

An Examination of Revisions to the Quarterly Estimates of State Personal Income

By Matthew A. von Kerczek and B. Enrique Lopez

THE BUREAU of Economic Analysis (BEA) estimates of state personal income and its components are among the most closely watched state economic measures, providing a framework for the analysis of each state's economy. The pattern and magnitude of revisions to the estimates—which are used extensively by government officials to allocate funds across states as well as by a wide range of researchers—are therefore of paramount concern.

The goal of this study is to provide information that will help users to better understand the estimates at different stages of the estimating process, which occurs in successive releases that are referred to as “vintages.” The first, or preliminary, quarterly estimates of state personal income and the second quarterly estimates are featured. The estimates that are used as the standard-of-accuracy estimates are the latest estimates that were released in March 2012.

This study analyzes the patterns of revisions to the quarterly state personal income estimates by looking at the magnitudes of the revisions at various stages of the estimation cycle. Revisions are measures of the changes from earlier sets of estimates to the latest set of estimates. Since the latest estimates incorporate the most complete set of source data, they are presumed to be the best set of estimates and therefore are used as the standard of accuracy.¹

The state personal income estimates are revised largely to (1) incorporate new or more complete source data, (2) reflect changes to conceptual definitions and classifications that adapt the estimates to a changing economy, (3) incorporate improvements in statistical techniques, (4) update the seasonal factors that are used to seasonally adjust the estimates, and (5) incorporate revised national control totals and annual state estimates as controls.² Most revisions are primar-

ily due to improvements that could not have been incorporated when the earlier estimates were prepared.

In this study, the quarterly estimates for the first quarter of 2002 through the second quarter of 2009 are analyzed. This period represents one complete business cycle; the first quarter of 2002 follows the trough of the recession that ended in the fourth quarter of 2001, and the second quarter of 2009 represents the trough of the downturn that began in the fourth quarter of 2007.³

This study presents an overview of the source data and the methods that are used to prepare the quarterly estimates of state personal income. It then examines the principal measures of revisions that are used to evaluate the revisions to the estimates. In conclusion, this study outlines some recent developments that affect the revisions to the estimates and notes some future directions.

Overview of Sources and Methods

The quarterly estimates of state personal income are successively revised to incorporate source data that are more complete, more detailed, and otherwise more appropriate than the data that were previously available. These source data are incorporated at specific stages in the estimating process, and estimates are released according to a schedule.

The quarterly state estimates are tied to the annual state estimates, which incorporate more detailed and more reliable source data than the quarterly estimates. The quarterly estimates of all the components of state personal income are based on the growth rates of quarterly state source data that are controlled to the annual state estimates. In addition, the quarterly state estimates are controlled to personal income in the national income and product accounts (NIPAs).⁴

1. See Robert L. Brown, Bruce T. Grimm, and Marian B. Sacks, “The Reliability of the State Estimates of Personal Income,” *SURVEY OF CURRENT BUSINESS* 83 (December 2003): 43–50.

2. Seasonal factors are mainly revised to incorporate additional years of data or updated data that were not available or data that were not able to be forecasted, when the earlier estimates were prepared. See Dennis J. Fixler, Bruce T. Grimm, and Anne E. Lee, “The Effects of Revisions to Seasonal Factors on Revisions to Seasonally Adjusted Estimates: The Case of Exports and Imports,” *SURVEY* 83 (December 2003): 43–50.

3. Business cycle dating, including peaks and troughs, are for the United States and are determined by the National Bureau of Economic Research as of April 30, 2012. The business cycles of each state may differ from those of other states and those of the nation.

4. The quarterly state estimates of the components of personal income are controlled to—that is, they are made to add to—the NIPA estimates after adjusting for coverage differences, such as the exclusion of wages and salaries of U.S. citizens stationed abroad. See the box “Personal Income in the NIPAs and State Personal Income” in “Regional Quarterly Report,” *SURVEY* 91 (October 2011): 137. In addition, the detailed methodology that is used to prepare the annual and quarterly state personal income estimates is available on the BEA Web site at www.bea.gov.

Nacola A. Alexander, Carrie L. Litkowski, and Mauricio X. Ortiz contributed to the preparation of this article.

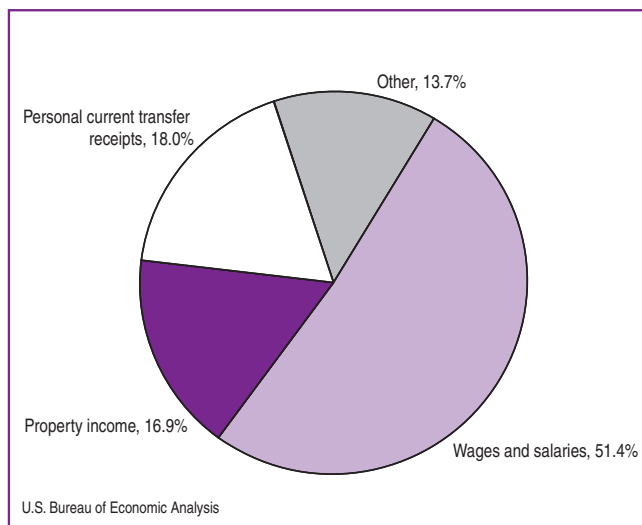
Revision schedule for the state estimates

The preliminary estimates of quarterly state personal income are released 3 months after the close of the quarter. The second estimates are released 3 months later. In September, the quarterly estimates for the preceding 3 years are revised to reflect revisions to the annual estimates.

Sources of revisions

Personal income is the income that is received by persons from participation in production and from government and business in the form of transfers (chart 1). It is calculated as the sum of wage and salary disbursements, supplements to wages and salaries (employer contributions for employee pensions and insurance funds and employer contributions for government social insurance), proprietors' income with

Chart 1. U.S. Personal Income by Major Component, 2011



inventory valuation and capital consumption adjustments, property income (rental income of persons with capital consumption adjustment, personal dividend income, and personal interest income), and personal current transfer receipts, less contributions for government social insurance.⁵ In addition, because some of the components of personal income, including wages and salaries and supplements to wages and salaries, are recorded on a place-of-work basis, the state personal income estimates are adjusted so that they reflect incomes earned by residents of each state. A summary of the major sources of state data for the

5. Employee and self-employed contributions for government social insurance are subtracted from the other income components in the calculation of personal income. Employer contributions for government social insurance is included in earnings, but is subtracted from the other income components.

preliminary and second quarterly estimates are presented in appendix A. The sources and methods used to prepare wage and salary disbursements, farm proprietors' income, the components that are based on wage and salary estimates, and the components that are based on annual trends are discussed, and the sources of the revisions are described.

Wage and salary disbursements

The preliminary national and state estimates of wages and salaries are based on a sample of employment from the Current Employment Statistics (CES) program of the Bureau of Labor Statistics (BLS).⁶ The national estimates also include information on hours worked and average hourly earnings from the CES that are not available for the states. The limited CES information consists of only production and nonsupervisory workers, and the earnings do not include lump-sum payments, such as exercised stock options, stock grants, or other bonus compensation. These gaps in coverage of the earnings data have become more significant as the number of production workers relative to nonproduction workers has declined and as compensation based on profit sharing programs has become more common in many industries. In addition, because the CES is a survey, the information is subject to sampling errors. Therefore, because of the use of less comprehensive source data, the preliminary estimates of state personal income are subject to more revision than the second estimates.

The preliminary estimates of wages and salaries are revised 3 months after they are first published so that improved state-level source data can be incorporated. Tabulations of wages from the Quarterly Census of Employment and Wages (QCEW) from BLS that were not available when the preliminary estimates were prepared are incorporated. The QCEW covers about 95 percent of total wages disbursed and is therefore considered a near complete census of wages.⁷ Even so, the second estimates of wages and salaries are subject to additional revisions as updates to the QCEW and revisions to the seasonal factors are incorporated.⁸ The

6. The CES is a survey of employment, hours worked, and average hourly earnings over the pay periods that include the 12th of each month. It is conducted by BLS in cooperation with state employment security agencies.

7. QCEW data on wages and salaries are tabulations from state employment security agencies of employers' reports of their unemployment insurance (UI) contributions that are required from all employers covered by state UI laws and by the unemployment compensation program for federal employees. The reported wages and salaries, which are released 5 months after the end of the quarter, include lump-sum payments, but these payments are not identifiable.

8. Updates to the QCEW data are incorporated continuously and include corrections to the data and both industry and geographic reclassifications. The factors used to seasonally adjust the QCEW wages are also continuously updated using the X-11 ARIMA procedure.

seasonal factors are generally stable, but they sometimes change suddenly because of “shocks” caused by variable compensation, such as unusually large lump-sum payments, including bonuses and stock grants. This form of compensation has become more common across many industries—especially in the information, finance and insurance, and management sectors—and the irregularity and unpredictability of this compensation sometimes causes revisions as a result of recalculated seasonal factors. The portion of the revisions to the quarterly state estimates of personal income and its components due to revisions to the seasonal factors are not identifiable; however, a study of the revisions to the national estimates of gross domestic product (GDP) by Grimm and Fixler (2002) concluded that such revisions are generally not a principal source of volatility.⁹

Components based on wages and salaries

The estimates of wages and salaries are used to produce the quarterly state estimates of employer contributions for employee pensions and insurance funds, the proprietors’ income for the construction industry, contributions for government social insurance, and the residence adjustment.¹⁰ Therefore, the revisions to the estimates of these components reflect the revisions to the estimates of wages and salaries as well as the incorporation of annual state source data. The annual estimates for these components are based on source data from a variety of agencies. However, for the preliminary estimates, the second quarterly estimates, and the subsequently revised quarterly estimates, the state estimates of wages and salaries are used as the quarterly indicator.

Components based on annual trends

Quarterly state indicators for the following components of state personal income are unavailable: personal dividend income, personal interest income, rental income of persons, personal current transfer receipts excluding unemployment benefits, farm wages, pay of military reserves, and nonfarm proprietors’ income excluding construction proprietors’ income. The annual state estimates are based on source data from a variety of agencies.¹¹ The quarterly state estimates are

based on the changes in the trend in the state shares of the national total; the trend is based on the annual state and national estimates. These estimates are subject to revision primarily due to the incorporation of national and annual state source data.

Property income—personal dividend income, personal interest income, and rental income of persons—accounts for about 17 percent of personal income, most of which is dividends and interest income.¹² The estimates of property income, even at the state level, mainly reflect global trends, not local economic conditions, because the largest capital markets are international, and fluctuations in the rates of return on investments are determined mainly by global economic conditions. Moreover, residents of a state might not invest their savings locally. Thus, the state shares of each of these components are unlikely to change significantly from one quarter to the next in response to local conditions.

The state quarterly estimates of personal current transfer receipts excluding state unemployment insurance benefits account for about 17 percent of personal income. More than 50 percent of these transfers are social security benefits, other federal retirement-related transfers, and Medicare payments, and state shares do not vary much from quarter to quarter. Public assistance payments (for example, supplemental security income, temporary assistance for needy families, Medicaid, and supplemental nutrition assistance payments) are more sensitive to local economic conditions, so the extrapolations of the quarterly estimates of these payments are subject to greater revisions than the extrapolations of retirement-related transfer programs.

Farm wages, the pay of military reserves, and nonfarm proprietors’ income excluding construction account for less than 10 percent of personal income. Almost half of nonfarm proprietors’ income consists of professional and other services, and their state shares of national nonfarm proprietors’ income are usually stable. However, proprietors’ income is also important in a number of other industries—such as mining, forestry and fisheries, and real estate—that can be quite volatile and that can vary substantially from state to state based on underlying local economic conditions.

9. Dennis J. Fixler and Bruce T. Grimm, “Reliability of GDP and Related NIPA Estimates,” *SURVEY OF CURRENT BUSINESS* 82 (January 2002): 9–27.

10. The estimates of contributions for government social insurance are produced in two parts: employer contributions and employee and self-employed contributions for government social insurance.

11. The quarterly and annual state estimates of state unemployment insurance benefits are prepared using information from the Employment and Training Administration of the U.S. Department of Labor.

12. The component shares of state personal income are based on the preliminary annual national (sum of states) estimates for 2011 that were released on March 28, 2012. Interest income accounts for about 45 percent of property income, and dividends account for about 35 percent.

Farm proprietors' income

Although farm proprietors' income is small nationally, it is significant in several states. Farm proprietors' income accounted for about 0.5 percent of personal income for the nation in 2011. In some states—such as North Dakota, South Dakota, Iowa, and Nebraska—it accounted for a higher share and for much of the variability of personal income. Revisions to this component can be large, given the volatility of farm proprietors' income due to natural and economic conditions and the limited availability of quarterly source data.

The quarterly state estimates of farm proprietors' income are prepared in five components: livestock output, crop output, other farm income, production expenses, and corporate farm income. For all the components in each state except livestock and crop output, an annual estimate is forecasted using annual trends. Annual livestock and crop output is forecast using available monthly data on cash receipts from the sale of farm products from the U.S. Department of Agriculture (USDA). The state-level forecasts are used to allocate a national forecast for all five components based on a USDA forecast of farm income. These state annual estimates are then distributed across the quarters using the quarterly national controls. For livestock and crop output, the available USDA monthly cash receipts data is also used to distribute the annual forecasts to the quarters.¹³

The preliminary quarterly estimates are derived using 2 months of state-level USDA cash receipts data. These estimates are revised 3 months later to incorporate a 3rd month of cash receipts data and revised data for the other 2 months. The estimates are also revised to incorporate the latest U.S. annual forecast from USDA, as it becomes available.¹⁴ The state annual estimates incorporate complete, state-level data from the USDA farm income accounts.

Measures of Revision

This study analyzes the revisions to the quarterly estimates of state personal income and two of its components—nonfarm personal income and total wages and salaries. Nonfarm personal income is calculated as personal income minus farm income (farm wages, farm employer contributions for employee pensions and insurance funds, and farm proprietors' income).¹⁵ Such

an analysis is useful in states where farming is important but volatile.

Total wages and salaries are calculated by summing the industry-level wage and salary estimates to an all-industry total. In 2011, wages and salaries accounted for slightly more than half of personal income for the United States; among the states, wages and salaries ranged from 44 percent of personal income in South Dakota to almost 57 percent in Delaware.¹⁶ Wages and salaries was the largest component of personal income in every state; thus, the revisions to wages were an important contributor to the revisions to the personal income estimates.

Some straightforward measures of patterns of revisions can be developed by enumerating how frequently the revisions of the state personal income estimates meet various criteria. Table 1 presents how often the preliminary and second quarterly estimates of state personal income show consistent patterns of change in direction and of change of pace when compared with the latest estimates. (For ease of exposition, the District of Columbia was treated as if it were a state. Additionally, unless otherwise indicated in this article, the revision measures of the national estimates of personal income and its components were derived from the sum of the state estimates.¹⁷)

From the first quarter of 2002 to the second quarter of 2009, the preliminary quarterly estimates of personal income for the United States correctly indicated the direction of change 93 percent of the time, and they correctly indicated whether personal income was accelerating or decelerating about 60 percent of the time (table 1). The shares of correct indications of change in personal income for the states ranged from 80 percent in New Hampshire and New York to 100 percent in Arizona, Florida, and Utah. The shares of correct indications of whether personal income was accelerating or decelerating ranged from 50 percent in four states (Louisiana, Oklahoma, West Virginia, and Wisconsin) to 90 percent in Arizona.

The second quarterly estimates of personal income for the United States correctly indicated the direction of change in personal income 93 percent of the time, and they correctly indicated whether personal income was accelerating or decelerating about 73 percent of

13. The USDA monthly cash receipts data are seasonally adjusted by BEA using the X-11 ARIMA procedure.

14. USDA's farm sector income forecasts are usually available in February, August, and November.

15. Farm income differs from farm earnings because it excludes farm employer contributions for government social insurance.

16. The preliminary state estimates of personal income for 2011 were released on March 28, 2012. Wages and salaries accounted for about 134 percent of personal income in Washington, DC. A large share of these wages are earned by residents of other states and are removed from personal income by the residence adjustment. Therefore, Washington, DC, was omitted.

17. The revision measures of the NIPAs estimates of personal income and its components and the revision measures of the sum of the state estimates may differ because the definitions of vintages in the NIPAs differs from those in the regional accounts.

the time. For the states, the correct direction of change in personal income ranged from 73 percent in Connecticut to 100 percent in Alabama, Georgia, Hawaii, South Carolina, and Tennessee. The correct indications of whether personal income was accelerating or decelerating ranged from 47 percent in Arkansas to 93 percent in Arizona.

