

Appendix to “Do Data Revisions Matter for DSGE Estimation?”

Gregory E. Givens^{a,*}

^a*Department of Economics, Finance, and Legal Studies, University of Alabama, Tuscaloosa, AL 35487, USA*

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A. The Revision Matrix

The data used to estimate the Christiano-Eichenbaum-Evans model has undergone a continual process of revision over time. This appendix provides information—summarized by a “matrix” in Table A—about the timing and nature of these revisions from 1997 to 2015.

A.1. Structural vs. Information-Based Revisions

Recall that macroeconomic data revisions can be characterized as either *information-based* or *structural*. Information-based revisions occur when previous estimates are updated with the arrival of new or revised source data. Structural revisions, on the other hand, occur when there are wholesale changes to the definition of the measurement concepts themselves. Table A indicates which revisions (i.e., which vintages) contain structural changes to the data and which contain information-based changes instead.

This distinction between structural and information-based revisions, although straightforward in theory, is often difficult to make in practice. The basic reason is that many data revisions actually contain elements of both. For example, variables drawn from the National Income and Product Accounts (NIPA) go through what are called “comprehensive revisions” about every four or five years. These revisions usually incorporate broad conceptual changes to the way certain variables are measured and, as such, should be classified as structural

*Corresponding author. Tel.: + 205 348 8961.
E-mail address: gegivens@cba.ua.edu (G.E. Givens).

rather than information-based. But it turns out that most of these comprehensive revisions also incorporate source data that was previously unreported. As a practical matter then, I classify as structural any revision in which definitional or methodological changes were implemented, regardless of whether new source data was used at the time. Any revision to the data that did not accompany definitional improvements I classify as information-based.

The two types of revisions will often differ in another way that has implications on how the main results of the study should be interpreted. When a structural revision occurs, because it changes the underlying measurement concept, the full history of observations of the relevant data series changes. That is, the entire time series from 1965:Q3 to 1996:Q3 gets revised. This is typically not true of information-based revisions. Usually, but not always, new source data arrives during the first few years or even the first few quarters after an initial data release. Thus information-based revisions often times affect only a subset of the most recent observations in the sample as opposed to the entire sample. It follows that subsequent revisions, whose vintage dates occur long after the last observation in the sample, are most likely going to be structural in nature.

This is why I argue in the manuscript that the primary focus of the study concerns the robustness of DSGE estimates to structural data revisions. By fixing the sample period across vintages, I draw attention to the structural revisions while minimizing, but not eliminating, the effects of information-based revisions. To be clear, had I allowed the sample period to grow with each successive vintage (as I do in section 6 of the manuscript), then the real-time data set would have been contaminated with additional information-based revisions to the last observations in each sample.

A.2. Primary Data Sources

Excluding the federal funds rate, a series which never gets revised, Table A summarizes the history of revisions to eleven different data series over the period 1997 through 2015. The variables are arranged in three groups. The first consists of nine variables extracted from the NIPA: nominal GDP (NOUTPUT), real GDP (ROUTPUT), government consumption expenditures (GCE), gross private domestic investment (GPDI), personal consumption expenditures on durables (PCEDG), nondurables (PCND), and services (PCESV), and after-tax nominal corporate profits (NCPROFATW). The second group consists of two variables extracted from the Bureau of Labor Statistics (BLS) Productivity and Costs estimates. These include compensation per hour (COMPENFB) and real output per hour (OPHNFB) of all persons in the non-farm business sector. The third group includes only the M2 money

stock taken from the H.6 statistical release of the Federal Reserve. For each of these series, facts about the nature of revisions—that is, whether the revisions should be thought of as structural or information-based—is obtained from the primary data sources. Details concerning the NIPA revisions are available from back issues of the Survey of Current Business. Similarly, the BLS maintains an online archive of Productivity and Costs news releases (http://www.bls.gov/schedule/archives/prod_nr.htm) that report any revisions to previous estimates along with a brief discussion of why the revisions were made. Annual revisions to M2 as well as other definitional changes are explained on a cover sheet for the Federal Reserve’s weekly H.6 statistical release. All other M2 revisions not reported on these cover sheets are the result of updated source information as explained in the Fed’s Historical Performance Evaluations (<http://www.federalreserve.gov/releases/h6/about.htm>).

