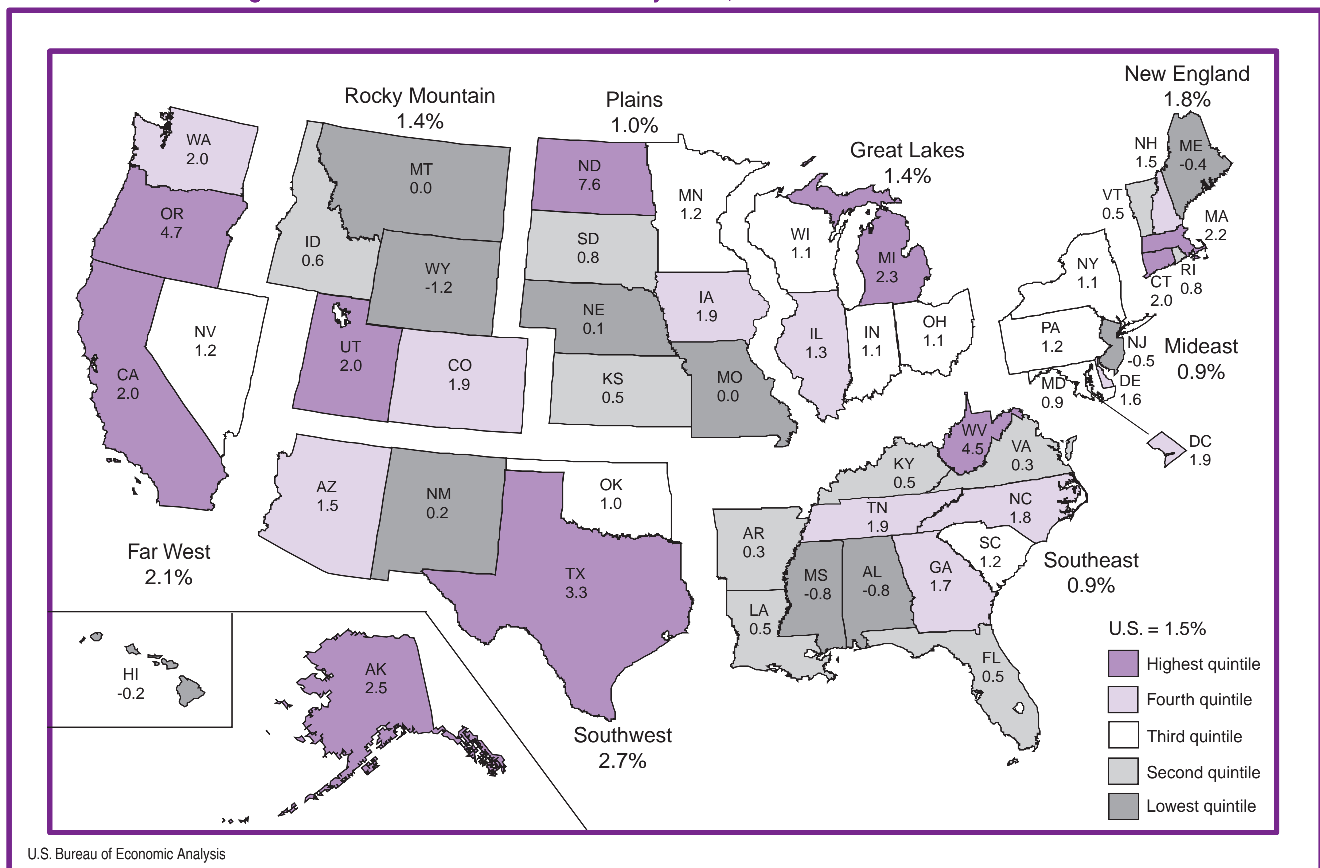
ECONOMIC GROWTH continued in most states in 2011. Real gross domestic product (GDP) grew, but at a slower pace than in 2010, in 43 states and the District of Columbia, according to statistics released by the Bureau of Economic Analysis (BEA). U.S. real GDP by state—a measure of nationwide growth calculated as the sum of GDP of all states deflated by a national price measure—increased 1.5 percent in 2011.[1] The Southwest was the fastest growing region in 2011, increasing 2.7 percent. North Dakota (7.6 percent) was the fastest growing state (chart 1 and table 1).