The principal measures of the magnitudes of the revisions featured in this article include the mean revision and the mean absolute revision. The mean revision is calculated as the average revision

$$MR = \Sigma(L - E)/n$$

where E is the percent change in the earlier vintage, L is the percent change in the later estimates, usually the “latest available” estimates, and n is the number of observations in the sample period over which the mean is calculated. Percent changes are changes from the previous period to the current one and are expressed at quarterly rates. The revisions may either be positive or negative and therefore offset one another, so it is also useful to look at the mean absolute revision, or the mean revision, without regard to sign. The mean absolute revision is the average of the absolute value of the revision.

$$MAR = \Sigma|L - E|/n$$

Table A presents the mean revisions and mean absolute revisions to personal income, nonfarm personal income, and wages and salaries for the nation. The mean revisions and mean absolute revisions from the preliminary estimates to the latest estimates of all three income measures were larger than the revisions from the second estimates to the latest estimates. The mean

Table A. Mean Revisions and Mean Absolute Revisions to Personal Income, Nonfarm Personal Income, and Wages and Salaries for the United States: Latest Estimates Less Preliminary Estimates, Latest Estimates Less Second Estimates, and Second Estimates Less Preliminary Estimates, 2002:I–2009:II

	Vintage as standard of accuracy			
	Mean revisions		Mean absolute revisions	
	Second	Latest	Second	Latest
Personal income				
Preliminary	-0.08	-0.14	0.34	0.57
Second		-0.06		0.47
Nonfarm personal income				
Preliminary	-0.09	-0.15	0.34	0.57
Second		-0.06		0.45
Wages and salaries				
Preliminary	-0.13	-0.13	0.62	0.67
Second		-0.01		0.36

revisions and mean absolute revisions from the preliminary estimates to the second estimates were more than half of the mean revisions and mean absolute revisions from the preliminary estimates to the latest estimates. This indicates that the largest revisions occurred when the preliminary estimates were replaced with the second estimates.

Mean revisions to the quarterly estimates

For the nation, the preliminary quarterly estimates of personal income, nonfarm personal income, and wages and salaries had negative mean revisions; the mean revisions to the second quarterly estimates were also negative (table 2). This pattern of generally negative mean revisions indicates a tendency of downward revisions to the growth rates of all three measures. Conversely, positive mean revisions indicate a tendency of generally upward revisions. Regardless of sign, the mean revisions to the three income measures for both vintages of estimates were very small.

For the states and regions, the mean revisions were also generally negative. The mean revisions from the preliminary estimates of personal income to the latest estimates were negative in 39 states and in all eight regions. The mean revisions from the second estimates to the latest estimates were negative in 37 states and in six regions. Louisiana had the largest mean revisions (without regard to sign) to personal income in both the preliminary and second estimates due to the large revisions associated with the conceptual changes in the treatment of uninsured damages that resulted from Hurricane Katrina in 2005.¹⁸

The Great Lakes region had larger mean revisions from the preliminary estimates of each of the three income measures to the latest estimates than the nation and the seven other regions (chart 2). The mean revision to the preliminary estimates of personal income for the Great Lakes region was -0.33 percentage point, more than twice as large as that of the nation and any other region.

For the states in the Great Lakes region, the mean revisions to the preliminary and second estimates of the three income measures tended to be negative. The mean revisions from the preliminary estimates of wages and salaries to the latest estimates were negative in all five states in the Great Lakes region, and the mean revisions to the preliminary estimates of wages

18. For more details about how BEA changed its treatment of natural disasters, see Eugene P. Seskin and Shelly Smith, “Improved Estimates of the National Income and Product Accounts: Results of the 2009 Comprehensive Revision,” SURVEY 89 (September 2009): 15–35.

and salaries in each of these states were larger than that of the nation. In contrast, the mean revisions to states in the Mideast and New England regions were more mixed: the mean revisions to the preliminary estimates of wages and salaries in three of the five states in the New England region and in three of the six states in the Mideast region ranged between 0.1 percentage point and -0.1 percentage point, reflecting a pattern of somewhat offsetting revisions.

The larger-than-average downward mean revisions to the states in the Great Lakes region from the preliminary estimates of each of the three income measures to the latest estimates reflect a greater sensitivity to the limitations of the source data used to prepare the preliminary estimates. The preliminary estimates of wages and salaries are based on a once-a-month sample of worker counts from the CES, and they may not be as good an indicator of changes in worker earnings in the Great Lakes region as they are in other regions. The mean revisions from the second estimates of wages and salaries to the latest estimates were much smaller than the mean revisions from the preliminary estimates to the latest estimates. The 0.28 percentage point reduction in the mean revision in the Great Lakes region was

almost three times larger than the reduction in the mean revision for the nation and was larger than in any other region (chart 3).

Despite considerable improvements to the wage and salary estimates, the above-average revisions to personal income for the Great Lakes region remain. The mean revisions from the second estimates of personal income to the latest estimates were larger than those for the nation and all other regions (chart 4). The mean revision from the second estimates of personal income to the latest estimates was -0.16 percentage point for the Great Lakes region. The Far West and New England regions had the next largest mean revisions, -0.12 percentage point, to personal income.

The mean revisions from the second estimates of personal income to the latest estimates were smaller than the mean revisions from the preliminary estimates of personal income to the latest estimates for the United States, for six regions, and for 30 states. The mean revisions to the second estimates of personal income were small and negative for most states and regions and for the nation. The Mideast and Southwest regions had the smallest mean revisions to the second estimates of personal income, 0 percentage point, because above-average upward revisions to the estimates

Chart 2. Mean Revisions to Personal Income, Nonfarm Personal Income, and Wages and Salaries by Region: Latest Estimates Less Preliminary Estimates, 2002:I-2009:II

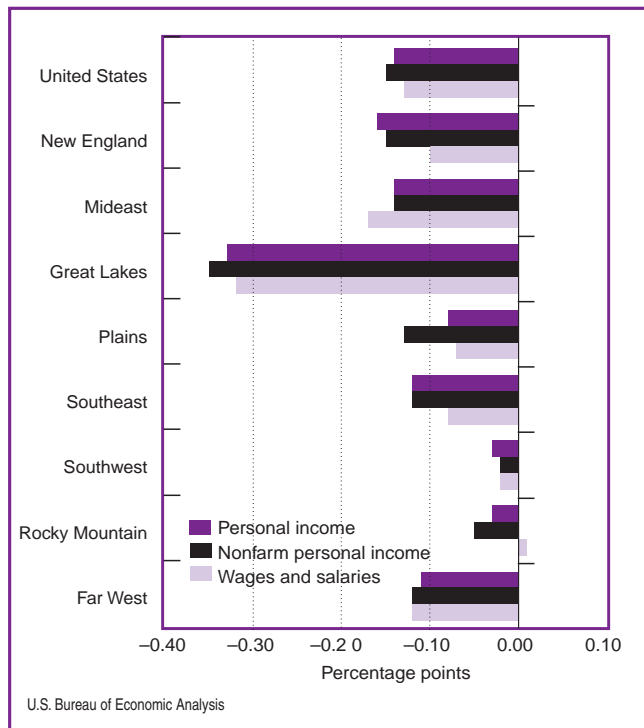
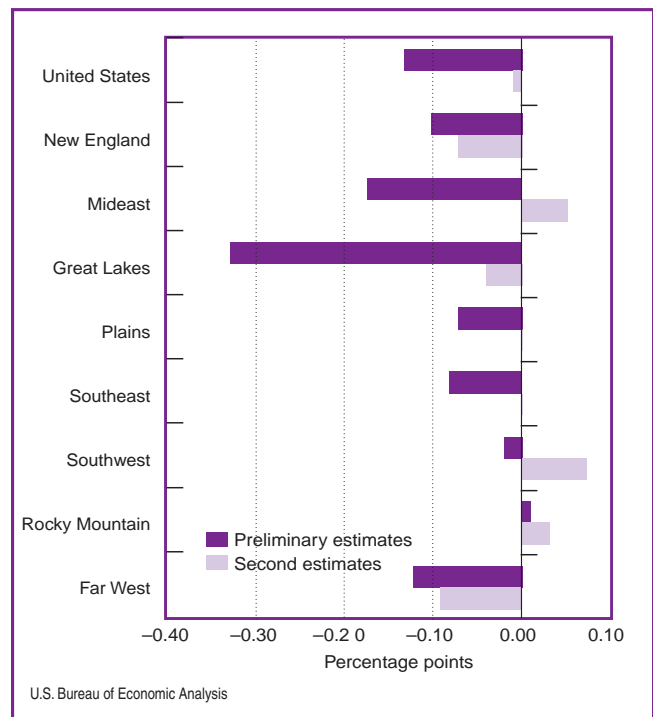


Chart 3. Mean Revisions to Wages and Salaries by Region: Latest Estimates Less Preliminary and Latest Estimates Less Second Estimates, 2002:I-2009:II



for some states in each region were offset by above-average downward revisions to the estimates for other states (charts 5 and 6).

Chart 4. Mean Revisions to Personal Income by Region: Latest Estimates Less Preliminary Estimates and Latest Estimates Less Second Estimates, 2002:I–2009:II

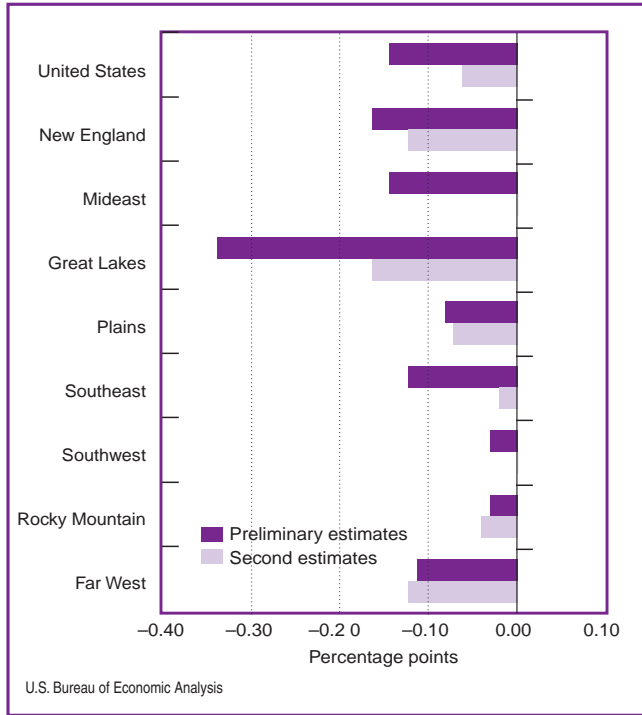


Chart 5. Mean Revisions to Personal Income for the Mideast Region: Latest Estimates Less Second Estimates, 2002:I–2009:II

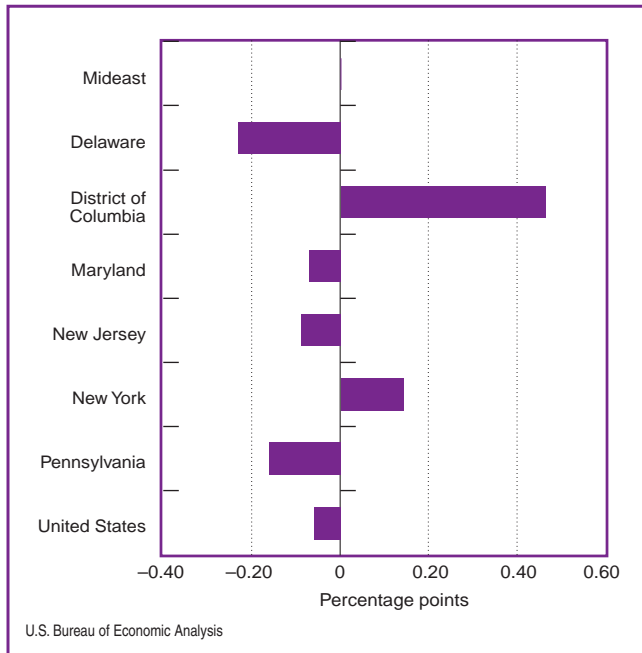
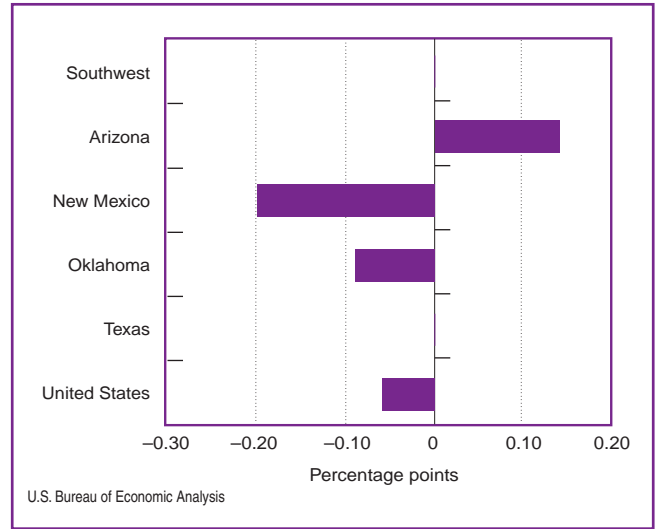


Chart 6. Mean Revisions to Personal Income for the Southwest Region: Latest Estimates Less Second Estimates, 2002:I–2009:II



Mean absolute revisions to the quarterly estimates

The mean absolute revisions to the preliminary and second quarterly estimates of personal income, non-farm personal income, and wages and salaries for the United States, the regions, and the states are presented in table 3.

The mean absolute revision from the preliminary estimates of personal income to the latest estimates for the United States was 0.57 percentage point, smaller than the mean absolute revision for 7 of the 8 BEA regions and for all but 11 states. Similarly, the regions generally had smaller mean absolute revisions than most of the states in their region. One notable exception was in the Southeast region, where seven of the twelve states had smaller mean absolute revisions than the region. Only eight other states had smaller mean absolute revisions than their regions.

The large mean absolute revisions to the preliminary and second estimates of personal income and nonfarm personal income to the latest estimates for the Southeast region and for Louisiana and Mississippi were primarily due to conceptual redefinitions of the impact of natural disasters on personal income from the 2009 NIPA comprehensive revision. As a result, the quarterly rates of change in the latest available estimates for the third quarter of 2005 and the fourth quarter of 2005 were much less volatile than they were in the preliminary and second estimates. When the estimates for these quarters were removed from this analysis, the mean absolute revisions from the preliminary estimates of personal income to the latest

estimates declined from 4.92 percentage points to only 0.70 percentage point for Louisiana, from 0.97 percentage point to 0.69 percentage point for Mississippi, and from 0.62 percentage point to only 0.47 percentage point for the Southeast region (chart 7). The revisions from the second estimates of personal income to the latest estimates were also smaller.

The unweighted average of the mean absolute revisions for the states from the preliminary estimates of personal income to the latest estimates was 0.82 percentage point; the mean absolute revisions for the states ranged from 0.49 in Hawaii to 4.92 in Louisiana.¹⁹ Only four other states—North Dakota, Wyoming, South Dakota, and Oklahoma—had mean absolute revisions larger than 1 percentage point; Iowa and Nevada had mean absolute revisions of 0.99 percentage point (table 3). Removing farm income sub-

stantially reduced the mean absolute revisions to the preliminary and second estimates of personal income in North Dakota, South Dakota, and Iowa as well as in other states where farming is important (charts 8 and 9).

The large mean absolute revisions to the three income measures in Wyoming reflect revisions to the components of personal income that are based on current state-level source data, such as wages and salaries, and revisions to the components for which state-level source data do not exist, especially property income (dividends, interest, and rent). Wages and salaries, which make up about 49 percent of personal income in Wyoming, fluctuate considerably, largely because of the high concentration of jobs related to the mining industry.²⁰ Earnings in this industry are sensitive to swings in commodity prices, especially in oil and gas.

19. The unweighted average of mean absolute revisions is without regard to the size of the state and is calculated by dividing the sum of the mean absolute revisions for all states by the number of states. The District of Columbia is included in all states for this purpose.

20. In Wyoming, mining earnings accounted for about 16 percent of total earnings in 2011, compared with about 1 percent for the United States, and many other ancillary industries, such as construction and professional services, are tied to mining.