B. Revisions to the NIPA

This section provides details on quarterly (February, May, August, November) revisions to the NIPA variables appearing in Table A over the period 1997 through 2015. These include NOUTPUT, ROUTPUT, PCND, PCESV, PCEDG, GPDI, GCE, and NCPROFATW. The relevant sample period for each series runs from 1965:Q3 through 1996:Q3. Information about the timing and nature of the revisions is drawn from the Survey of Current Business archives maintained online by the Bureau of Economic Analysis (<http://www.bea.gov/scb/>).

Feb. 1997

This vintage contains revised “third” estimates of the 1996:Q3 observations on each of the NIPA variables listed above with the exception of NCPROFATW.¹ First-release values for nominal profits are not released until the end of the second or third month of the quarter following the activity date. Thus the February 1997 vintage contains the first available quarterly observation of NCPROFATW for 1996:Q3.

May 1997

This vintage contains structural revisions to NOUTPUT, ROUTPUT, GPDI, and NCPROFATW. These revised NIPA estimates mark the completion of major changes that were first incorporated into the January 1996 comprehensive revision. These changes included the BEA’s adoption of chain-weight methods (replacing fixed-weight methods), definitional

¹Near the end of the first month of each quarter, the BEA publishes an “advance” estimate of data from the previous quarter. It then revises this first-release estimate near the ends of the next two consecutive months and calls these revisions the “second” and “third” estimates.

changes that recognize government investment, and improvements in calculating depreciation.² The base year for computing real quantities remains 1992.

Aug. 1997

This vintage contains the BEA's "annual" revisions for all of the NIPA variables appearing in Table A. Normally, the BEA releases these revisions only for the previous three years. That is to say, each NIPA variable undergoes three annual revisions. In July 1997, however, the BEA released annual revisions on estimates spanning 1993:Q3 through 1997:Q1.³

Aug. 1998

This vintage contains the BEA's annual revisions for NIPA estimates beginning with 1995:Q1. As is normally the case for this type of revision, the August 1998 estimates incorporate better source data as well as methodological improvements.⁴ The source data comes from Census Bureau annual surveys, BEA balance of payments accounts, US government budget data, Internal Revenue Service tax returns, BLS tabulations of wages and salaries, and farm statistics collected by the Department of Agriculture.

Nov. 1999

This vintage marks the initial release of the BEA's comprehensive revision to the NIPA in October 1999. Estimates of all NIPA variables in Table A are affected except for PCEDG. While there are numerous methodological and definitional changes to the NIPA beginning in October 1999, probably the most significant is a reclassification of software expenditures as fixed investment.⁵ Specifically, the series for gross private domestic investment, private fixed investment, and government gross investment is redefined to include business and government spending on software. Government consumption expenditures, on the other hand, strips out software spending but adds back consumption of fixed capital. The base year for chain-type quantity and price indexes is also updated from 1992 to 1996.

Feb. 2000

This vintage contains the revisions to PCEDG that are part of the 1999 comprehensive NIPA revision. The initial release of the comprehensive revision to durables consumption actually

²Parker (1997) gives details on the completion of the January 1996 comprehensive revision to the NIPA.

³See Parker and Seskin (1997) for a discussion of this atypically long annual revision.

⁴Refer to Seskin (1998) for a description of the changes in methodology affecting the annual revision of the NIPA estimates for 1995:Q1–1998:Q1.

⁵See Moulton and Sullivan (1999) for a detailed description of all the changes incorporated into the October 1999 comprehensive revision to the NIPA.

occurred on November 2, 1999. However, the revisions were only released for observations dating back to January 1997. The complete history of revisions were first released on December 9, 1999. Because this date is past the 15th day of the second month of the fourth quarter, the full set of revisions do not show up in the real-time data set until February 2000.

May 2000

This vintage contains structural revisions to ROUTPUT and NCPROFATW. These revised NIPA estimates mark the completion of changes that were first incorporated into the October 1999 comprehensive revision.⁶ The base year for quantity and price indexes remains 1996.

Feb. 2004

This vintage marks the initial release of the BEA's comprehensive revision to the NIPA in December 2003. Estimates of all NIPA variables in Table A are affected. The major definitional and classification changes incorporated into that comprehensive revision include improved measures of services from property and casualty insurance, an improved measure of banking services, and a new treatment of government that accounts for public services.⁷ The base year for chain-type quantity and price indexes is also updated from 1996 to 2000.