1. This measure differs conceptually from GDP in the national income and product accounts, though the values are similar. For a description of the differences, see the box "Gross Domestic Product (GDP) by State."

Other highlights include the following:

- Durable-goods manufacturing was the leading contributor to growth in U.S. real GDP by state in 2010 and 2011. This industry grew 7.9 percent in 2011, a slowdown from the 17.0 percent growth in 2010. Growth in this industry accounted for one-third of U.S. growth and was the leading contributor to growth in six of eight BEA regions in 2011.
- Growth in professional, scientific, and technical services was the second-largest contributor to the growth in U.S. real GDP by state, accounting for more than one-quarter of U.S. growth. This industry grew 4.9 percent in 2011, the same growth rate as in 2010. It was the leading contributor to growth

Chart 1. Percent Change in Real Gross Domestic Product by State, 2011



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in the New England and Mideast regions and one of the three largest contributors in all eight regions.

- Growth in the information industry, which includes publishing and telecommunications, was the third-largest contributor to growth in U.S. real GDP by state. In 2011, this industry grew 5.1 percent, compared with 3.0 percent growth in 2010.
- Real estate, rental, and leasing continued to offset growth in U.S. real GDP by state in 2011, declining for the third consecutive year. This industry declined 2.6 percent in 2011 after declining 4.4 percent in 2010. The declines offset real GDP growth in all eight BEA regions.

GDP by state is the most comprehensive measure of economic activity in states—the state counterpart to GDP in the national income and product accounts (NIPAs). On June 5, 2012, BEA released advance current-dollar and real (inflation-adjusted) statistics of GDP by state for 2011.[2] The release also provided statistics at a more detailed industry level for 2010 and revised statistics for 1997–2009.

This article focuses on the main industries that contributed to regional growth in 2011. It then discusses the deceleration in growth in 2011. Next, it discusses per capita real GDP by state and compares it to per capita personal income. It concludes by discussing revisions to GDP by state for 1997–2010.

2. For a description of the abbreviated methodology used to prepare the advance statistics, see the box “Advance Statistics on Gross Domestic Product (GDP) by State for 2011.”

Industry contributions to growth in 2011

Durable-goods manufacturing was the leading contributor to economic growth in 2011. Growth in this industry contributed 0.49 percentage point to, or approximately one-third of, the nation’s real GDP growth of 1.5 percent (tables 2 and 3). This industry contributed to real GDP growth in all states except Alaska and the District of Columbia. It was the leading contributor to growth in 26 states, including all the states in the Southwest region, and it accounted for more than half of total growth in 15 states and the Great Lakes region.

Nationally, professional, scientific, and technical services was the second-largest contributor (0.37 percentage point) to the growth in U.S. real GDP in 2011. The industry contributed to growth in all states and regions. It was the largest contributor to growth in seven states, the District of Columbia, and the New England and Mideast regions. This industry accounted for nearly 50 percent of the growth in the Mideast region and more than 50 percent of the growth in six states.

The information industry was the third-largest contributor to growth (0.22 percentage point) for the nation. This industry contributed to growth in 42 states and the District of Columbia. It was the largest contributor to growth in Colorado (0.47 percentage point) and Utah (0.37 percentage point), and it was a strong contributor to growth in the Far West and Rocky Mountain regions.

Mining was only a small contributor to growth (0.11 percentage point) for the nation, but it was the

Advance Statistics on Gross Domestic Product (GDP) by State for 2011

The advance statistics on GDP by state are based on limited state source data and an abbreviated estimation methodology that differs from the standard methodology used to prepare the state statistics for 1997–2010. These statistics are prepared at the sector level of the North American Industry Classification System (NAICS). Detailed state source data on value added by industry and state and local taxes by industry are not yet available for 2011. The advance 2011 statistics draw heavily on preliminary 2011 state earnings by industry, released on March 28, 2012, and on advance 2011 statistics on GDP by industry, released on April 26, 2012. As a result, the advance 2011 statistics on GDP by state are consistent with the national annual industry accounts and the state personal income accounts.

The 2011 advance statistics on current-dollar GDP by state were extrapolated from industry value added (GDP) for 2010, using the change in state earnings by industry from state personal income statistics. For two industries, preliminary source data were incorporated: the advance statistics for the agriculture, forestry, fishing, and hunting sector incorporated preliminary data on farm sector cash receipts from the U.S. Department of Agriculture, and the advance statistics for the mining sector incorporated preliminary data on value of production and prices from the U.S. Department of the Interior and the U.S. Department of Energy.