Chart 7. Mean Absolute Revisions to Personal Income: United States, Southeast Region, and Louisiana and Mississippi

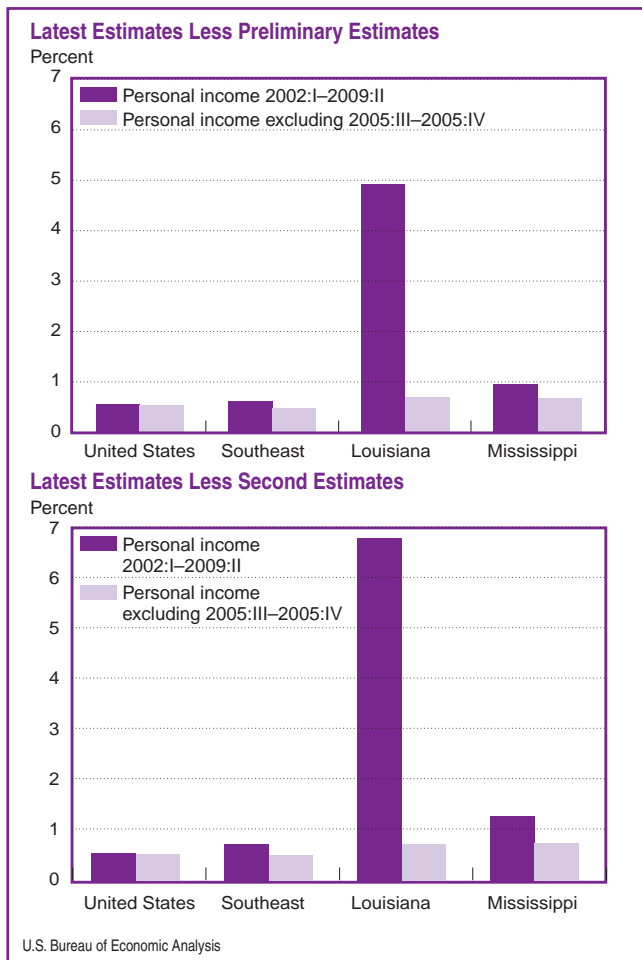
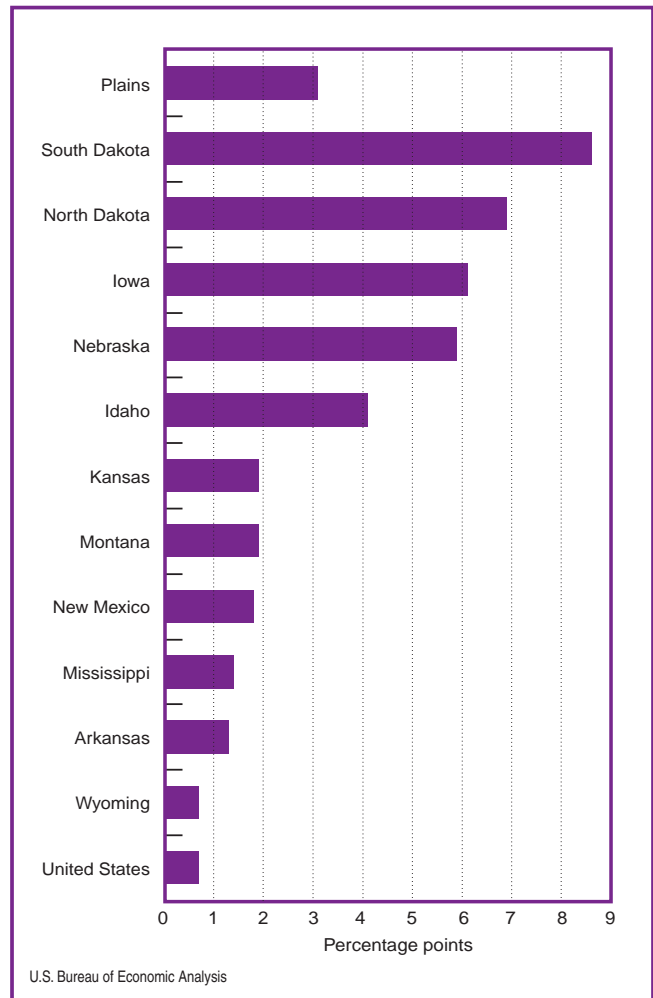


Chart 8. Farm Income as a Share of Personal Income for the Plains Region and Selected States, 2011



The employment sample from the CES is often unable to capture sudden changes in earnings; therefore, the preliminary estimates of wages and salaries are subject to more revisions. In addition, the relatively small and scattered population makes sampling difficult in Wyoming.

For Wyoming, the mean absolute revision from the second estimates of wages and salaries to the latest estimates was considerably smaller than the mean absolute revision to the preliminary estimates (chart 10). However, the revisions to the second estimates of the personal income, though smaller than the revisions to the preliminary estimates, were considerably larger than those for the nation. The preliminary and second estimates of personal income for Wyoming are subject to larger revisions than those for other states due to the importance of property income in this state. Property income as a share of personal income is about 24 per-

cent in Wyoming, about 8 percentage points more than for the nation and more than for any other state except Florida. Property income in Florida consists mainly of interest income, which does not tend to fluctuate as much. In contrast, in Wyoming, dividends represents a large and rapidly increasing share of personal income, and they are much more sensitive to changes in the business cycle. The preliminary and second estimates of the three components of property income are based on state-level source data that has up to a 2-year lag; therefore, they are inherently subject to considerable revisions.

The mean absolute revisions from the preliminary estimates of wages and salaries to the latest estimates were larger than the mean absolute revisions from the preliminary estimates of personal income to the latest estimates for five of the eight regions and for most states. The mean absolute revisions from the

Chart 9. Mean Absolute Revisions to Personal Income and Nonfarm Personal Income for the Plains Region and Selected States: Latest Estimates Less Preliminary Estimates: 2002:I-2009:II

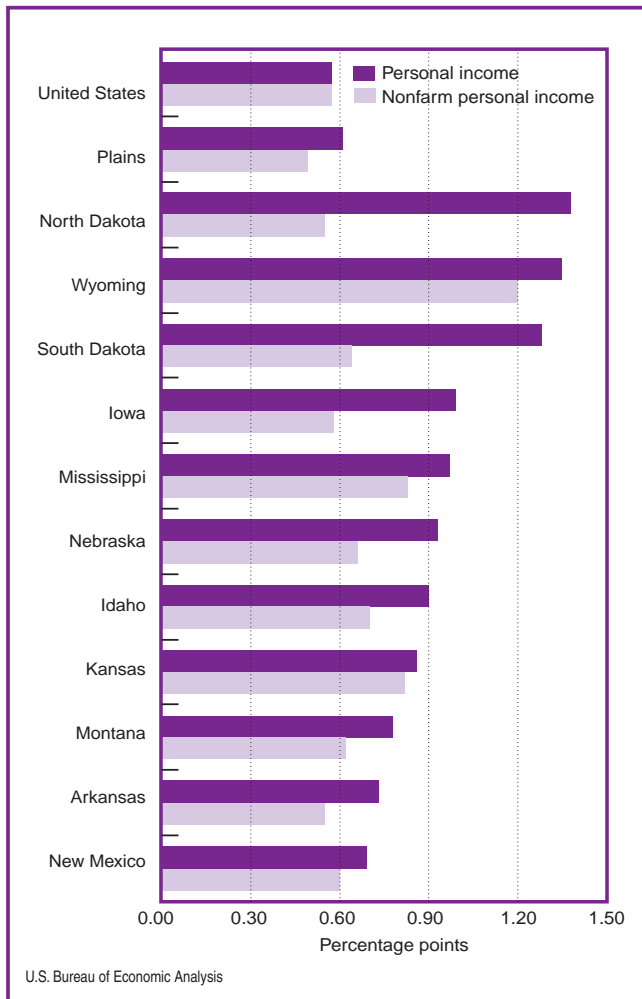
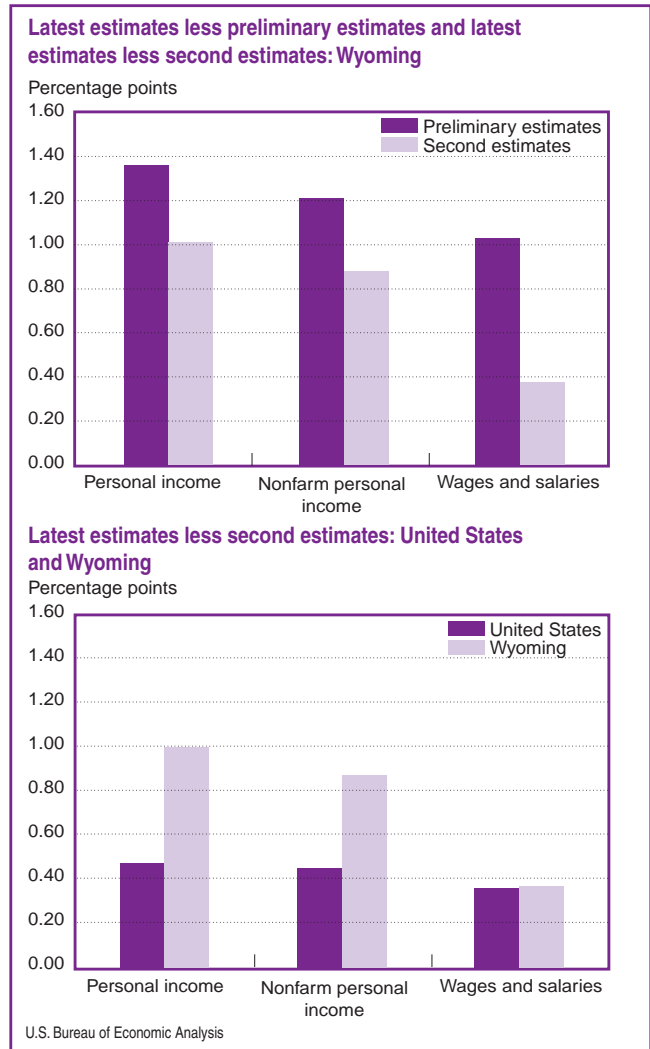


Chart 10. Mean Absolute Revisions to Personal Income, Nonfarm Personal Income, and Wages and Salaries, 2002:I-2009:II



preliminary estimates of wages and salaries to the latest estimates were also larger than the mean absolute revisions to the preliminary estimates of personal income for the nation. However, for the nation, the mean absolute revision to wages and salaries from the second estimates to the latest estimates was smaller than the mean absolute revision to the second estimates of personal income by about 0.11 percentage point.

The mean absolute revision from the second estimates of wages and salaries to the latest estimates was 0.36 percentage point for the United States. The unweighted average of the mean absolute revisions for the states in the second estimates of wages and salaries was 0.54 percentage point; the mean absolute revisions ranged from 0.34 percentage point for South Dakota to 1.30 percentage points for Connecticut. The Southeast and Far West regions were the only regions with mean absolute revisions smaller than the mean absolute revision for the nation. The Midwest region and the New England region had the largest mean absolute revisions, 0.65 percentage point each.

In addition, Connecticut, Delaware, and New York each had mean absolute revisions to the second estimates of wages and salaries that were above 1.00 percentage point. The finance and insurance industry is extremely important in these states, and wages in this industry are often volatile due to bonuses and other lump-sum payments (chart 11). These payments are captured in the QCEW data, but they are not identifiable, and because they are highly variable in the timing and magnitude, they can cause large changes in the seasonal factors.

The quarter-to-quarter percent change in BEA's latest available estimates of wages and salaries in the finance and insurance industry in New York are shown in chart 12. In 22 of the 30 quarters that were part of

this study, wages in the finance and insurance industry grew by 5 or more percentage points 13 times and declined by 5 or more percentage points 9 times. Wages grew by 10 or more percentage points 5 times and declined by 10 or more percentage points 3 times. The largest quarter-to-quarter increases tended to come in the first and second quarters, though so did the largest over the quarter declines. This pattern of large swings in wages illustrates the impact of lump-sum payments on this industry.

The mean absolute revisions and mean revisions from the preliminary estimates to the second estimates for the three income measures are shown in table 4. The mean absolute revisions and the mean revisions to

Chart 11. Finance and Insurance Wages as a Share of Total Wages for New York, Connecticut, and Delaware, 2011

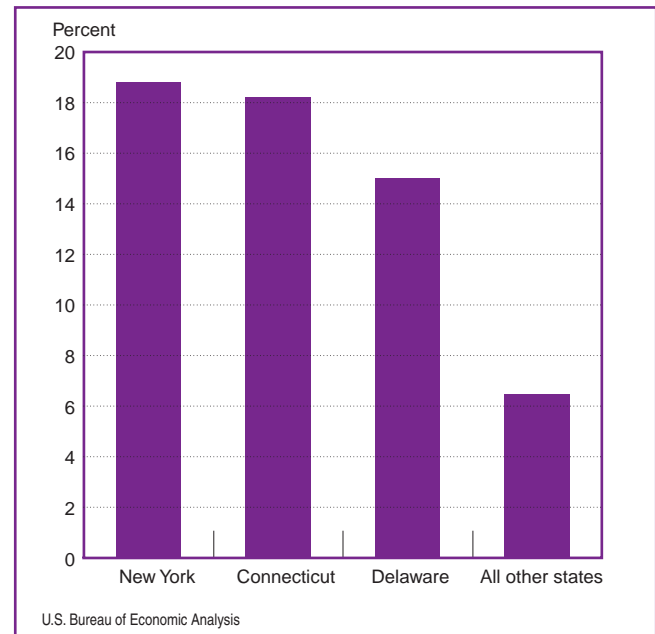
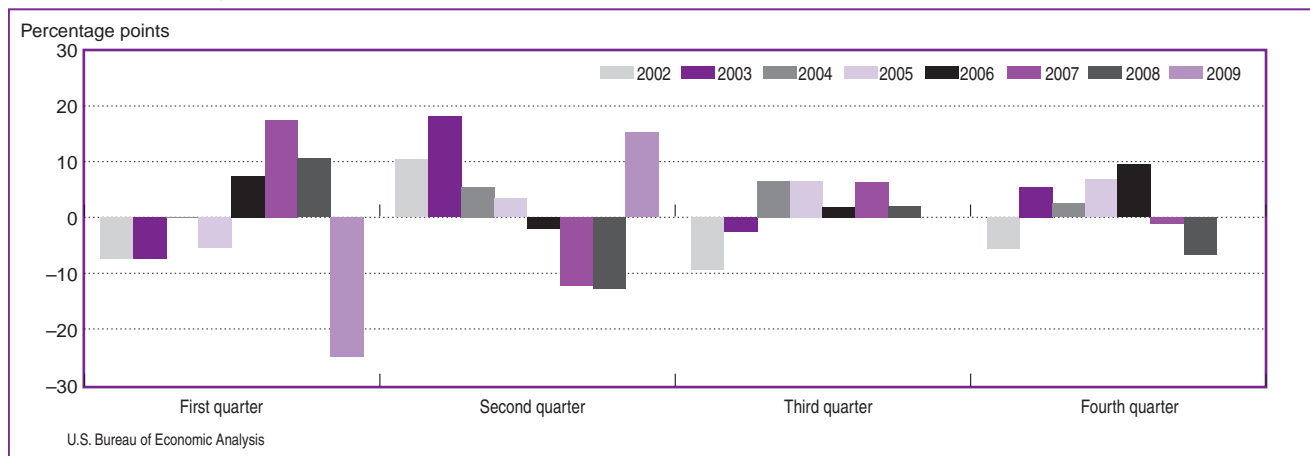


Chart 12. Quarter-to-Quarter Percent Change in New York Finance and Insurance Wages and Salaries: Latest Estimates, 2002:I–2009:II



the preliminary estimates of wages and salaries were larger than those to the preliminary estimates of personal income for the United States, for six BEA regions, and for most states (chart 13). The unweighted average of mean absolute revisions from the preliminary estimates to the second estimates of wages and salaries for the states was 0.86 percentage point, substantially larger than the 0.56 percentage point average mean absolute revision from the preliminary estimates to the second estimates of personal income. This reflects the fact that little new information besides the QCEW data is introduced at this time. Delaware and New York had the largest mean absolute revisions to wages and salaries—1.76 percentage points and 1.68 percentage points, respectively. These revisions were more than twice as large as the mean absolute revision for all states. West Virginia had a mean absolute revision of 0.56 percentage point, smaller than that for any other state.