Aug. 2009

This vintage marks the first release of the comprehensive NIPA revision in July 2009. Estimates of all NIPA variables in Table A are affected except for NCPROFATW. Incorporated into the revision is a change in the treatment of natural and manmade disasters. Under the new treatment, disaster-related damages to fixed assets are separated from the insurance payouts.⁸ Also part of the revision is a major switch in the classification system for personal consumption expenditures (PCE). The updated system defines new categories by type of expenditure, which is based on demand criteria reflecting modern spending patterns, and type of product that better matches the definitions of durables, nondurables, and services.⁹ The base year for chain-type quantity and price indexes is also updated from 2000 to 2005.

Nov. 2009

This vintage completes the changes that are part of the BEA's comprehensive NIPA revision carried out in July 2009. The only variables affected in this vintage are NCPROFATW and

⁶See Moulton (2000) for a discussion of these last few adjustments to the 1999 comprehensive revision.

⁷Moulton and Seskin (2003) describe these and other changes appearing in the December 2003 comprehensive revision to the NIPA.

⁸See Seskin and Smith (2009) for a discussion of changes to the treatment of disasters in the NIPA.

⁹See McCully and Teensma (2008) for a more detailed description of changes to the composition of PCE.

PCEDG. Regarding the former, the comprehensive revisions that were released on July 31, 2009, only covered observations dating back to 1995. The full history of revisions dating back to 1947 were not released until August 17, which is two days after the 15th day of the second month of the third quarter. Thus, the revisions to NCPROFATW relevant for the real-time data set appear in the November 2009 vintage. Regarding PCEDG, only 12 of the 125 observations spanning 1965:Q3 through 1996:Q3 were affected by changes to the data implemented in November 2009. Moreover, each of these revisions are two orders of magnitude smaller than the initial comprehensive revisions occurring in the previous quarter.

Aug. 2011

On July 29, 2011 the BEA released revised estimates of the NIPA for observations dated 2008 through 2010 and for the first quarter of 2011. The changes were part of the BEA's "flexible" annual revision, which involved observations on current-dollar GDP and other components dating back to 2003. However, since this longer annual revision affected estimates for 2005, the base year, the levels of real GDP (chained-dollar estimates) for the entire historical period were revised.¹⁰ As a result, ROUTPUT is the only NIPA variable in Table A affected by the flexible annual revision of July 2011 for observations over the sample period 1965–1996.

Aug. 2013

This vintage marks the initial release of the BEA's comprehensive revision to the NIPA in July 2013. Estimates of all NIPA variables in Table A are affected except for PCND. The 2013 comprehensive revision includes several major improvements to the NIPA. Chief among them is a reclassification of expenditures by business, government, and nonprofit institutions on research and development (R&D) as fixed investment. It also recognizes spending by private enterprises on the creation of entertainment, literary, and artistic originals as fixed investment rather than intermediate inputs. The changes accompany the creation of a new category of private fixed investment called intellectual property products.¹¹ In addition, the base year for chain-type quantity and price indexes is updated from 2005 to 2009.

Aug. 2014

On July 30, 2014 the BEA released revised estimates of the NIPA for observations dated 2011 through 2013 as part of its annual revision. In addition to these more recent revisions, this particular flexible annual revision contained changes to GDP and some of its components

¹⁰Results of the 2011 annual NIPA revision are detailed in Seskin and Smith (2011).

¹¹McCulla, Holdren, and Smith (2013) summarize all of the major improvements incorporated into the 2013 comprehensive NIPA revision.

dating back to 1999. Since this revision also affected estimates for 2009, the base year, the levels of real GDP for the entire historical period were revised. Most of these changes reflected newly available source information on exports and imports over the period 1999 through 2010 (obtained from the BEA’s international transactions accounts).¹²

C. Revisions to Productivity and Costs

Readings on OPHNFB are assembled by the BLS using data on real output and labor hours from the non-farm business sector. The former is estimated using information obtained from the NIPA. Non-farm business output is a chain-type, current weighted index constructed from GDP after excluding government, nonprofit institutions, private households, and farming. The same type of exclusions are also made in the construction of non-farm business labor. The primary source for labor hours is the monthly BLS Current Employment Statistics (CES) program and the Census Bureau’s Current Population Survey (CPS). Data from these surveys is adjusted to hours at work using data from the BLS Hours at Work survey. Any revisions to OPHNFB logged in Table A (apart from base year changes) originate from revisions to one or more of these primary sources.