The 2011 advance statistics on GDP by state for all sectors were scaled to the advance 2011 statistics on GDP by industry by allocating the difference between the two measures to the states. The sector statistics were then summed to total GDP for the states.

The advance statistics on real GDP by state for detailed industries are derived by applying national chain-type price indexes for value added to the industry values of current-dollar GDP by state. The chain-type index formula that is used in the national accounts is then used to calculate the real values for sectors and total real GDP for the states.

The advance U.S. real GDP by state differs from the corresponding GDP values in the national income and product accounts (NIPAs) because of differences in source data and vintages of data used to estimate GDP by state and NIPA GDP.

largest contributor to growth in three of the five fastest growing states: West Virginia (3.89 percentage points), North Dakota (2.81 percentage points), and Alaska (1.91 percentage points). It was also the largest contributor in Nevada (1.02 percentage points), Louisiana (0.56 percentage point), and Montana (0.32 percentage point), and it was a strong contributor to growth in the Southwest region.

Nationally, real estate, rental, and leasing continued to offset growth in U.S. real GDP in 2011. The industry subtracted from growth in all eight BEA regions and in 40 states. The industry subtracted the most from real GDP growth in 25 states, and it was a significant detractor in New Jersey, Florida, Hawaii, Maryland, and Alabama.

Decelerating growth in 2011

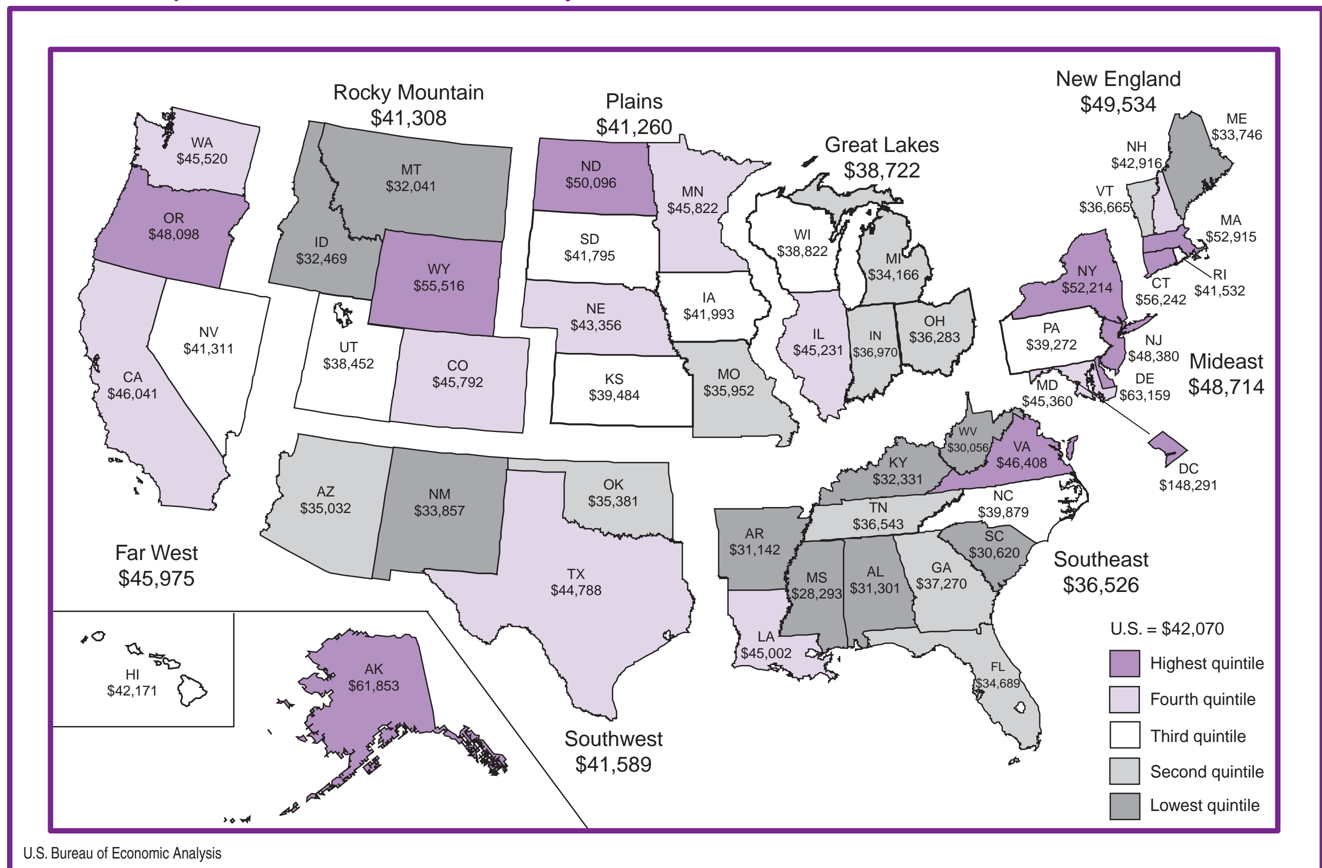
Economic growth decelerated nationally to 1.5 percent in 2011 after growing 3.1 percent in 2010. Much of the deceleration was attributable to the more modest growth in durable-goods manufacturing, retail trade, and finance and insurance. Durable-goods manufacturing grew strongly in 2011 (7.9 percent), but not as strongly as in 2010 (17.0 percent). Growth in retail trade slowed to 2.0 percent in 2011, compared with 10.1 percent growth in 2010, and growth in finance and insurance slowed to 1.8 percent in 2011, compared with 6.6 percent growth in 2010.