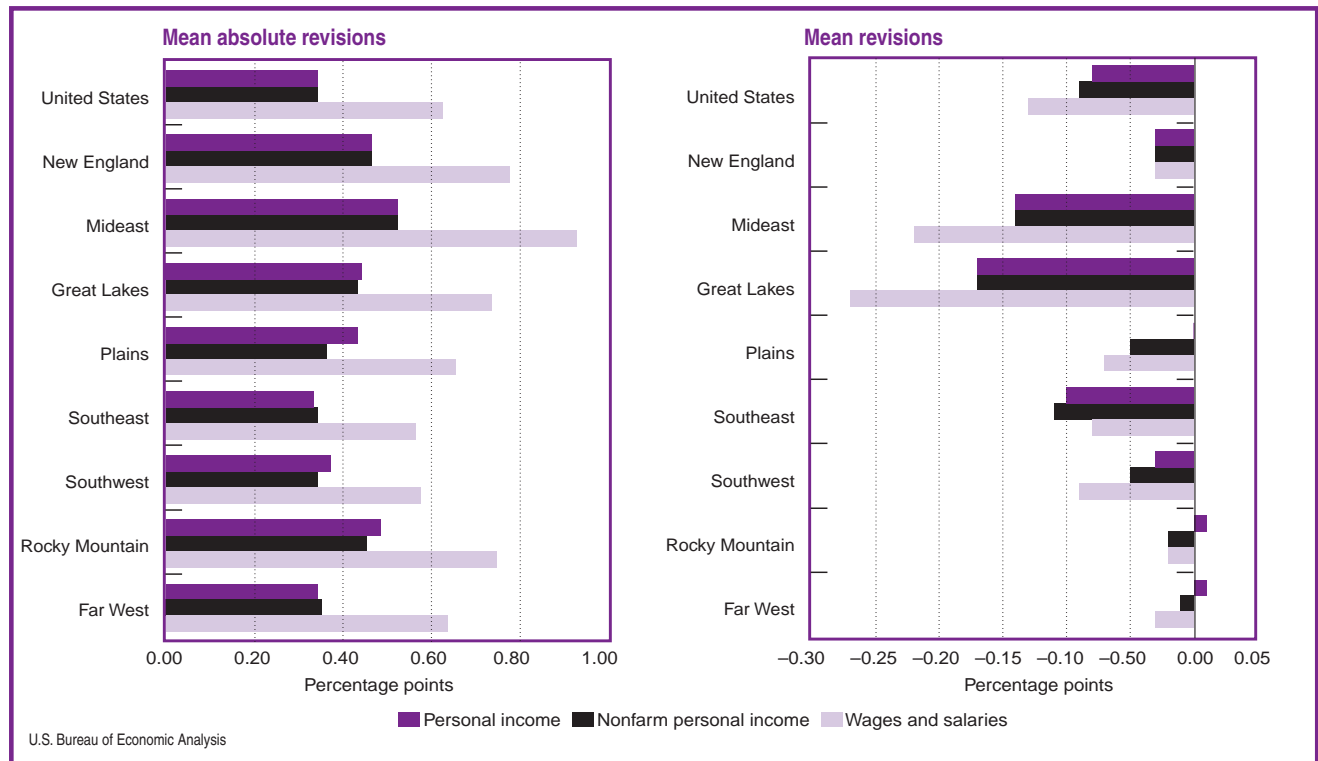
Revisions by quarters of the year

The mean absolute revisions from the preliminary estimates to the latest estimates for the three income measures are disaggregated into the revisions for the first quarters, those for the second quarters, those for the third quarters, and those for the fourth quarters in ta-

ble 5. For the nation and for most regions and states, the first-quarter mean absolute revisions for all three measures were larger than those for the other three quarters. This may be the result of the use of source data in the preliminary estimates that do not include lump-sum payments, which can be deferred or accelerated at the end of a calendar year to minimize the impact of changes in federal income tax laws. In addition, the first quarter is typically when changes in unemployment insurance tax laws become effective, and changes in the coverage of employees and in the definition of wages would appear in the QCEW wage reports.

Six regions and thirty-two states had mean absolute revisions to their preliminary estimates of personal income that were greater than or equal to 1.0 percentage point in the first quarter (chart 14). Only three states had mean absolute revisions to personal income for the second quarter that were larger than 1.0 percentage point; only three states for the third quarter and only six states for the fourth quarter had mean absolute revisions to personal income that were larger than 1.0 percentage point. In Louisiana, the large mean absolute revision to personal income for the third and fourth quarters reflects the impact of large revisions to the preliminary estimates for the third and fourth

Chart 13. Mean Absolute Revisions and Mean Revisions to Personal Income, Nonfarm Personal Income, and Wages and Salaries by Region: Second Estimates Less Preliminary Estimates, 2002:I–2009:II

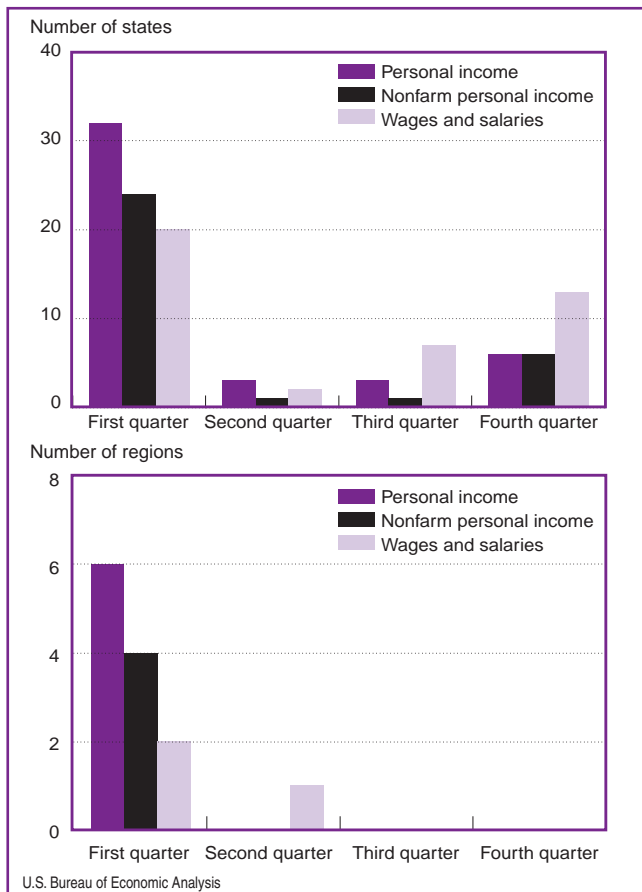


quarters of 2005 as a result of the conceptual changes to the treatment of disaster-related losses in the 2009 comprehensive revision of the NIPAs.

The mean absolute revisions to nonfarm personal income for the first quarters were larger than 1.0 percentage point in 24 states. Wyoming had mean absolute revisions greater than 1.0 percentage point for all quarters except the third quarter. Louisiana and Nevada were the only other states with mean absolute revisions greater than 1.0 in more than one quarter (each of these states had two quarters with a mean absolute revision greater than 1.0).

The mean absolute revision from the preliminary estimates of wages and salaries to the latest estimates for the nation was also largest in the first quarter. However, it was smaller than the mean absolute revision to personal income. Most states also had smaller mean absolute revisions to wages and salaries than to personal income in the first quarter; this pattern reversed itself in the second, third, and fourth quarters.

Chart 14. States and Regions with Mean Absolute Revisions Greater Than or Equal to 1.0 by Quarter: Latest Estimates Less Preliminary Estimates, 2002:I–2009:II



Revisions to quarters

The mean revisions and mean absolute revisions to all states for each quarter from the first quarter of 2002 to the second quarter of 2009 were examined in this study. Table 6 shows the mean revisions from the preliminary and second estimates to the latest estimates of each of the three income measures for all states by quarter. Table 7 shows the mean absolute revisions from the preliminary and second estimates to the latest estimates of each of the three income measures for all states by quarter. Table 8 shows the mean revisions and the mean absolute revisions from the preliminary estimates to the second estimates of each of the three income measures for all states by quarter.

The mean revision for all states by quarter is the average of the revisions to each of the three income measures for each quarter over the sample period for all states. It is defined as

$$MR Q^x = \Sigma(L - E) / n$$

The mean absolute revision for all states by quarter is the average (without regard to sign) of the revisions to each of the three income measures for each quarter over the sample period for all states. It is defined as

$$MAR Q^x = \Sigma|L - E| / n$$

For both measures, *E* is the percent change in the earlier vintage of estimates, and *L* is the percent change in the later estimates, usually the “latest available” estimates, and *n* is the number of observations in the sample period over which the mean is calculated. In this case, *n* is the number of states rather than quarters, and *x* is the referenced quarter.

The average mean absolute revision for the preliminary estimates of personal income for all states for each quarter between the first quarter of 2002 and the second quarter of 2009 was 0.82 percentage point, and the mean absolute revisions ranged from 0.32 percentage point in the fourth quarter of 2002 to 2.61 percentage points in the fourth quarter of 2005 (table 7). When farm income was removed, the average mean absolute revision to the preliminary estimates of personal income declined to 0.76 percentage point. In 5 of the 8 years studied, the largest mean absolute revisions were in the first quarter. In addition, of the six quarters that had average mean absolute revisions to the preliminary estimates of personal income greater than 1.0 percentage point, all were first quarters except the third and fourth quarters of 2005.

One of the reasons that the mean absolute revisions to the three income measures were larger in the first

quarter than in any other quarter is that the preliminary estimates for the first quarter were published in June, 18 months after the end of the referenced year of the last set of annual estimates to which the quarters are tied. This is the longest gap between the reference year for the last set of annual estimates and the preliminary estimates for a quarter. The fourth quarter estimates have the next longest gap.²¹ This affects all the components of personal income, especially those such as proprietors' income, property income, and transfer receipts that are based on trends in the latest state annual estimates.

A second reason for the tendency for the largest revisions to fall in the first quarters is that large bonuses and other lump-sum payments are often paid at this time, especially in industries and states such as the finance and insurance industry in New York. These payments sometimes shift from one quarter to another, or they are repeated over more than one quarter, or they may not be made at all.

The exceptionally large mean absolute revisions to the preliminary estimates of wages and salaries in the first quarter of 2009 illustrates the limitations of the CES survey as an indicator of wage and salary growth. The first quarter of 2009 was a period of rapid deterioration of the job market that immediately followed the 2008 financial crisis, and the CES survey was slow to capture the sharp downturn in employment and earnings. The initial national and state CES estimates of job losses were revised sharply in subsequent releases. Furthermore, since the CES estimates represented only a sample of employment and earnings, the full impact of shorter work weeks, lower average hourly earnings, and cancelled lump-sum payments, were not fully evident in BEA's national and state estimates of wages and salaries until the QCEW data was incorporated in the second vintage of estimates.

Additional Measures of Revisions

Range of revisions

The range of nine-tenths of the revisions to the quarterly state estimates of personal income from the preliminary estimates to the latest estimates was 2.0 percentage points for the nation, and it extended from -0.8 percentage point to 1.2 percentage points (see chart 15 on page 257). Hawaii, Alabama, Maryland, Tennessee, Virginia, California, and Maine had smaller ranges of revisions than those for the nation. Six states—Iowa, Idaho, Mississippi, Oklahoma, Louisiana, North Dakota, South Dakota, and Wyoming—

21. The quarterly state estimates are extrapolations of the annual state estimates, which lag the quarterly estimates by up to 18 months and are based on source data that lags by up to a year.

had revisions that ranged 3.5 percentage points or more from their lower bound to their upper bound. Farming in all of these states except Louisiana is important.

When farm income was removed, the range of revisions to the preliminary estimates of personal income for the nation declined to about 1.8 percentage points (see chart 16 on page 258). Four states—Mississippi, Louisiana, Wyoming, and Oklahoma—had revisions that ranged more than 3.5 percentage points from their lower bound to their upper bound. With farm income removed, the range of revisions to the preliminary estimates of personal income was 0.4 percentage point smaller in the Plains region and 3.9 percentage points smaller in South Dakota.

The ranges of revisions to the quarterly state estimates of wages and salaries from the preliminary estimates to the latest estimates were slightly larger than the ranges of revisions to personal income (see chart 17 on page 259). For the nation, the range of nine-tenths of the revisions from the preliminary estimates to the latest estimates was 2.4 percentage points, 0.4 percentage point higher than the range of revisions to personal income. The range of revisions to wages extends from -1.2 percentage points to 1.2 percentage points.

The ranges of revisions to the preliminary estimates of wages and salaries were larger than the range of revisions to personal income for the nation and for four regions (chart 18). The Mideast region had the largest range of revisions to the preliminary estimates of wages and salaries, followed by the New England region. The Southwest region had the largest range of revisions to personal income. Only the New England, Mideast, and Far West regions had ranges of revisions to the preliminary estimates of wages and salaries that were significantly larger than those to the preliminary estimates of personal income.

Recent Developments

In 2002, BEA began incorporating QCEW data into the NIPA estimates of wages and salaries for most private industries 5 months after the end of each quarter. Until then, the quarterly NIPA estimates were based on extrapolations using the CES data and were not updated until the annual revision in July. Because the state estimates of wages and salaries, which also incorporate QCEW data, are controlled to the NIPA national estimates of wages and salaries, this resulted in more accurate estimates at both the state and national level.

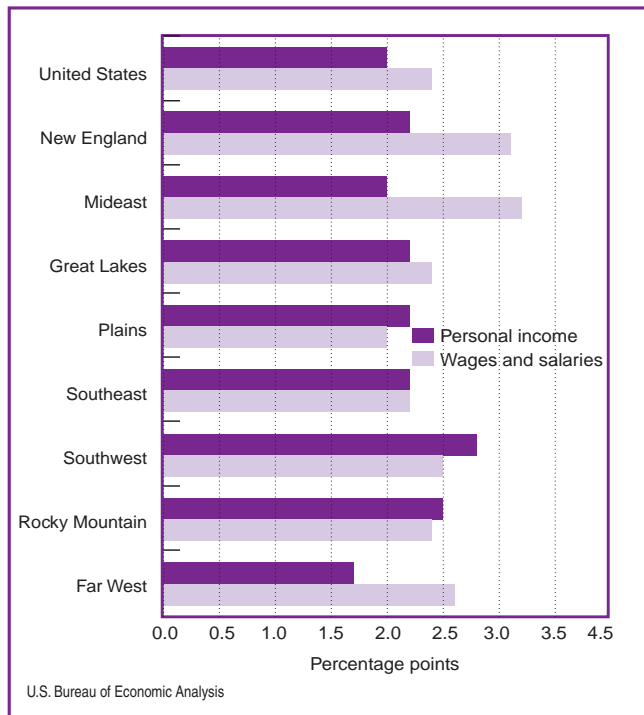
The second estimates of state personal income were also improved when BEA began updating its seasonal

factors used to prepare the quarterly state estimates of wages and salaries more frequently. Beginning in the second quarter of 2006, BEA began updating the seasonal factors used to adjust the QCEW wages on a concurrent basis. Until then, the seasonal factors were updated only twice a year when the annual state estimates were prepared. The seasonal factors are now recalculated each time new QCEW data are incorporated, and they are calculated using the most up to date information.²²

The preliminary and second quarterly state estimates of several components of personal income—nonfarm proprietors’ income, property income, and personal current transfer receipts—are based on extrapolations of the annual state estimates. Therefore, recent improvements to the sources and methods used to produce these estimates also contributed to more

22. Although some reduction in seasonal adjustment error appears to have been achieved in the current estimates through the use of concurrent seasonal adjustment, such errors still exist and therefore the seasonal factors are still subject to additional revision.

Chart 18. Range of Nine-Tenths of the Revisions to Personal Income and Wages and Salaries for United States and Regions: Latest Estimates Less Preliminary Estimates, 2002:I–2009:II



accurate quarterly state estimates. In addition, because the quarterly state estimates are controlled to the quarterly NIPA estimates, improvements to those estimates also resulted in more accurate state quarterly estimates.

In 2004, BEA accelerated the publication of its preliminary estimates of quarterly state personal income by 1 month with its release of the preliminary estimates for the first quarter of 2004. This effort to improve the timeliness of the estimates required BEA to use earlier vintages of source data, such as the CES and QCEW, than it had previously. Furthermore, the state estimates also had to be controlled to an earlier vintage of NIPA estimates that was also based on limited direct source data. Although there is always a tradeoff between timeliness and accuracy, BEA believes that the preliminary quarterly state estimates of personal income have struck an appropriate balance, as the magnitude of the revisions to the preliminary estimates tends to be small.

Looking Ahead

The revisions to the quarterly estimates of state personal income continue to be affected by lump-sum payments. Variable employee compensation plans—bonuses, stock grants and options, and profit-sharing plans—are increasingly common in many industries. The lack of data for these and other lump-sum payments to employees will continue to cause larger revisions in the preliminary estimates of wages and salaries than to the second estimates because these payments are included in the source data.

The incorporation of comprehensive revisions will continue to affect the ability to effectively study the revisions of the estimates of state personal income. Both definitional and statistical changes that will be incorporated in the 2013 comprehensive NIPA revision may change the quarterly growth rates in subsequent estimates of state personal income. The latest estimates may therefore differ significantly from the preliminary estimates because of the different methodologies or definitions used when the estimates are prepared.

Charts 15, 16, and 17, appendix A, and tables 1 through 8 follow.