Readings on COMPNFB are assembled by the BLS and include accrued wages and salaries, supplements, employer contributions to employee benefit plans, and taxes. BLS estimates of labor compensation are based primarily on employee compensation data from the NIPA. The compensation of employees in government, nonprofit institutions, private households, and farming are subtracted from compensation of all domestic employees to derive non-farm business compensation. Any revisions to COMPNFB logged in Table A (apart from base year changes) originate from revisions to the NIPA.

Given how OPHNFB and COMPNFB are constructed, I use the following criteria to distinguish structural from information-based revisions. If changes to the Productivity and Cost estimates result from structural revisions to any of the underlying NIPA, CES, or CPS primary data (e.g., comprehensive NIPA revisions), then the corresponding revisions to output and compensation per hour will be classified as structural. If, on the other hand, changes to the primary data result from updated source information (e.g., annual NIPA revisions), then the OPHNFB and COMPNFB revisions will be classified as information-based. Details about the specific nature of these revisions are contained in the BLS quarterly (preliminary and revised) release of Productivity and Costs.

¹²An account of the 2014 annual NIPA revision is provided by McCulla, Holdren, and Smith (2014).

As discussed in the previous section, the BEA released a comprehensive revision to the NIPA in January 1996, October 1999, December 2003, July 2009, and July 2013. These comprehensive revisions, and the completion thereof, affected estimates of a variety of NIPA variables in the following vintages: May 1997, November 1999, May 2000, February 2004, August 2009, and August 2013. As a result, I characterize the revisions to OPHNFB and COMPNFB that occur during these vintages as structural rather than information-based.

With the exception of the August 2003, August 2004, August 2010, and November 2013 vintages, the historical revisions to OPHNFB and COMPNFB are relatively small and result mostly from information-based changes to the primary data sources. As a result, I characterize all of these revisions, excluding the four mentioned above, as information-based rather than structural.

Aug. 2003

The Productivity and Costs estimates released on August 7, 2003, contain revisions to COMPNFB and OPHNFB that reflect major changes to the non-farm business employment and hours data. These changes included the completion of the CES sample redesign as well as the conversion to the 2002 North American Industry Classification System (NAICS) from the 1987 Standard Industrial Classification (SIC). Also affecting the revisions were changes to the CPS data stemming from new weights based on the 2000 population census. Given these definitional or measurement changes to COMPNFB and OPHNFB, particularly the shift from SIC to NAICS, I characterize the August 2003 revision as structural.

Aug. 2004

The Productivity and Costs estimates released on August 10, 2004, incorporate revisions to average weekly hours at work for nonproduction and supervisory workers. The changes were developed from data in the CPS and applied to average weekly hours data in the CES and Employment Cost Index programs. An article discussing these new measures and the effects of the changes was published in the April 2004 issue of the *Monthly Labor Review*.¹³ Since the revision reflects a new measure of employee hours, I classify the revision as structural rather than information-based.

Aug. 2010

The Productivity and Costs estimates released on August 10, 2010 reflect, among other things, a change in the base year for all index series from 1992=100 to 2005=100. As with the NIPA variables, I characterize revisions associated with base year changes as structural.

¹³See Eldridge, Manser, and Otto (2004) for further details.

Nov. 2013

On November 1, 2013, the BEA announced a correction to the July 2013 comprehensive revision to the NIPA. This correction only affected historical observations on non-farm business output and related measures, including output per hour. No other sectors of the economy were affected. Thus OPHNFB was revised but COMPNFB was not. Because this revision can be viewed as the result of the completion of a comprehensive NIPA revision, I classify it as structural rather than information-based.