The contribution of durable-goods manufacturing to the growth in U.S. real GDP in 2011 was only about half its contribution of 0.98 percentage point in 2010. Smaller contributions from this industry were prevalent across most states and regions and were most pronounced in Oregon (3.94 percentage points in 2011, compared with 7.30 percentage points in 2010), Indiana (0.72 percentage point in 2011, compared with 3.99 percentage points in 2010), and Michigan (1.17 percentage points in 2011, compared with 3.50 percentage points in 2010).

Nationally, retail trade contributed 0.12 percentage point to the growth in U.S. real GDP in 2011 after contributing 0.59 percentage point in 2010. This industry's contribution was smaller in 2011 than in 2010 for all states and regions. The smaller contributions were most pronounced in Maine (0.03 percentage point in 2011, compared with 0.74 percentage point in 2010), Rhode Island (–0.17 percentage point in 2011, compared with 0.53 percentage point in 2010), and Arkansas (0.13 percentage point in 2011, compared with 0.78 percentage point in 2010).

Nationally, finance and insurance contributed 0.15

Chart 2. Per Capita Real Gross Domestic Product by State, 2011



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percentage point to the growth in U.S. real GDP in 2011 after contributing 0.53 percentage point in 2010. This industry's contribution was smaller in 2011 than in 2010 for most states and all eight regions. The smaller contributions were most pronounced in Connecticut (0.60 percentage point in 2011, compared with 2.53 percentage points in 2010), New York (0.29 percentage point in 2011, compared with 2.03 percentage points in 2010), and Iowa (0.06 percentage point in 2011, compared with 1.70 percentage point in 2010).

The contribution of nondurable-goods manufacturing to the growth in U.S. real GDP was only somewhat smaller for the nation, but its contribution was much smaller in Louisiana. In Louisiana, where growth in real GDP by state slowed to 0.5 percent in 2011 from 9.4 percent in 2010, this industry's contribution to real GDP growth was –0.84 percentage point in 2011, down from 8.09 percentage points in 2010.

Per capita real GDP by state

Per capita real GDP by state ranged from a high of $63,159 in Delaware to a low of $28,293 in Mississippi (chart 2 and table 4).

Delaware's per capita real GDP was 50 percent above the national average. The finance and insurance sector was the leading contributor to the state's high per capita real GDP; finance and insurance accounted for 39 percent of Delaware's economy in 2011. Alaska had the second-highest per capita real GDP at $61,853, which was 47 percent above the national average. Connecticut, Wyoming, and Massachusetts had the next highest per capita real GDP. These five states represent four of the eight BEA regions, and the Mideast region is the only one represented by two states.

West Virginia, South Carolina, Arkansas, and Alabama joined Mississippi as the states with the lowest per capita real GDP in 2011. Mississippi's per capita real GDP was 33 percent below the national average. All five of these states are in the Southeast region.