Chart 15. Ranges of Two-Thirds and Nine-Tenths of the Revisions to Personal Income by Region and State: Latest Estimates Less Preliminary Estimates, 2002:I-2009:II

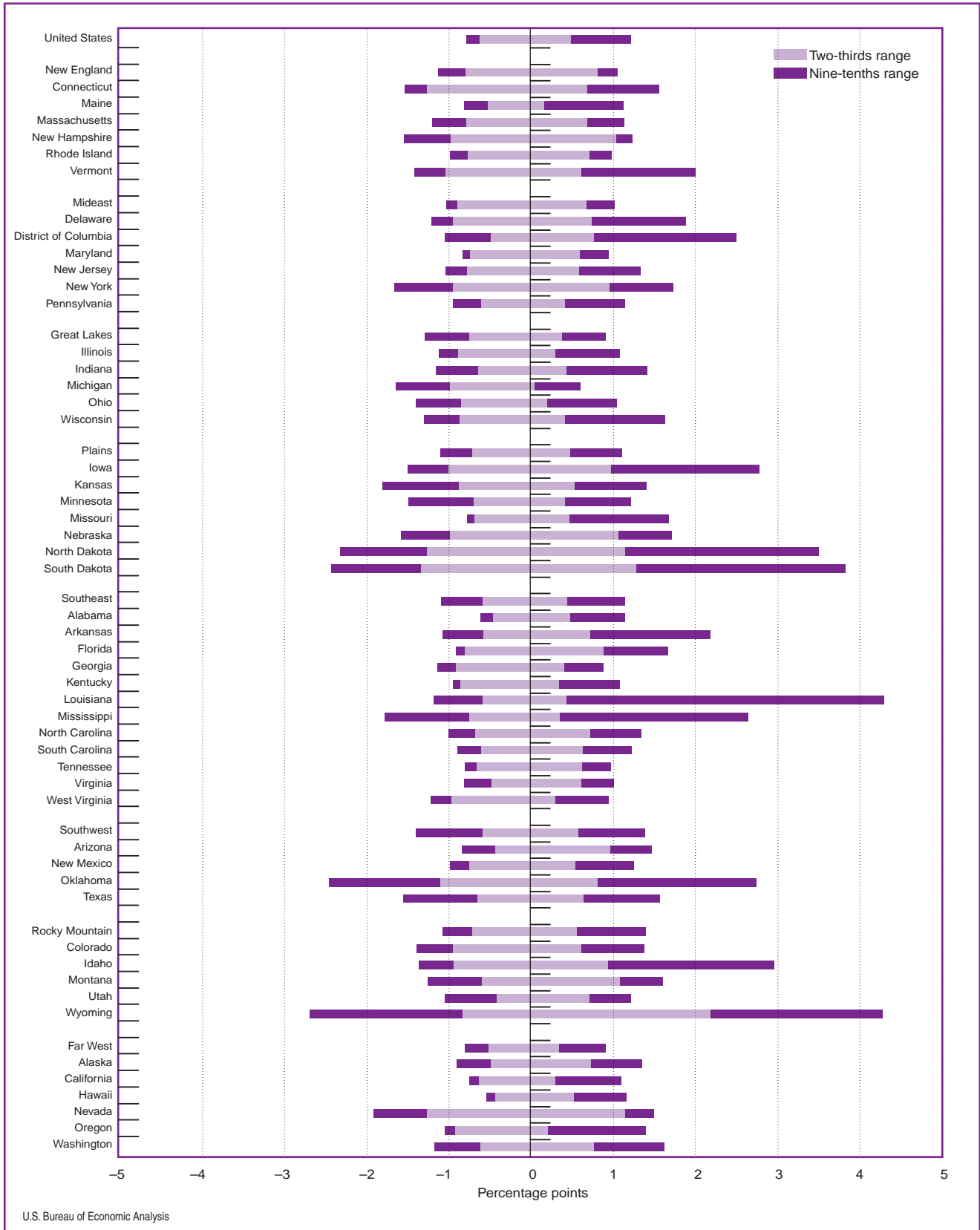


Chart 16. Ranges of Two-Thirds and Nine-Tenths of the Revisions to Nonfarm Personal Income by Region and State: Latest Estimates Less Preliminary Estimates, 2002:I–2009:II

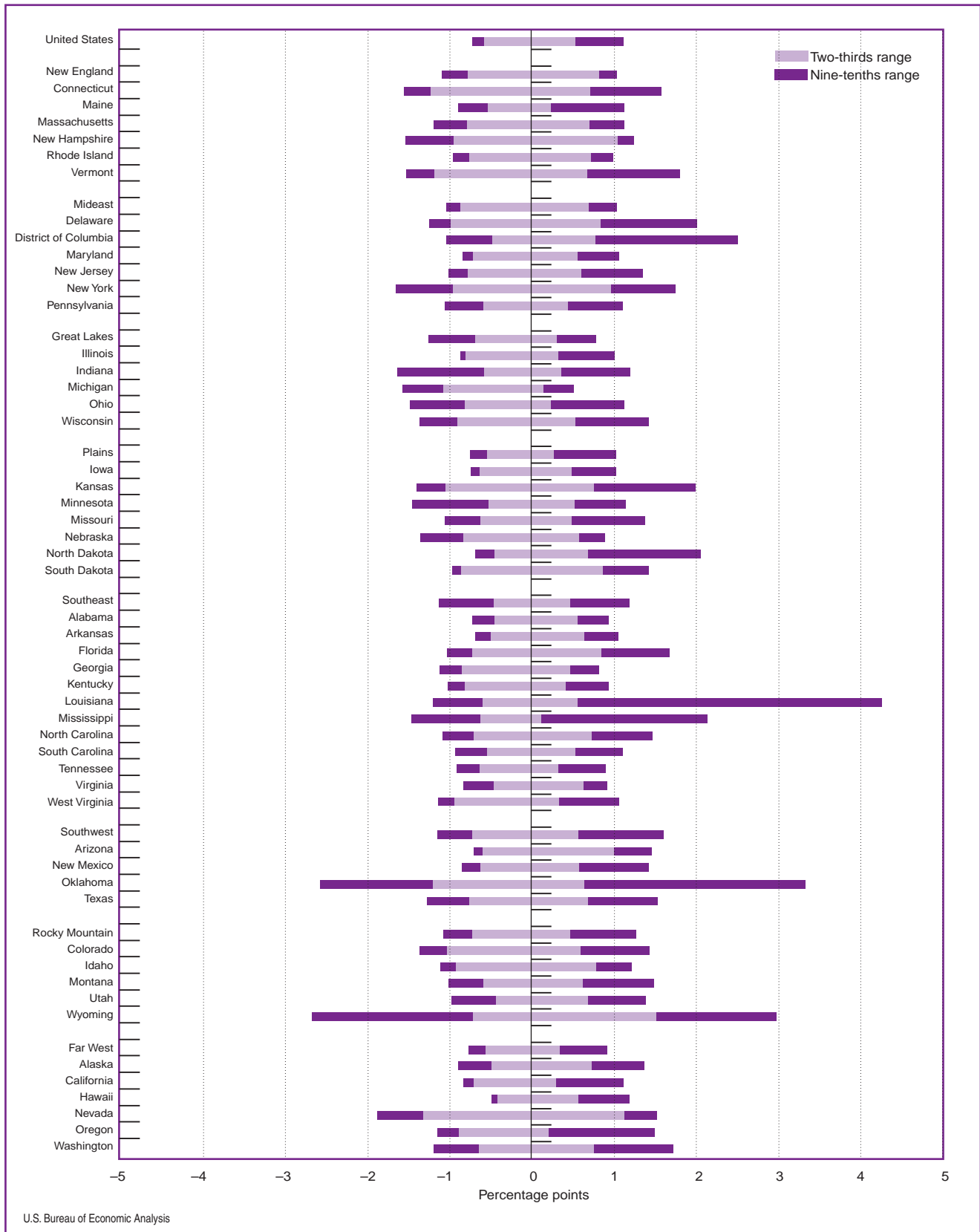
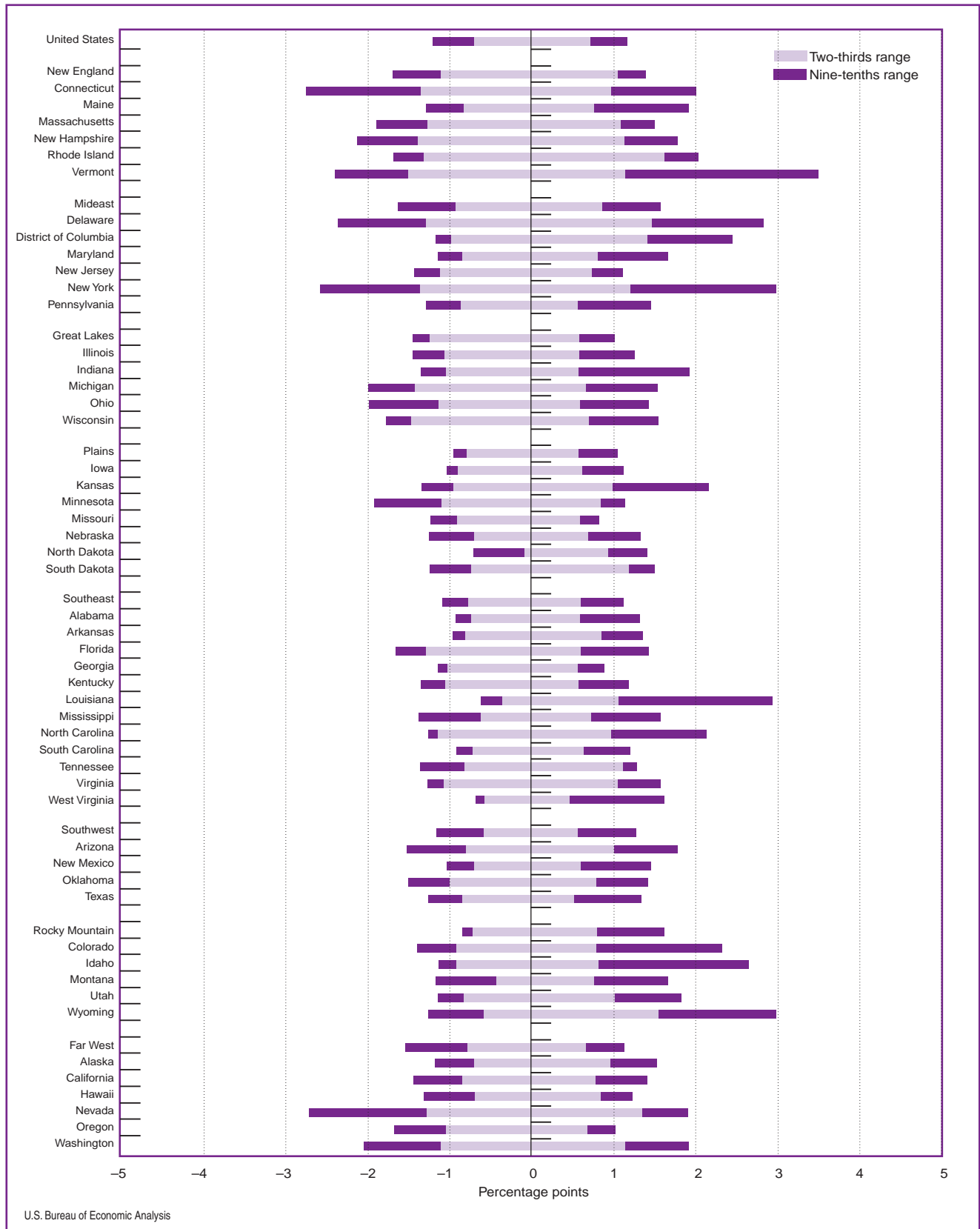


Chart 17. Ranges of Two-Thirds and Nine-Tenths of the Revisions to Wages and Salaries by Regions and State: Latest Estimates Less Preliminary Estimates, 2002:I–2009:II



Appendix A. Sources and Methods for the Quarterly and Annual Estimates of State Personal Income

Components	Extrapolators for preliminary quarterly estimates	Extrapolators for second quarterly estimates and interpolators for revised quarterly estimates	Annual estimates
Wage and salary disbursements by industry: ¹			
Farms	Trend extrapolation ²	Trend extrapolation ²	Economic Research Service (ERS)/U.S. Department of Agriculture (USDA) cash wages and perquisites; national income and product accounts (NIPA) totals and trend extrapolation
Forestry, fishing, and related activities	Trend extrapolation ²	Quarterly Census of Employment and Wages (QCEW)	Annualized QCEW, National Agricultural Statistics Service (NASS)/ USDA Census of Agriculture
Mining.....	Monthly employment data from the Current Employment Statistics (CES) survey	QCEW	Annualized QCEW
Utilities.....	CES	QCEW	Annualized QCEW
Construction	CES	QCEW	Annualized QCEW
Manufacturing:			
Durable goods	CES	QCEW	Annualized QCEW
Nondurable goods	CES	QCEW	Annualized QCEW
Wholesale trade	CES	QCEW	Annualized QCEW
Retail trade	CES	QCEW	Annualized QCEW
Transportation and warehousing excluding railroads	CES	QCEW	Annualized QCEW
Railroads	Quarterly national payrolls from the Department of Transportation (DOT); state employment from the Railroad Retirement Board (RRB)	DOT and RRB data	RRB data
Information	CES	QCEW	Annualized QCEW
Finance and insurance	CES	QCEW	Annualized QCEW
Real estate and rental and leasing.....	CES	QCEW	Annualized QCEW
Professional, scientific, and technical services	CES	QCEW	Annualized QCEW
Management of companies and enterprises	CES	QCEW	Annualized QCEW
Administrative and waste services	CES	QCEW	Annualized QCEW
Educational services	CES	QCEW	Annualized QCEW, Department of Education (DOE) data, various states' departments of education data, Official Catholic Directory, Bureau of Labor Statistics' (BLS) CPI
Health care and social assistance.....	CES	QCEW	Annualized QCEW
Arts, entertainment, and recreation.....	CES	QCEW	Annualized QCEW
Accommodation and food services	CES	QCEW	Annualized QCEW
Other services	CES	QCEW	Annualized QCEW, RRB, County Business Patterns (CBP)
Federal civilian	CES	CES	Annualized QCEW, federal budget data, Office of Personnel Management
Federal military:			
Active duty.....	Number of personnel and average pay by service from the Department of Defense (DOD) and payroll data from the Coast Guard	DOD number of personnel and average pay and Coast Guard payroll data	Individual military branch data, DOD budget documents
Reserves	Trend extrapolation ²	Trend extrapolation ²	Data from defense.mil, DOD fiscal year guard and reserve manpower strength and statistics data
State and local government	CES	QCEW	Annualized QCEW, Census of Government data, BLS PNC data
Supplements to wages and salaries: ¹			
Employer contributions for employee pensions and insurance benefits	Estimates of wages and salaries by industry	Estimates of wages and salaries by industry	Federal Railroad Administration, National Association of Insurance Commissioners, National Academy of Social Insurance, Census Bureau State and Local Retirement Systems Individual Unit File, miscellaneous state government comprehensive annual financial reports
Employer contributions for government social insurance.....	Estimates of wages and salaries by industry	Estimates of wages and salaries by industry	Current Population Survey, Occupational Employment Survey, Annualized QCEW, Census Bureau State Government Finances
Proprietors' income: ¹			
Farm proprietors' income	USDA estimates of farm cash receipts	USDA estimates of farm cash receipts	ERS state farm income data and Commodity Credit Corporation (CCC) loans, NASS Census of Agriculture and Agricultural Resource Management Survey, and NIPA national farm income, including farm housing and CCC loans
Nonfarm proprietors' income:			
Construction ³	Estimates of construction wages and salaries	Estimates of construction wages and salaries	Internal Revenue Service (IRS) gross receipts (less returns and allowances) and ordinary business income for partnerships and proprietors' data
All other industries	Trend extrapolation ²	Trend extrapolation ²	IRS gross receipts, business income for partnerships, and proprietors' data
Personal dividend income	Trend extrapolation ²	Trend extrapolation ²	IRS, Social Security Administration (SSA), and Census Bureau data
Personal interest income.....	Trend extrapolation ²	Trend extrapolation ²	IRS, SSA, and Census Bureau data
Rental income of persons	Trend extrapolation ²	Trend extrapolation ²	IRS, Census Bureau, and USDA data
Personal current transfer receipts:			
Unemployment insurance (UI) benefits	UI benefits from the Employment and Training Administration (ETA)	ETA UI benefits	ETA UI benefits data
Other	Trend extrapolation ²	Trend extrapolation ²	Data from the Center for Medicare and Medicaid (CMS), SSA, Census Bureau, DOD, Department of Veterans Affairs (DVA), USDA, IRS, Pension Benefits Guaranty Corporation, and DOE
Employee and self-employed contributions for government social insurance	Sum of the estimates of wages and salaries for all industries	Sum of the estimates of wages and salaries for all industries	Estimates of wages and salaries for the contributions by most employees; data from CMS, SSA, Census Bureau, DVA, and the State of California for contributions by others
Addendum: Residence adjustment ⁴	Estimates of wage and salary disbursements plus supplements to wages and salaries minus contributions for government social insurance ⁵	Estimates of wage and salary disbursements plus supplements to wages and salaries minus contributions for government social insurance ⁵	Estimates of wages and salaries by industry; Census Bureau and IRS data

1. The quarterly estimates of wages and salaries, supplements to wages and salaries, and proprietors' income are prepared at the sector level of the North American Industrial Classification System (NAICS) and the annual state estimates are prepared at the subsector level.

2. The trend extrapolation is based on the relationship between the annual state and the annual NIPA estimates.

3. The quarterly relative changes in the estimates of wages and salaries are used instead of the annual trends

in proprietors' income because the annual trend does not capture well the fluctuations of activity of the construction industry.