D. Revisions to M2

According to the December 2015 “Performance Evaluation of Statistical Release H.6: Money Stock Measures” available on the website of the Board of Governors of the Federal Reserve System (<http://www.federalreserve.gov/releases/h6/perfeval2015.htm>), data on the H.6 release—which includes the M2 money stock—can be revised for three reasons. The first is when the underlying data used to construct M2 that is reported directly to the Federal Reserve by depository institutions gets revised. The second is when monthly or quarterly data that was not previously reported by depository institutions first becomes available. The third occurs when the Federal Reserve makes annual revisions to seasonal factors affecting historical estimates of M2. Any definitional or methodological changes in the measurement of M2 usually get implemented during these annual revisions.

For the period spanning 1997 through 2015, most of the changes to historical observations on M2 were fairly small, reflecting improvements to the source data reported by depository institutions to either the Federal Reserve Board directly (through deposit reports that are linked closely to the system for verifying reserve requirements) or to other federal regulatory agencies (Call Reports). For this reason, I have characterized most of the revisions to M2 appearing in Table A as information-based rather than structural.

That being said, vintages for the first quarter of each year between 1997 and 2015 include changes that reflect, among other things, the Federal Reserve’s annual revision to M2. Usually in late January or early February, seasonal factors for M2 and its components are re-estimated using updated historical data. The revised seasonal factors are published in a cover note on the first H.6 release in which the changes are made. Since these changes do not really reflect new source data, but rather updates to the underlying statistical model, it may be somewhat problematic to classify them as strictly information-based revisions. However, these statistical changes clearly do not represent fundamental transformations to the

conceptual definition of M2. For this reason, I have chosen not to label them as structural revisions in the same way as the comprehensive NIPA revisions discussed above.

One exception is the May 2004 revision. As described in the H.6 release on March 2, 2004, measures of the money stock were revised to conform with the view of the Federal Reserve Board Legal staff that “certain liabilities of asset-backed commercial paper conduits are not ‘deposits’ for the purpose of Regulation D and, therefore, should not be included in the sponsoring depository institution’s report of deposits.” The removal of this category of assets from the working definition of M2 should properly be interpreted as a structural revision, even though its effects lowered M2 by less than \$2 billion.

References

- Eldridge, Lucy P.; Manser, Marilyn E. and Otto, Phyllis Flohr.** “Alternative Measures of Supervisory Employee Hours and Productivity Growth.” *Monthly Labor Review*, April 2004, pp. 9-28.
- McCulla, Stephanie H.; Holdren, Alyssa E. and Smith, Shelly.** “Improved Estimates of the National Income and Product Accounts.” *Survey of Current Business*, September 2013, 93(9), pp. 14-45.
- _____. “The 2014 Annual Revision of the National Income and Product Accounts.” *Survey of Current Business* August 2014, 94(8), pp. 1-33.
- McCully, Clinton P. and Teensma, Teresita D.** “Preview of the 2009 Comprehensive Revision of the National Income and Product Accounts.” *Survey of Current Business*, May 2008, 88(5), pp. 6-17.
- Moulton, Brent R.** “Improved Estimates of the National Income and Product Accounts for 1929-99: Results of the Comprehensive Revision.” *Survey of Current Business*, April 2000, 80(4), pp. 11-17.
- Moulton, Brent R. and Seskin, Eugene P.** “Preview of the 2003 Comprehensive Revision of the National Income and Product Accounts.” *Survey of Current Business*, June 2003, 83(6), pp. 17-34.
- Moulton, Brent R. and Sullivan, David F.** “A Preview of the 1999 Comprehensive Revision of the National Income and Product Accounts.” *Survey of Current Business*, September 1999, 79(9), pp. 15-28.
- Parker, Robert P.** “Completion of the Comprehensive Revision of the National Income and Product Accounts.” *Survey of Current Business*, May 1997, 77(7), pp. 6-97.

Parker, Robert P. and Seskin, Eugene P. “Annual Revision of the National Income and Product Accounts.” *Survey of Current Business*, August 1997, 77(8), pp. 6-35.

Seskin, Eugene P. “Annual Revision of the National Income and Product Accounts.” *Survey of Current Business*, August 1998, 78(8), pp. 7-35.

Seskin, Eugene P. and Smith, Shelly. “Preview of the 2009 Comprehensive Revision of the NIPAs.” *Survey of Current Business*, March 2009, 89(3), pp. 10-27.

_____. “Annual Revision of the National Income and Product Accounts.” *Survey of Current Business*, August 2011, 91(8), pp. 6-30.