Per capita real GDP by state and per capita personal income. Per capita real GDP by state and per capita personal income both measure the economic well-being of a state, but the two statistics differ conceptually. Per capita real GDP includes corporate income, while per capita personal income does not. Per capita personal income includes entitlements, such as social security and Medicare payments, while per capita real GDP by state does not. Per capita personal income is measured by place of residence, while per capita real GDP by state is measured by place of work. Despite these differences, the rankings for per capita real GDP by state and per capita personal income showed many similarities in 2011.

The District of Columbia had the highest per capita real GDP and the highest per capita personal income. The District of Columbia's per capita real GDP was more than three times the national average and reflects that many people commute into the District of Columbia for work.

Eight of the states that ranked in the top 10 in per capita real GDP also ranked in the top 10 in per capita personal income. Connecticut, which ranked third in per capita real GDP, was the top ranked state in per capita personal income.

Eight of the states that ranked in the bottom 10 in per capita real GDP also ranked in the bottom 10 in per capita personal income. Mississippi ranked last in both per capita real GDP and per capita personal income.

Several states ranked in the highest or lowest category in one measure but not in the other. Alaska ranked in the top 10 in both per capita GDP by state and per capital personal income, but the rankings differed by eight places: it ranked second in per capita real GDP but tenth in per capita personal income. (The high ranking of Alaska in per capita real GDP reflected the large concentration of the mining industry in the state.)

Revisions

BEA's June release of GDP by state included revised statistics for 2010 at a more detailed industry level and revised statistics for 1997–2010.[3] This release provided

Data Availability

Summary statistics on gross domestic product (GDP) by state in current dollars and in real chained (2005) dollars for 2008–2011 are presented in this article. More detailed statistics for states, BEA regions, and the United States can be accessed interactively on BEA's Web site.

The following annual statistics are available at www.bea.gov/regional:

- Advance statistics on current-dollar GDP by state, real GDP by state in chained (2005) dollars, and quantity indexes for 2011 for 24 NAICS-based sectors.
- Current-dollar and real GDP by state and quantity indexes for 1997–2010 for 81 NAICS-based subsectors.
- Current-dollar statistics of compensation of employees, taxes on production and imports less subsidies, taxes on production and imports, subsidies, and gross operating surplus for 1997–2010 for 81 NAICS-based subsectors.
- Per capita real GDP by state for 1997–2011.

E-mail gdpbystate@bea.gov or call 202–606–5340 for further information.

3. The advance statistics for 2010 that were released in June 2011 have been revised.

the results of the first "flexible" annual revision of GDP by state. Flexible annual revisions differ from the more traditional annual revisions in scope and in the number of years that are subject to revision.[4] In addition to a more traditional annual revision that incorporates new and revised source data, a flexible annual revision incorporates improvements in source data and statistical methods to more accurately measure the economy.

Source data. The revised statistics incorporate new and revised state source data, most notably, the annual revision of state personal income, new and revised data from the Census Bureau, specifically new Annual Survey of Manufactures (ASM) data for 2010 and revised ASM data for 2009, new *State and Local Government Finances* data for 2009, and new *State Government Finances* data for 2010. In addition, revisions to GDP by state incorporated newly available and revised source data from the national accounts.[5] For 2008 and 2009, the gross operating surplus component accounted for much of the revision to GDP by state (table 5). This component tends to have larger revisions when newly available data on corporate profits from the Internal Revenue Service (IRS) *Statistics of Income* are incorporated into the national accounts. Corporate profits continue to be subject to revision until final data from the IRS are available 3 years after the reference year.

Improvements. This revision incorporates improvements in source data and statistical methods to more accurately portray the economy. The improvements did not meaningfully alter the overall picture of state economies in 1997–2010.

The major improvements that were introduced as part of the flexible annual revision include the following:

- Used an improved estimation method for allocating profits of the air transportation industry across states.
- Used an improved estimation method for allocating gross operating surplus of the management of companies and enterprises industry across states.
- Incorporated wholesale trade margin price indexes from the Bureau of Labor Statistics (BLS) (as a replacement for sales-based price indexes) to deflate wholesale trade margin output for 2008 forward.
- Introduced data from the Medical Expenditure Panel Survey and private trade source data for the statistics for 2004 forward in order to replace the benefits-to-premiums ratio based on the 2002 Economic Census data.
- Incorporated data from the Annual Retail Trade Survey and the Service Annual Survey, which have been benchmarked to the 2007 Economic Census, for the statistics for 2003 forward.
- Incorporated improved quality-adjusted price indexes from the Federal Reserve Board's Industrial Production Index program for communications equipment for the statistics for 2003 forward to replace indexes based on the BLS Producer Price Index and import price indexes.