4. The residence adjustment is not a component of personal income.

5. Contributions for social insurance is comprised of both employer contributions and employee and self-employed contributions for government social insurance.

Table 1. Quarterly Estimates of State Personal Income: Percent of Estimates With Correct Indication of Change in Direction and Change of Pace From the Preceding Quarter, 2002:I–2009:II

	Percent with correct indication			
	Direction of change		Acceleration or deceleration from the previous quarter	
	Pre-liminary	Second	Pre-liminary	Second
United States	93	93	60	73
New England	87	87	63	70
Connecticut.....	83	73	63	50
Maine.....	90	90	70	83
Massachusetts.....	83	83	67	80
New Hampshire.....	80	80	70	80
Rhode Island.....	87	90	73	87
Vermont.....	97	90	77	83
Mideast	90	87	77	83
Delaware.....	83	80	67	77
District of Columbia.....	87	87	87	87
Maryland.....	90	93	80	87
New Jersey.....	93	93	67	67
New York.....	80	77	73	73
Pennsylvania.....	90	90	63	73
Great Lakes	90	87	77	83
Illinois.....	87	90	67	70
Indiana.....	90	90	77	77
Michigan.....	87	97	80	77
Ohio.....	90	90	70	87
Wisconsin.....	90	90	50	67
Plains	93	87	57	70
Iowa.....	93	87	53	60
Kansas.....	93	83	67	63
Minnesota.....	93	87	77	87
Missouri.....	90	93	60	67
Nebraska.....	90	83	63	60
North Dakota.....	83	83	63	70
South Dakota.....	83	80	57	57
Southeast	93	93	53	67
Alabama.....	97	100	77	83
Arkansas.....	90	93	57	47
Florida.....	100	97	83	90
Georgia.....	97	100	63	67
Kentucky.....	97	97	60	70
Louisiana.....	93	93	50	67
Mississippi.....	87	90	63	77
North Carolina.....	97	97	57	57
South Carolina.....	97	100	67	77
Tennessee.....	97	100	60	63
Virginia.....	90	97	70	73
West Virginia.....	93	97	50	57
Southwest	90	93	47	60
Arizona.....	100	97	90	93
New Mexico.....	90	93	60	67
Oklahoma.....	87	93	50	60
Texas.....	90	97	53	57
Rocky Mountain	93	93	67	80
Colorado.....	90	83	80	77
Idaho.....	90	87	67	80
Montana.....	93	90	53	63
Utah.....	100	93	67	70
Wyoming.....	90	93	60	73
Far West	97	93	70	90
Alaska.....	97	97	77	77
California.....	97	97	67	87
Hawaii.....	93	100	67	73
Nevada.....	93	87	73	87
Oregon.....	93	93	63	70
Washington.....	97	97	70	73

Table 2. Mean Revisions: Latest Estimates Less Preliminary and Second Estimates, 2002:I–2009:II

[Percentage points]

	Personal income		Nonfarm personal income		Wages and salaries	
	Pre-liminary	Second	Pre-liminary	Second	Pre-liminary	Second
United States	-0.14	-0.06	-0.15	-0.06	-0.13	-0.01
New England	-0.16	-0.12	-0.15	-0.12	-0.10	-0.07
Connecticut.....	-0.15	-0.12	-0.15	-0.12	-0.16	-0.18
Maine.....	-0.19	-0.17	-0.19	-0.16	-0.04	0.01
Massachusetts.....	-0.16	-0.10	-0.16	-0.10	-0.11	-0.01
New Hampshire.....	-0.16	-0.16	-0.15	-0.16	-0.07	-0.14
Rhode Island.....	-0.13	-0.24	-0.13	-0.24	0.20	-0.08
Vermont.....	-0.12	-0.03	-0.13	-0.02	-0.07	0.10
Mideast	-0.14	0.00	-0.14	0.00	-0.17	0.05
Delaware.....	-0.02	-0.23	-0.02	-0.17	0.07	-0.23
District of Columbia.....	0.30	0.46	0.30	0.46	0.20	0.41
Maryland.....	-0.07	-0.07	-0.07	-0.07	-0.02	-0.01
New Jersey.....	-0.27	-0.09	-0.27	-0.10	-0.30	-0.06
New York.....	-0.11	0.14	-0.11	0.14	-0.23	0.18
Pennsylvania.....	-0.15	-0.16	-0.15	-0.16	-0.10	-0.13
Great Lakes	-0.33	-0.16	-0.35	-0.18	-0.32	-0.04
Illinois.....	-0.23	-0.08	-0.25	-0.10	-0.23	-0.01
Indiana.....	-0.26	-0.14	-0.29	-0.16	-0.21	0.00
Michigan.....	-0.56	-0.27	-0.58	-0.29	-0.57	-0.10
Ohio.....	-0.33	-0.24	-0.35	-0.25	-0.30	-0.13
Wisconsin.....	-0.24	-0.04	-0.27	-0.06	-0.25	0.09
Plains	-0.08	-0.07	-0.13	-0.09	-0.07	0.00
Iowa.....	0.08	-0.13	-0.10	-0.13	-0.04	-0.08
Kansas.....	-0.14	-0.09	-0.13	-0.06	-0.06	0.06
Minnesota.....	-0.11	0.00	-0.18	-0.07	-0.14	0.03
Missouri.....	-0.12	-0.06	-0.15	-0.11	-0.10	-0.03
Nebraska.....	-0.07	-0.16	-0.13	-0.10	0.01	0.04
North Dakota.....	0.06	-0.13	0.15	-0.02	0.35	0.01
South Dakota.....	0.00	-0.24	-0.02	-0.06	0.05	-0.02
Southeast	-0.12	-0.02	-0.12	-0.01	-0.08	0.00
Alabama.....	-0.04	-0.13	-0.04	-0.08	0.07	-0.02
Arkansas.....	0.06	-0.13	0.14	0.02	0.20	-0.03
Florida.....	-0.05	0.08	-0.04	0.09	-0.19	0.07
Georgia.....	-0.19	-0.18	-0.21	-0.17	-0.24	-0.19
Kentucky.....	-0.22	-0.01	-0.24	-0.07	-0.13	-0.01
Louisiana.....	-2.15	-1.50	-2.17	-1.51	0.40	0.11
Mississippi.....	-0.29	-0.16	-0.28	-0.07	0.03	-0.02
North Carolina.....	-0.09	-0.02	-0.09	0.01	-0.12	0.08
South Carolina.....	-0.04	0.03	-0.04	0.02	0.00	0.13
Tennessee.....	-0.09	-0.18	-0.12	-0.22	-0.05	-0.13
Virginia.....	-0.04	0.06	-0.05	0.05	-0.06	0.03
West Virginia.....	-0.21	-0.19	-0.21	-0.21	-0.01	0.01
Southwest	-0.03	0.00	-0.02	0.03	-0.02	0.07
Arizona.....	0.14	0.14	0.14	0.16	0.06	0.09
New Mexico.....	-0.07	-0.20	-0.09	-0.14	0.06	0.01
Oklahoma.....	-0.14	-0.09	-0.15	-0.10	0.00	0.11
Texas.....	-0.05	0.00	-0.04	0.03	-0.04	0.07
Rocky Mountain	-0.03	-0.04	-0.05	-0.03	0.01	0.03
Colorado.....	-0.15	-0.04	-0.14	-0.04	-0.07	0.08
Idaho.....	0.12	-0.08	0.01	-0.05	0.08	-0.04
Montana.....	0.06	-0.08	0.00	-0.11	0.12	-0.10
Utah.....	0.05	0.00	0.05	0.00	0.03	-0.04
Wyoming.....	0.37	0.00	0.26	0.14	0.42	0.15
Far West	-0.11	-0.12	-0.12	-0.11	-0.12	-0.09
Alaska.....	0.13	0.24	0.13	0.25	0.07	0.12
California.....	-0.15	-0.17	-0.16	-0.15	-0.14	-0.12
Hawaii.....	0.10	0.13	0.11	0.13	0.00	0.06
Nevada.....	-0.02	0.02	-0.02	0.02	-0.11	-0.02
Oregon.....	-0.20	-0.13	-0.21	-0.12	-0.21	-0.01
Washington.....	0.06	0.03	0.05	0.04	-0.01	-0.02

Table 2A. Mean Revisions: Latest Estimates Less Preliminary and Second Estimates, 2002:I–2005:II and 2006:I–2009:II¹

[Percentage points]

	Personal income		Nonfarm personal income		Wages and salaries	
	Pre-liminary	Second	Pre-liminary	Second	Pre-liminary	Second
United States	-0.16	-0.10	-0.17	-0.10	-0.16	-0.04
New England	-0.20	-0.18	-0.20	-0.18	-0.12	-0.11
Connecticut.....	-0.21	-0.20	-0.21	-0.20	-0.20	-0.26
Maine.....	-0.20	-0.22	-0.20	-0.20	-0.03	-0.05
Massachusetts.....	-0.21	-0.16	-0.21	-0.16	-0.15	-0.06
New Hampshire.....	-0.17	-0.20	-0.17	-0.20	-0.04	-0.16
Rhode Island.....	-0.12	-0.25	-0.12	-0.25	0.23	-0.10
Vermont.....	-0.14	-0.06	-0.16	-0.05	-0.05	0.11
Mideast	-0.18	-0.04	-0.19	-0.05	-0.22	0.00
Delaware.....	-0.16	-0.31	-0.16	-0.26	-0.20	-0.40
District of Columbia.....	0.32	0.48	0.32	0.48	0.24	0.42
Maryland.....	-0.09	-0.08	-0.09	-0.09	-0.06	-0.02
New Jersey.....	-0.31	-0.15	-0.31	-0.15	-0.32	-0.11
New York.....	-0.18	0.09	-0.18	0.09	-0.32	0.11
Pennsylvania.....	-0.17	-0.19	-0.18	-0.20	-0.10	-0.16
Great Lakes	-0.33	-0.18	-0.36	-0.21	-0.30	-0.06
Illinois.....	-0.24	-0.10	-0.26	-0.12	-0.22	-0.03
Indiana.....	-0.27	-0.16	-0.30	-0.19	-0.20	-0.01
Michigan.....	-0.57	-0.30	-0.59	-0.33	-0.55	-0.12
Ohio.....	-0.34	-0.26	-0.37	-0.28	-0.30	-0.15
Wisconsin.....	-0.24	-0.06	-0.27	-0.09	-0.22	0.08
Plains	-0.05	-0.08	-0.15	-0.12	-0.07	-0.03
Iowa.....	0.13	-0.14	-0.10	-0.15	-0.02	-0.09
Kansas.....	-0.10	-0.09	-0.17	-0.10	-0.05	0.05
Minnesota.....	-0.10	-0.03	-0.19	-0.12	-0.13	-0.03
Missouri.....	-0.12	-0.06	-0.17	-0.12	-0.11	-0.05
Nebraska.....	-0.04	-0.16	-0.18	-0.14	-0.01	0.02
North Dakota.....	0.24	-0.03	0.14	-0.03	0.37	0.00
South Dakota.....	0.03	-0.25	-0.04	-0.09	0.08	-0.03
Southeast	-0.10	-0.05	-0.10	-0.04	-0.11	-0.02
Alabama.....	-0.05	-0.16	-0.05	-0.11	0.04	-0.05
Arkansas.....	0.05	-0.16	0.11	-0.02	0.19	-0.06
Florida.....	-0.07	0.05	-0.06	0.06	-0.18	0.05
Georgia.....	-0.25	-0.22	-0.27	-0.22	-0.29	-0.23
Kentucky.....	-0.22	-0.04	-0.25	-0.10	-0.11	-0.04
Louisiana.....	0.08	0.12	0.08	0.13	0.13	0.12
Mississippi.....	-0.22	-0.18	-0.18	-0.09	-0.10	-0.05
North Carolina.....	-0.10	-0.04	-0.10	-0.01	-0.12	0.05
South Carolina.....	-0.07	0.00	-0.06	-0.01	0.02	0.11
Tennessee.....	-0.13	-0.21	-0.15	-0.24	-0.08	-0.16
Virginia.....	-0.06	0.03	-0.06	0.02	-0.06	0.00
West Virginia.....	-0.24	-0.23	-0.24	-0.26	0.04	0.01
Southwest	-0.08	-0.03	-0.08	-0.01	-0.07	0.04
Arizona.....	0.12	0.10	0.12	0.12	0.03	0.05
New Mexico.....	-0.07	-0.23	-0.10	-0.16	0.08	0.01
Oklahoma.....	-0.20	-0.13	-0.22	-0.16	-0.05	0.08
Texas.....	-0.11	-0.04	-0.10	-0.01	-0.10	0.04
Rocky Mountain	-0.07	-0.08	-0.09	-0.07	0.00	0.02
Colorado.....	-0.18	-0.08	-0.17	-0.08	-0.05	0.08
Idaho.....	0.08	-0.13	-0.04	-0.10	0.05	-0.06
Montana.....	0.00	-0.11	-0.06	-0.16	0.11	-0.10
Utah.....	0.02	-0.02	0.01	-0.02	0.00	-0.05
Wyoming.....	0.20	-0.17	0.16	0.05	0.38	0.12
Far West	-0.15	-0.16	-0.16	-0.15	-0.14	-0.11
Alaska.....	0.09	0.20	0.09	0.20	0.07	0.11
California.....	-0.20	-0.21	-0.21	-0.19	-0.17	-0.13
Hawaii.....	0.11	0.13	0.11	0.12	0.01	0.06
Nevada.....	0.06	0.04	0.06	0.04	0.00	-0.01
Oregon.....	-0.22	-0.15	-0.23	-0.15	-0.20	-0.01
Washington.....	0.01	-0.06	0.00	-0.05	-0.03	-0.11

1. Revisions to the estimates for the third and fourth quarters of 2005 were excluded because of the conceptual redefinitions of the impact of disaster-related uninsured losses on personal income and nonfarm personal income from the 2009 comprehensive NIPA revision that primarily affected the estimates for the Southeast region and for Louisiana and Mississippi.

Table 3. Mean Absolute Revisions: Latest Estimates Less Preliminary and Second Estimates, 2002:I–2009:II
[Percentage points]

	Personal income		Nonfarm personal income		Wages and salaries	
	Pre-liminary	Second	Pre-liminary	Second	Pre-liminary	Second
United States	0.57	0.47	0.57	0.45	0.67	0.36
New England	0.68	0.57	0.68	0.57	0.90	0.65
Connecticut.....	0.85	1.00	0.85	1.00	1.04	1.30
Maine.....	0.52	0.45	0.51	0.45	0.81	0.55
Massachusetts.....	0.68	0.52	0.68	0.52	1.01	0.59
New Hampshire.....	0.84	0.56	0.83	0.56	1.22	0.47
Rhode Island.....	0.69	0.49	0.69	0.49	1.20	0.70
Vermont.....	0.79	0.56	0.82	0.56	1.23	0.60
Mideast	0.67	0.59	0.66	0.59	0.95	0.65
Delaware.....	0.73	0.84	0.78	0.78	1.38	1.19
District of Columbia.....	0.73	1.01	0.73	1.01	1.02	0.90
Maryland.....	0.51	0.47	0.51	0.47	0.75	0.39
New Jersey.....	0.72	0.65	0.72	0.64	0.86	0.65
New York.....	0.93	0.82	0.93	0.82	1.59	1.16
Pennsylvania.....	0.54	0.47	0.54	0.47	0.69	0.41
Great Lakes	0.62	0.44	0.61	0.42	0.77	0.37
Illinois.....	0.64	0.46	0.61	0.42	0.75	0.44
Indiana.....	0.69	0.56	0.66	0.49	0.84	0.43
Michigan.....	0.75	0.54	0.76	0.54	1.07	0.66
Ohio.....	0.60	0.46	0.60	0.46	0.80	0.40
Wisconsin.....	0.68	0.57	0.67	0.54	0.87	0.52
Plains	0.61	0.61	0.49	0.45	0.54	0.42
Iowa.....	0.99	0.96	0.58	0.49	0.62	0.50
Kansas.....	0.86	0.80	0.82	0.66	0.88	0.55
Minnesota.....	0.61	0.63	0.59	0.60	0.78	0.62
Missouri.....	0.62	0.49	0.58	0.46	0.76	0.48
Nebraska.....	0.93	0.95	0.66	0.48	0.65	0.37
North Dakota.....	1.38	1.52	0.55	0.43	0.61	0.52
South Dakota.....	1.28	1.22	0.64	0.49	0.79	0.34
Southeast	0.62	0.63	0.61	0.60	0.60	0.34
Alabama.....	0.52	0.56	0.47	0.46	0.59	0.48
Arkansas.....	0.73	0.61	0.55	0.38	0.74	0.40
Florida.....	0.74	0.68	0.75	0.68	0.83	0.47
Georgia.....	0.53	0.49	0.50	0.49	0.67	0.55
Kentucky.....	0.55	0.57	0.54	0.54	0.67	0.42
Louisiana.....	4.92	5.87	4.95	5.88	0.75	0.44
Mississippi.....	0.97	1.10	0.83	1.04	0.69	0.51
North Carolina.....	0.68	0.60	0.67	0.54	0.96	0.59
South Carolina.....	0.56	0.44	0.52	0.42	0.65	0.40
Tennessee.....	0.57	0.40	0.56	0.40	0.78	0.40
Virginia.....	0.54	0.49	0.54	0.49	0.78	0.46
West Virginia.....	0.55	0.54	0.54	0.53	0.54	0.37
Southwest	0.73	0.59	0.73	0.60	0.59	0.37
Arizona.....	0.62	0.51	0.65	0.54	0.79	0.47
New Mexico.....	0.69	0.62	0.60	0.56	0.61	0.54
Oklahoma.....	1.13	0.98	1.13	0.92	0.86	0.61
Texas.....	0.76	0.62	0.77	0.63	0.61	0.41
Rocky Mountain	0.63	0.50	0.58	0.53	0.67	0.39
Colorado.....	0.68	0.59	0.71	0.61	0.84	0.53
Idaho.....	0.90	0.78	0.70	0.55	0.91	0.39
Montana.....	0.78	0.77	0.62	0.62	0.68	0.54
Utah.....	0.59	0.51	0.58	0.49	0.74	0.51
Wyoming.....	1.35	1.00	1.20	0.87	1.02	0.37
Far West	0.51	0.42	0.52	0.43	0.72	0.35
Alaska.....	0.64	0.64	0.63	0.64	0.65	0.49
California.....	0.56	0.44	0.56	0.44	0.77	0.40
Hawaii.....	0.49	0.41	0.48	0.40	0.67	0.39
Nevada.....	0.99	0.57	0.98	0.56	1.14	0.56
Oregon.....	0.60	0.55	0.59	0.52	0.77	0.35
Washington.....	0.74	0.62	0.73	0.60	1.05	0.57

Table 3A. Mean Absolute Revisions: Latest Estimates Less Preliminary and Second Estimates, 2002:I–2005:II and 2006:I–2009:II¹
[Percentage points]

	Personal income		Nonfarm personal income		Wages and salaries	
	Pre-liminary	Second	Pre-liminary	Second	Pre-liminary	Second
United States	0.54	0.45	0.54	0.44	0.69	0.36
New England	0.70	0.56	0.69	0.56	0.92	0.65
Connecticut.....	0.86	1.00	0.86	1.00	1.08	1.32
Maine.....	0.55	0.46	0.55	0.45	0.86	0.53
Massachusetts.....	0.68	0.50	0.68	0.50	1.00	0.58
New Hampshire.....	0.88	0.57	0.88	0.57	1.26	0.50
Rhode Island.....	0.71	0.51	0.71	0.51	1.24	0.71
Vermont.....	0.81	0.57	0.84	0.57	1.23	0.61
Mideast	0.68	0.59	0.68	0.59	0.98	0.64
Delaware.....	0.65	0.82	0.69	0.75	1.21	1.13
District of Columbia.....	0.75	1.06	0.75	1.06	1.05	0.91
Maryland.....	0.53	0.50	0.53	0.49	0.77	0.41
New Jersey.....	0.74	0.64	0.74	0.64	0.87	0.64
New York.....	0.94	0.82	0.94	0.82	1.63	1.15
Pennsylvania.....	0.56	0.48	0.56	0.48	0.72	0.42
Great Lakes	0.64	0.46	0.62	0.44	0.78	0.38
Illinois.....	0.67	0.49	0.62	0.44	0.75	0.46
Indiana.....	0.72	0.57	0.67	0.51	0.87	0.43
Michigan.....	0.77	0.56	0.78	0.56	1.09	0.68
Ohio.....	0.63	0.47	0.64	0.48	0.83	0.39
Wisconsin.....	0.67	0.59	0.67	0.55	0.86	0.54
Plains	0.61	0.62	0.49	0.45	0.53	0.42
Iowa.....	1.02	1.00	0.59	0.51	0.59	0.53
Kansas.....	0.84	0.78	0.83	0.66	0.87	0.56
Minnesota.....	0.61	0.66	0.60	0.59	0.77	0.61
Missouri.....	0.64	0.51	0.60	0.47	0.79	0.49
Nebraska.....	0.91	0.92	0.68	0.48	0.67	0.37
North Dakota.....	1.30	1.48	0.57	0.44	0.64	0.52
South Dakota.....	1.30	1.27	0.65	0.49	0.78	0.35
Southeast	0.47	0.44	0.46	0.41	0.62	0.34
Alabama.....	0.52	0.55	0.47	0.43	0.60	0.49
Arkansas.....	0.76	0.63	0.55	0.37	0.77	0.39
Florida.....	0.77	0.69	0.77	0.70	0.83	0.48
Georgia.....	0.53	0.49	0.49	0.48	0.68	0.57
Kentucky.....	0.55	0.59	0.54	0.55	0.67	0.43
Louisiana.....	0.70	0.63	0.71	0.61	0.51	0.43
Mississippi.....	0.69	0.64	0.55	0.54	0.60	0.51
North Carolina.....	0.70	0.62	0.70	0.55	1.01	0.60
South Carolina.....	0.57	0.43	0.53	0.41	0.67	0.41
Tennessee.....	0.57	0.40	0.55	0.40	0.78	0.39
Virginia.....	0.55	0.49	0.55	0.50	0.79	0.46
West Virginia.....	0.58	0.55	0.56	0.54	0.54	0.37
Southwest	0.73	0.60	0.73	0.60	0.58	0.36
Arizona.....	0.63	0.50	0.66	0.54	0.77	0.45
New Mexico.....	0.68	0.65	0.60	0.59	0.61	0.57
Oklahoma.....	1.17	1.01	1.14	0.94	0.87	0.61
Texas.....	0.75	0.63	0.76	0.63	0.60	0.40
Rocky Mountain	0.63	0.50	0.58	0.53	0.66	0.40
Colorado.....	0.70	0.61	0.71	0.63	0.83	0.54
Idaho.....	0.92	0.79	0.69	0.54	0.94	0.40
Montana.....	0.77	0.74	0.61	0.62	0.68	0.55
Utah.....	0.58	0.53	0.58	0.51	0.75	0.53
Wyoming.....	1.24	0.91	1.16	0.84	1.01	0.36
Far West	0.52	0.42	0.53	0.42	0.74	0.35
Alaska.....	0.63	0.63	0.63	0.60	0.60	0.47
California.....	0.56	0.44	0.56	0.44	0.77	0.42
Hawaii.....	0.52	0.41	0.51	0.40	0.70	0.37
Nevada.....	0.98	0.59	0.97	0.58	1.11	0.58
Oregon.....	0.59	0.57	0.59	0.54	0.73	0.36
Washington.....	0.74	0.57	0.73	0.54	1.04	0.53

1. Revisions to the estimates for the third and fourth quarters of 2005 were excluded because of the conceptual redefinitions of the impact of disaster-related uninsured losses on personal income and nonfarm personal income from the 2009 comprehensive NIPA revision that primarily affected the estimates for the Southeast region and for Louisiana and Mississippi.

Table 4. Mean Absolute Revisions and Mean Revisions: Second Estimates Less Preliminary Estimates, 2002:I–2009:II
[Percentage points]

	Mean absolute revision			Mean revision		
	Personal income	Nonfarm personal income	Wages and salaries	Personal income	Nonfarm personal income	Wages and salaries
United States	0.34	0.34	0.62	-0.08	-0.09	-0.13
New England	0.46	0.46	0.77	-0.03	-0.03	-0.03
Connecticut.....	0.67	0.67	1.10	-0.03	-0.02	0.02
Maine.....	0.42	0.42	0.84	-0.02	-0.03	-0.04
Massachusetts.....	0.53	0.53	0.91	-0.06	-0.06	-0.10
New Hampshire.....	0.56	0.56	0.99	0.01	0.01	0.07
Rhode Island.....	0.56	0.56	1.23	0.11	0.11	0.28
Vermont.....	0.65	0.68	1.20	-0.09	-0.11	-0.17
Mideast	0.52	0.52	0.92	-0.14	-0.14	-0.22
Delaware.....	0.99	0.98	1.76	0.20	0.16	0.30
District of Columbia.....	0.76	0.76	1.14	-0.17	-0.17	-0.21
Maryland.....	0.40	0.40	0.77	0.00	0.00	-0.01
New Jersey.....	0.56	0.56	0.97	-0.17	-0.17	-0.24
New York.....	0.87	0.87	1.68	-0.25	-0.25	-0.41
Pennsylvania.....	0.41	0.40	0.77	0.01	0.01	0.03
Great Lakes	0.44	0.43	0.73	-0.17	-0.17	-0.27
Illinois.....	0.49	0.45	0.76	-0.15	-0.15	-0.22
Indiana.....	0.51	0.49	0.86	-0.13	-0.12	-0.20
Michigan.....	0.66	0.67	1.11	-0.29	-0.29	-0.47
Ohio.....	0.44	0.44	0.78	-0.09	-0.10	-0.17
Wisconsin.....	0.49	0.51	0.84	-0.20	-0.20	-0.34
Plains	0.43	0.36	0.65	0.00	-0.05	-0.07
Iowa.....	0.57	0.37	0.70	0.21	0.03	0.05
Kansas.....	0.57	0.49	0.86	-0.05	-0.07	-0.11
Minnesota.....	0.60	0.58	0.90	-0.11	-0.11	-0.16
Missouri.....	0.47	0.44	0.83	-0.06	-0.05	-0.07
Nebraska.....	0.52	0.36	0.65	0.09	-0.03	-0.03
North Dakota.....	1.09	0.46	0.87	0.18	0.16	0.34
South Dakota.....	0.75	0.38	0.68	0.24	0.03	0.07
Southeast	0.33	0.34	0.56	-0.10	-0.11	-0.08
Alabama.....	0.35	0.33	0.59	0.09	0.04	0.09
Arkansas.....	0.44	0.34	0.70	0.19	0.12	0.22
Florida.....	0.39	0.40	0.77	-0.13	-0.13	-0.25
Georgia.....	0.46	0.45	0.73	-0.01	-0.03	-0.05
Kentucky.....	0.47	0.46	0.68	-0.21	-0.17	-0.12
Louisiana.....	1.32	1.34	0.82	-0.65	-0.66	0.29
Mississippi.....	0.60	0.53	0.67	-0.12	-0.21	0.05
North Carolina.....	0.56	0.61	1.00	-0.07	-0.11	-0.21
South Carolina.....	0.40	0.39	0.71	-0.08	-0.07	-0.13
Tennessee.....	0.35	0.34	0.71	0.09	0.10	0.08
Virginia.....	0.48	0.48	0.80	-0.10	-0.09	-0.10
West Virginia.....	0.27	0.27	0.56	-0.02	0.00	-0.02
Southwest	0.37	0.34	0.57	-0.03	-0.05	-0.09
Arizona.....	0.47	0.46	0.76	0.01	-0.01	-0.03
New Mexico.....	0.52	0.46	0.77	0.14	0.04	0.04
Oklahoma.....	0.53	0.47	0.88	-0.06	-0.04	-0.11
Texas.....	0.40	0.36	0.60	-0.05	-0.06	-0.11
Rocky Mountain	0.48	0.45	0.74	0.01	-0.02	-0.02
Colorado.....	0.61	0.61	0.99	-0.11	-0.10	-0.15
Idaho.....	0.62	0.45	0.78	0.20	0.06	0.12
Montana.....	0.60	0.47	0.85	0.14	0.11	0.21
Utah.....	0.53	0.51	0.78	0.05	0.05	0.07
Wyoming.....	0.74	0.50	0.91	0.38	0.13	0.27
Far West	0.34	0.35	0.63	0.01	-0.01	-0.03
Alaska.....	0.51	0.51	0.71	-0.12	-0.12	-0.06
California.....	0.36	0.38	0.67	0.02	-0.01	-0.02
Hawaii.....	0.43	0.42	0.70	-0.03	-0.02	-0.06
Nevada.....	0.69	0.69	1.20	-0.04	-0.04	-0.09
Oregon.....	0.35	0.35	0.65	-0.07	-0.08	-0.20
Washington.....	0.55	0.53	0.86	0.02	0.02	0.01

Table 4A. Mean Absolute Revisions and Mean Revisions: Second Estimates Less Preliminary Estimates, 2002:I–2005:II and 2006:I–2009:II¹
[Percentage points]

	Mean absolute revision			Mean revision		
	Personal income	Nonfarm personal income	Wages and salaries	Personal income	Nonfarm personal income	Wages and salaries
United States	0.34	0.35	0.62	-0.06	-0.08	-0.12
New England	0.46	0.46	0.77	-0.02	-0.02	-0.01
Connecticut.....	0.66	0.66	1.10	-0.01	-0.01	0.06
Maine.....	0.42	0.41	0.84	0.01	0.00	0.02
Massachusetts.....	0.54	0.53	0.93	-0.06	-0.06	-0.09
New Hampshire.....	0.56	0.57	1.00	0.03	0.03	0.11
Rhode Island.....	0.59	0.59	1.30	0.13	0.13	0.33
Vermont.....	0.64	0.66	1.18	-0.08	-0.11	-0.16
Mideast	0.53	0.54	0.96	-0.14	-0.14	-0.22
Delaware.....	1.00	0.99	1.77	0.15	0.10	0.20
District of Columbia.....	0.76	0.76	1.13	-0.16	-0.16	-0.19
Maryland.....	0.41	0.41	0.80	-0.01	-0.01	-0.03
New Jersey.....	0.57	0.57	0.98	-0.16	-0.15	-0.20
New York.....	0.91	0.91	1.76	-0.26	-0.26	-0.43
Pennsylvania.....	0.42	0.42	0.80	0.02	0.02	0.06
Great Lakes	0.43	0.43	0.73	-0.16	-0.15	-0.25
Illinois.....	0.50	0.45	0.77	-0.14	-0.13	-0.19
Indiana.....	0.50	0.49	0.86	-0.12	-0.11	-0.18
Michigan.....	0.66	0.67	1.11	-0.27	-0.26	-0.43
Ohio.....	0.45	0.45	0.80	-0.08	-0.09	-0.16
Wisconsin.....	0.47	0.50	0.82	-0.18	-0.18	-0.31
Plains	0.43	0.36	0.65	0.03	-0.03	-0.04
Iowa.....	0.57	0.35	0.68	0.27	0.05	0.08
Kansas.....	0.57	0.49	0.87	-0.01	-0.07	-0.10
Minnesota.....	0.59	0.56	0.88	-0.07	-0.07	-0.10
Missouri.....	0.49	0.47	0.88	-0.06	-0.05	-0.07
Nebraska.....	0.53	0.38	0.69	0.12	-0.03	-0.02
North Dakota.....	1.09	0.48	0.90	0.27	0.17	0.37
South Dakota.....	0.77	0.37	0.66	0.28	0.05	0.11
Southeast	0.29	0.31	0.57	-0.05	-0.06	-0.09
Alabama.....	0.35	0.33	0.63	0.10	0.06	0.09
Arkansas.....	0.46	0.36	0.74	0.21	0.13	0.25
Florida.....	0.38	0.39	0.75	-0.13	-0.12	-0.24
Georgia.....	0.48	0.46	0.76	-0.03	-0.05	-0.07
Kentucky.....	0.46	0.46	0.68	-0.19	-0.15	-0.07
Louisiana.....	0.33	0.33	0.58	-0.04	-0.05	0.01
Mississippi.....	0.44	0.33	0.61	-0.03	-0.08	-0.05
North Carolina.....	0.58	0.63	1.03	-0.06	-0.09	-0.18
South Carolina.....	0.40	0.39	0.71	-0.07	-0.05	-0.09
Tennessee.....	0.35	0.36	0.74	0.08	0.09	0.08
Virginia.....	0.46	0.46	0.78	-0.09	-0.08	-0.07
West Virginia.....	0.26	0.26	0.56	-0.01	0.02	0.03
Southwest	0.38	0.35	0.58	-0.05	-0.06	-0.11
Arizona.....	0.42	0.41	0.68	0.02	-0.01	-0.02
New Mexico.....	0.52	0.45	0.77	0.15	0.06	0.07
Oklahoma.....	0.56	0.49	0.93	-0.07	-0.06	-0.13
Texas.....	0.40	0.37	0.61	-0.07	-0.09	-0.14
Rocky Mountain	0.46	0.44	0.72	0.01	-0.02	-0.02
Colorado.....	0.59	0.59	0.96	-0.10	-0.09	-0.13
Idaho.....	0.65	0.48	0.82	0.21	0.06	0.11
Montana.....	0.58	0.46	0.84	0.11	0.10	0.21
Utah.....	0.53	0.51	0.78	0.03	0.03	0.05
Wyoming.....	0.76	0.50	0.93	0.37	0.10	0.25
Far West	0.34	0.35	0.63	0.01	-0.01	-0.03
Alaska.....	0.52	0.52	0.72	-0.11	-0.11	-0.04
California.....	0.36	0.38	0.67	0.01	-0.02	-0.04
Hawaii.....	0.43	0.42	0.71	-0.02	-0.02	-0.04
Nevada.....	0.68	0.68	1.18	0.02	0.02	0.01
Oregon.....	0.31	0.31	0.59	-0.07	-0.08	-0.19
Washington.....	0.55	0.52	0.85	0.06	0.06	0.08

1. Revisions to the estimates for the third and fourth quarters of 2005 were excluded because of the conceptual redefinitions of the impact of disaster-related uninsured losses on personal income and nonfarm personal income from the 2009 comprehensive NIPA revision that primarily affected the estimates for the Southeast region and for Louisiana and Mississippi.