In addition, a methodological improvement was incorporated into the advance statistics for 2011 to improve the stability of statistics for the oil and gas extraction industry.

Revised advance statistics for 2010. The advance statistics of GDP by state for 2010, released for the first time in June 2011, correctly indicated the direction of change in 48 states and the District of Columbia and also correctly identified whether a state grew at a faster or slower pace than U.S. real GDP growth in 39 states. Additionally, the advance statistics correctly identified 11 of the 17 states with the fastest growth, 7 of the 16 states with moderate growth, and 11 of the 17 states with the slowest growth.

Current-dollar GDP by state. For 2010, revisions to current-dollar GDP by state were less than 4.5 percent in absolute terms for all states except four—Wyoming, Connecticut, Oregon, and Louisiana (table 6).

For Wyoming, current-dollar GDP by state was revised down 7.0 percent; the downward revision was primarily due to a downward revision in mining; a full report on coal production data was not available for the advance statistics. The downward revision also followed the trend of the national revision.

For Connecticut, current-dollar GDP by state was revised down 6.7 percent. The downward revision was primarily due to a downward revision to real estate and to insurance carriers and related activities, reflecting the incorporation of data from the National Association of Insurance Commissioners, which indicated less economic activity than the extrapolated earnings for the advance statistic.

For Oregon, current-dollar GDP by state was revised up 6.4 percent. The upward revision was primarily due to an upward revision to computer and electronic product manufacturing, reflecting the incorporation of ASM data that indicated more activity in than the extrapolated earnings for the advance statistic.

For Louisiana, current-dollar GDP by state was revised up 6.2 percent; the upward revision was mainly due to an upward revision to petroleum and coal products manufacturing, reflecting the incorporation of ASM data that indicated more activity than the extrapolated earnings for the advance statistic.

4. For additional information, see "Improving BEA's Accounts Through Flexible Annual Revisions," SURVEY OF CURRENT BUSINESS 88 (June 2008): 29–32.

5. This revision to GDP by state incorporated the July 2011 annual revision of the national income and product accounts and the December 2011 annual revision of the annual industry accounts.

For 2008 and 2009, revisions to current-dollar GDP by state were generally small. Most were less than 3.0 percent in absolute terms. The states with the largest revisions were Wyoming (–7.1 percent), Connecticut (–6.2 percent), and Michigan (–5.1 percent). For Wyoming, the downward revision was primarily due to revised ASM value-added data for petroleum and coal products manufacturing. For Connecticut, the downward revision was mainly due to a downward revision to real estate as a result of downward revisions to real estate for the nation and to imputed rent for owner-occupied housing from the state personal income accounts. The downward revision to GDP by state for Michigan was driven by a downward revision to motor vehicle, body, trailer, and parts manufacturing. Because Michigan accounted for 27.0 percent of the nation's current-dollar GDP for this industry, the 63.2 percent downward revision to GDP for this industry had a strong impact on Michigan.

For 2008, the states with the largest revisions were

Gross Domestic Product (GDP) by State

Gross domestic product (GDP) by state is calculated as the sum of incomes earned by labor and capital and the costs incurred in the production of goods and services. It includes the wages and salaries that workers earn, the income earned by sole proprietorships and partnerships and corporations, and taxes on production and imports—such as sales, property, and federal excise taxes.

In contrast, GDP in the national income and product accounts (NIPAs) is calculated as the sum of spending by consumers, businesses, and government on final goods and services plus investment and net foreign trade. In theory, income earned should equal spending, but because of different data sources, income earned, usually referred to as "gross domestic income (GDI)," does not always equal what is spent (GDP). The difference is referred to as the "statistical discrepancy."