**Table 5. Mean Absolute Revisions: Latest Estimates Less Preliminary Estimates
by Quarter, 2002:I-2009:II**
[Percentage points]

	Personal income				Nonfarm personal income				Wages and salaries			
	First quarter	Second quarter	Third quarter	Fourth quarter	First quarter	Second quarter	Third quarter	Fourth quarter	First quarter	Second quarter	Third quarter	Fourth quarter
United States	0.89	0.27	0.54	0.56	0.88	0.29	0.53	0.56	0.74	0.34	0.59	0.56
New England	1.10	0.45	0.57	0.57	1.10	0.45	0.58	0.58	1.06	0.47	0.84	0.71
Connecticut.....	1.53	0.63	0.53	0.63	1.53	0.62	0.54	0.64	1.48	0.78	0.64	0.55
Maine.....	0.99	0.29	0.32	0.43	0.98	0.31	0.32	0.42	1.41	0.50	0.42	0.58
Massachusetts.....	0.91	0.45	0.73	0.62	0.91	0.44	0.73	0.63	1.00	0.56	1.09	0.98
New Hampshire.....	1.19	0.52	0.84	0.79	1.19	0.52	0.84	0.79	1.16	0.33	1.25	1.35
Rhode Island.....	1.17	0.63	0.44	0.47	1.18	0.63	0.44	0.47	1.67	0.72	1.00	0.87
Vermont.....	1.42	0.62	0.50	0.55	1.51	0.65	0.49	0.54	1.77	1.62	0.44	1.18
Midwest	1.04	0.45	0.54	0.62	1.03	0.44	0.54	0.63	1.20	1.03	0.63	0.72
Delaware.....	0.75	0.57	0.44	1.16	0.86	0.61	0.42	1.23	1.24	0.25	0.99	2.16
District of Columbia.....	1.63	0.26	0.54	0.45	1.63	0.26	0.54	0.45	1.51	0.37	0.69	0.68
Maryland.....	0.88	0.37	0.33	0.44	0.87	0.38	0.32	0.44	0.86	0.51	0.60	0.64
New Jersey.....	1.28	0.49	0.58	0.48	1.28	0.48	0.58	0.48	1.14	0.51	0.90	0.54
New York.....	1.23	0.83	0.77	0.85	1.22	0.83	0.77	0.86	1.98	0.32	1.06	1.22
Pennsylvania.....	0.97	0.25	0.42	0.51	0.98	0.24	0.42	0.51	0.96	0.16	0.43	0.62
Great Lakes	1.05	0.44	0.46	0.49	1.03	0.42	0.45	0.49	0.96	0.96	0.56	0.60
Illinois.....	1.05	0.52	0.44	0.53	0.98	0.44	0.44	0.55	0.93	0.35	0.58	0.60
Indiana.....	1.26	0.42	0.45	0.58	1.17	0.41	0.44	0.56	1.06	0.33	0.53	0.80
Michigan.....	1.21	0.54	0.57	0.65	1.24	0.53	0.55	0.66	1.36	0.30	0.78	1.05
Ohio.....	0.93	0.50	0.43	0.49	0.98	0.51	0.41	0.48	1.02	0.31	0.54	0.62
Wisconsin.....	1.25	0.34	0.57	0.51	1.27	0.35	0.53	0.50	1.14	0.40	0.60	0.76
Plains	1.07	0.47	0.41	0.44	0.92	0.27	0.39	0.33	0.64	0.36	0.52	0.56
Iowa.....	1.91	0.78	0.56	0.63	0.95	0.35	0.50	0.52	0.66	0.43	0.72	0.67
Kansas.....	1.47	0.50	0.60	0.84	1.51	0.38	0.67	0.70	1.08	0.59	0.93	1.05
Minnesota.....	0.94	0.56	0.43	0.49	0.93	0.51	0.49	0.41	0.87	0.33	0.79	0.53
Missouri.....	1.14	0.33	0.44	0.54	1.00	0.38	0.41	0.50	0.94	0.72	0.58	1.08
Nebraska.....	1.45	0.72	0.67	0.82	0.91	0.51	0.53	0.69	0.78	0.48	0.64	0.94
North Dakota.....	1.55	1.62	0.73	1.57	0.58	0.54	0.53	0.54	0.73	0.40	0.58	0.64
South Dakota.....	2.68	1.03	0.52	0.71	1.07	0.57	0.32	0.57	0.77	0.45	0.45	0.85
Southeast	0.67	0.25	0.77	0.86	0.61	0.26	0.76	0.87	0.64	0.54	0.61	0.45
Alabama.....	0.77	0.37	0.47	0.44	0.68	0.32	0.43	0.43	0.66	0.65	0.30	0.58
Arkansas.....	1.13	0.51	0.39	0.86	0.57	0.39	0.40	0.86	0.88	0.42	0.59	1.12
Florida.....	1.06	0.51	0.75	0.65	1.02	0.52	0.76	0.66	0.84	1.02	0.73	0.73
Georgia.....	0.81	0.32	0.66	0.34	0.66	0.35	0.64	0.35	0.82	0.37	0.59	0.51
Kentucky.....	0.97	0.16	0.57	0.48	0.91	0.18	0.56	0.51	0.63	0.35	0.76	0.69
Louisiana.....	0.82	0.96	4.76	14.29	0.85	0.96	4.74	14.38	0.85	0.41	0.64	1.06
Mississippi.....	1.32	0.35	1.02	1.22	0.89	0.41	0.86	1.21	0.68	0.39	0.65	0.72
North Carolina.....	1.12	0.33	0.55	0.70	1.03	0.37	0.54	0.74	1.23	0.87	0.71	1.00
South Carolina.....	0.99	0.30	0.53	0.38	0.88	0.30	0.49	0.38	0.86	0.25	0.58	0.53
Tennessee.....	0.74	0.31	0.58	0.66	0.69	0.30	0.57	0.69	0.80	0.34	0.73	0.91
Virginia.....	0.89	0.40	0.43	0.39	0.89	0.40	0.44	0.40	0.89	0.29	0.69	0.62
West Virginia.....	1.20	0.36	0.28	0.31	1.16	0.37	0.24	0.31	0.66	0.45	0.32	0.69
Southwest	1.33	0.43	0.54	0.56	1.26	0.44	0.56	0.63	0.71	0.62	0.63	0.49
Arizona.....	0.99	0.59	0.51	0.33	1.01	0.63	0.53	0.40	0.82	0.31	0.65	0.58
New Mexico.....	1.23	0.33	0.64	0.54	0.98	0.28	0.56	0.59	0.79	0.44	0.35	0.66
Oklahoma.....	2.40	0.72	0.55	0.73	2.23	0.73	0.62	0.82	1.29	0.52	0.61	0.83
Texas.....	1.32	0.48	0.56	0.63	1.30	0.48	0.58	0.69	0.73	0.63	0.67	0.54
Rocky Mountain	1.02	0.40	0.48	0.59	0.82	0.40	0.50	0.59	0.78	0.65	0.62	0.78
Colorado.....	0.94	0.45	0.62	0.71	0.90	0.50	0.68	0.76	0.99	0.44	0.83	0.89
Idaho.....	1.67	0.54	0.88	0.48	0.89	0.63	0.65	0.59	1.26	0.61	0.85	0.72
Montana.....	1.41	0.65	0.38	0.60	1.10	0.49	0.31	0.52	0.83	0.26	0.43	0.56
Utah.....	0.74	0.42	0.58	0.61	0.76	0.43	0.54	0.60	0.98	0.38	0.61	0.82
Wyoming.....	2.01	1.02	1.40	0.90	1.73	1.10	0.86	1.05	1.18	0.48	1.11	1.01
Far West	0.72	0.37	0.49	0.46	0.72	0.37	0.52	0.48	0.74	0.83	0.60	0.70
Alaska.....	1.18	0.35	0.70	0.29	1.17	0.35	0.69	0.29	0.47	0.24	0.90	0.68
California.....	0.82	0.41	0.52	0.46	0.81	0.42	0.56	0.46	0.83	0.42	0.64	0.69
Hawaii.....	0.84	0.39	0.39	0.31	0.84	0.36	0.39	0.31	1.02	0.44	0.50	0.27
Nevada.....	1.06	0.87	0.89	1.13	1.04	0.89	0.89	1.13	0.89	0.41	1.10	1.54
Oregon.....	1.08	0.25	0.47	0.58	1.08	0.26	0.44	0.56	0.88	0.53	0.63	0.85
Washington.....	1.00	0.34	0.62	1.03	0.99	0.27	0.68	1.03	0.97	0.51	1.09	1.31

Table 6. Mean Revisions for All States: Latest Estimates Less Preliminary and Second Estimates, 2002:I-2009:II
[Percentage points]

	Personal income		Nonfarm personal income		Wages and salaries	
	Pre-liminary	Second	Pre-liminary	Second	Pre-liminary	Second
2002: I.....	-0.71	-0.83	-0.32	-0.41	0.40	0.06
II.....	-0.21	-0.03	-0.38	-0.20	-0.10	0.26
III.....	-0.55	-0.31	-0.61	-0.35	-0.57	-0.09
IV.....	-0.26	-0.05	-0.31	-0.11	-0.50	-0.05
2003: I.....	-0.22	-0.10	-0.21	-0.09	-0.01	0.05
II.....	0.31	0.32	0.26	0.24	0.49	0.49
III.....	-0.21	-0.26	-0.08	-0.18	0.26	0.13
IV.....	0.44	0.18	0.55	0.29	0.89	0.39
2004: I.....	-0.02	0.07	-0.57	-0.34	-0.56	-0.09
II.....	0.29	0.11	0.35	0.17	0.89	0.49
III.....	0.55	0.33	0.59	0.38	0.63	0.30
IV.....	-0.27	-0.91	-0.21	-0.85	-0.26	-1.37
2005: I.....	-0.60	-0.62	-0.72	-0.48	-0.83	-0.43
II.....	-0.18	0.28	-0.16	0.18	-0.28	0.30
III.....	1.24	1.64	1.27	1.63	0.58	0.22
IV.....	-2.26	-1.92	-2.05	-1.71	-0.21	0.47
2006: I.....	1.03	0.19	1.25	0.44	1.48	-0.31
II.....	0.27	0.93	0.04	0.70	-0.91	0.39
III.....	-0.29	-0.18	-0.21	-0.08	-0.27	0.03
IV.....	0.26	-0.03	0.30	0.01	0.62	-0.03
2007: I.....	-0.05	-0.56	-0.29	-0.45	0.20	0.18
II.....	0.19	0.28	0.06	0.28	-0.39	0.11
III.....	-0.47	-0.39	-0.39	-0.29	-0.49	-0.31
IV.....	0.74	0.40	0.66	0.32	0.75	0.15
2008: I.....	1.87	2.03	1.45	1.64	0.17	0.47
II.....	-0.65	-0.52	-0.40	-0.28	-1.21	-0.77
III.....	-0.44	-0.64	-0.37	-0.54	-0.63	-0.83
IV.....	-0.85	-0.82	-0.98	-0.95	-0.28	-0.44
2009: I.....	-2.16	-0.47	-2.08	-0.41	-1.84	0.39
II.....	-0.47	-1.00	-0.49	-1.02	0.84	-0.15

Table 7. Mean Absolute Revisions for All States: Latest Estimates Less Preliminary and Second Estimates, 2002:I-2009:II
[Percentage Points]

	Personal income		Nonfarm personal income		Wages and salaries	
	Pre-liminary	Second	Pre-liminary	Second	Pre-liminary	Second
2002: I.....	0.91	1.00	0.73	0.74	0.93	0.86
II.....	0.50	0.42	0.50	0.42	0.58	0.60
III.....	0.62	0.41	0.63	0.39	0.71	0.32
IV.....	0.32	0.25	0.35	0.25	0.56	0.32
2003: I.....	0.58	0.66	0.50	0.55	0.61	0.64
II.....	0.39	0.39	0.38	0.32	0.61	0.58
III.....	0.46	0.32	0.39	0.29	0.59	0.31
IV.....	0.63	0.39	0.61	0.35	1.02	0.50
2004: I.....	0.89	0.68	0.79	0.59	0.77	0.42
II.....	0.46	0.46	0.47	0.43	0.91	0.58
III.....	0.63	0.48	0.66	0.49	0.77	0.48
IV.....	0.49	0.92	0.46	0.86	0.56	1.39
2005: I.....	1.03	0.90	1.00	0.77	1.02	0.55
II.....	0.39	0.50	0.37	0.33	0.45	0.38
III.....	1.34	1.72	1.31	1.65	0.71	0.39
IV.....	2.61	2.79	2.50	2.75	1.02	0.56
2006: I.....	1.40	0.76	1.31	0.61	1.54	0.59
II.....	0.45	0.95	0.34	0.73	1.11	0.51
III.....	0.51	0.39	0.46	0.34	0.67	0.45
IV.....	0.48	0.31	0.48	0.28	0.90	0.45
2007: I.....	0.76	0.75	0.58	0.66	0.54	0.59
II.....	0.60	0.47	0.53	0.43	0.71	0.38
III.....	0.53	0.46	0.46	0.35	0.64	0.39
IV.....	0.78	0.42	0.71	0.34	0.98	0.32
2008: I.....	1.88	2.03	1.46	1.64	0.75	0.58
II.....	0.75	0.64	0.58	0.42	1.26	0.80
III.....	0.51	0.64	0.48	0.54	0.79	0.83
IV.....	0.97	0.88	1.04	0.95	0.73	0.45
2009: I.....	2.17	0.94	2.08	0.90	1.90	0.46
II.....	0.61	1.00	0.61	1.02	0.96	0.38

Table 8. Mean Absolute Revisions and Mean Revisions for All States: Second Estimates Less Preliminary Estimates, 2002:I-2009:II
[Percentage points]

	Mean absolute revision			Mean revision		
	Personal income	Nonfarm personal income	Wages and salaries	Personal income	Nonfarm personal income	Wages and salaries
2002: I.....	0.59	0.52	1.00	0.12	0.09	0.34
II.....	0.50	0.48	0.90	-0.18	-0.18	-0.36
III.....	0.40	0.40	0.71	-0.24	-0.27	-0.48
IV.....	0.34	0.34	0.57	-0.21	-0.21	-0.45
2003: I.....	0.54	0.51	0.92	-0.12	-0.12	-0.07
II.....	0.33	0.31	0.58	-0.02	0.03	0.00
III.....	0.34	0.32	0.55	0.05	0.09	0.13
IV.....	0.46	0.46	0.85	0.26	0.26	0.50
2004: I.....	0.65	0.45	0.80	-0.08	-0.23	-0.48
II.....	0.45	0.44	0.75	0.18	0.18	0.39
III.....	0.39	0.39	0.67	0.23	0.21	0.33
IV.....	0.74	0.74	1.27	0.64	0.65	1.11
2005: I.....	0.48	0.36	0.61	0.02	-0.24	-0.40
II.....	0.63	0.36	0.63	-0.46	-0.33	-0.58
III.....	0.96	0.90	0.55	-0.40	-0.36	0.36
IV.....	0.73	0.73	1.14	-0.34	-0.34	-0.68
2006: I.....	0.93	0.82	1.80	0.84	0.81	1.80
II.....	0.77	0.78	1.46	-0.66	-0.66	-1.30
III.....	0.41	0.42	0.74	-0.11	-0.13	-0.30
IV.....	0.57	0.57	1.06	0.29	0.30	0.64
2007: I.....	0.58	0.32	0.54	0.51	0.17	0.02
II.....	0.38	0.36	0.70	-0.08	-0.22	-0.51
III.....	0.31	0.30	0.54	-0.08	-0.10	-0.18
IV.....	0.48	0.48	0.83	0.34	0.34	0.60
2008: I.....	0.47	0.36	0.62	-0.16	-0.19	-0.30
II.....	0.30	0.31	0.63	-0.13	-0.12	-0.43
III.....	0.29	0.27	0.46	0.20	0.16	0.20
IV.....	0.39	0.39	0.66	-0.03	-0.03	0.16
2009: I.....	1.77	1.67	2.27	-1.69	-1.67	-2.24
II.....	0.62	0.60	1.12	0.52	0.53	0.99