U.S. GDP by state differs from the GDP in the NIPAs and thus GDP by industry differs from the annual industry accounts, because U.S. GDP by state excludes federal military and civilian activity located overseas, which cannot be attributed to a particular state. The 2011 statistics on GDP by industry are identical to those from the 2011 annual revision of the NIPAs released in July 2011. However, because of revisions since July 2011, NIPA GDP may differ from U.S. GDP by state.

The statistics on GDP by state for industries for 1997 forward are based on the North American Industry Classification System (NAICS), and the statistics for industries for 1963–97 are based on the Standard Industrial Classification (SIC). For each industry, the three components of GDP by state are presented: compensation of employees, taxes on production and imports less subsidies, and gross operating surplus. Compensation of employees is the sum of wage and salary accruals, employer contributions for employee pension and insurance funds, and employer contributions for government social insurance. Taxes on production and imports is the sum of federal excise taxes and customs duties, state and local government sales taxes, property taxes (including residential real estate taxes), motor vehicle licenses, severance taxes, other taxes, and special assessments. Gross operating surplus is the sum of corporate profits, proprietors' income, rental income of persons, net interest, capital consumption allowances, business transfer payments, nontax payments, and the current surplus of government enterprises.

Current-dollar statistics on GDP by state and its components are scaled to equal national totals of current-dollar GDP by industry and its components for all industries except federal military and civilian government. If the national total for an industry differs from the initial sum-of-states total for an industry, the difference between the national total and the sum-of-states total is allocated to the states according to the state distribution of the initial estimates.

The statistics on real GDP by state are prepared in chained (2005) dollars. Real GDP by state is an inflation-adjusted measure of each state's GDP that is based on national prices of the goods and services produced in that state. The statistics on real GDP by state and on quantity indexes with a base year of 2005 were derived by applying national chain-type price indexes for value added to current-dollar GDP by state for the 64 detailed NAICS-based industries for 1997 forward and for the 63 detailed SIC-based industries for 1977–97.

The chain-type index formula that is used in the national accounts is then used to calculate the values of total real GDP by state and of real GDP by state at more aggregated industry levels.[1] Real GDP by state may reflect a substantial volume of output that is sold to other states and countries. To the extent that a state's output is produced and sold in national markets at relatively uniform prices (or sold locally at national prices), real GDP by state captures the differences across states that reflect the relative differences in the mix of goods and services that the states produce. However, real GDP by state does not capture geographic differences in the prices of goods and services that are produced and sold locally.

1. For additional information, see J. Steven Landefeld, Brent R. Moulton, and Cindy M. Vojtech, "Chained-Dollar Indexes: Issues, Tips on Their Use, and Upcoming Changes," Survey 83 (November 2003): 8–16; and Gerard P. Aman, George K. Downey, and Sharon D. Panek, "Comprehensive Revision of Gross State Product: Accelerated Estimates for 2003 and Revised Estimates for 1977–2002," Survey 85 (January 2005): 80–106.

Connecticut (–2.9 percent), South Dakota (–2.7 percent), and New York (–2.6 percent). For Connecticut, the downward revision was primarily due to a downward revision to real estate. For South Dakota and New York, the downward revisions were mainly due to downward revisions to finance and insurance.

For 1997–2007, nearly all revisions were very small. The largest revision was a downward revision of 1.4 percent to current-dollar GDP by state for Delaware in 2004, primarily due to the incorporation of the methodological improvement to management of companies and enterprises. For the industries where methodological improvements were carried back to 1997, some revisions were significant, but these had minimal impact on total GDP by state.

Real (chained-dollar) GDP by state. Revisions to the real GDP growth rates for 1997–2010 primarily reflect revisions to the current-dollar statistics, many of which are mentioned above. The revisions to the growth rates of real GDP were measured as a percentage point difference from the previously published growth rate. For 2010, only for Louisiana, Oregon, and New Hampshire was the absolute change 3 percentage points or higher (table 7). The revisions for Louisiana and Oregon were mainly caused by manufacturing industries. The revision for New Hampshire was mainly caused by real estate, rental, and leasing; like the revision to current-dollar statistics, the incorporation of additional source data for this industry indicated more economic activity than that indicated by the extrapolated earnings for the advance statistics.

For 2009, only Wyoming, Michigan, and Connecticut had revisions of 3 percentage points or more in absolute terms. For 2008, no state had a revision larger than 3 percentage points in absolute terms. For 1997–2007, percentage point revisions were very small.

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Appendix A and tables 1–9 follow.