Table A
Revision Matrix

| Vintage | | NOUTPUT, GCE, PCSV, GPDI | ROUTPUT | PCND | PCEDG | NCPROFATW | OPHNFB, COMPNFB | M2 |
|---------|-------|-----------------------------|----------|----------|----------|-----------|--------------------|----------|
| 1997 | Feb. | <i>i</i> | <i>i</i> | <i>i</i> | <i>i</i> | | <i>i</i> | <i>i</i> |
| | May | <i>s</i> | <i>s</i> | | | <i>s</i> | <i>s</i> | <i>i</i> |
| | Aug. | <i>i</i> | <i>i</i> | <i>i</i> | <i>i</i> | <i>i</i> | <i>i</i> | <i>i</i> |
| | Nov. | | | | | | | <i>i</i> |
| 1998 | Feb. | | | | | | <i>i</i> | <i>i</i> |
| | May * | | | | | | | |
| | Aug. | <i>i</i> | <i>i</i> | <i>i</i> | <i>i</i> | <i>i</i> | <i>i</i> | <i>i</i> |
| 1999 | Nov. | | | | | | | <i>i</i> |
| | Feb. | | | | | | <i>i</i> | <i>i</i> |
| | May * | | | | | | | |
| 2000 | Aug. | | | | | | <i>i</i> | |
| | Nov. | <i>s</i> | <i>s</i> | <i>s</i> | | <i>s</i> | <i>s</i> | |
| | Feb. | | | | <i>s</i> | | | <i>i</i> |
| 2001 | May | | <i>s</i> | | | <i>s</i> | <i>s</i> | <i>i</i> |
| | Aug. | | | | | | <i>i</i> | <i>i</i> |
| | Nov. | | | | | | | <i>i</i> |
| 2002 | Feb. | | | | | | | <i>i</i> |
| | May | | | | | | | <i>i</i> |
| | Aug. | | | | | | <i>i</i> | <i>i</i> |
| 2003 | Nov. | | | | | | | <i>i</i> |
| | Feb. | | | | | | | <i>i</i> |
| | May * | | | | | | | |
| 2004 | Aug. | | | | | | <i>s</i> | <i>i</i> |
| | Nov. | | | | | | | <i>i</i> |
| | Feb. | <i>s</i> | <i>s</i> | <i>s</i> | <i>s</i> | <i>s</i> | <i>s</i> | <i>i</i> |
| 2005 | May | | | | | | | <i>s</i> |
| | Aug. | | | | | | <i>s</i> | <i>i</i> |
| | Nov. | | | | | | <i>i</i> | <i>i</i> |
| 2006 | Feb. | | | | | | | <i>i</i> |
| | May * | | | | | | | |
| | Aug. | | | | | | <i>i</i> | <i>i</i> |
| 2007 | Nov. | | | | | | | <i>i</i> |
| | Feb. | | | | | | | <i>i</i> |
| | May | | | | | | | <i>i</i> |
| 2008 | Aug. | | | | | | | <i>i</i> |
| | Nov. | | | | | | | <i>i</i> |
| | Feb. | | | | | | <i>i</i> | <i>i</i> |
| 2009 | May | | | | | | | <i>i</i> |
| | Aug. | | | | | | | <i>i</i> |
| | Nov. | | | | | | | <i>i</i> |

Notes: *s* - marks the date of a structural revision; *i* - marks the date of an information-based revision; * - indicates a quarter in which no data revisions occur

Table A continued
Revision Matrix

| Vintage | | NOUTPUT, GCE, PCESV, GPDI | ROUTPUT | PCND | PCEDG | NCPROFATW | OPHNFB, COMPFB | M2 |
|---------|--------|------------------------------|----------|----------|----------|-----------|-------------------|----------|
| 2009 | Feb. | | | | | | | <i>i</i> |
| | May | | | | | | | <i>i</i> |
| | Aug. | <i>s</i> | <i>s</i> | <i>s</i> | <i>s</i> | <i>s</i> | <i>s</i> | <i>i</i> |
| | Nov. | | | | <i>s</i> | <i>s</i> | | |
| 2010 | Feb. | | | | | | | <i>i</i> |
| | May | | | | | | | <i>i</i> |
| | Aug. | | | | | | <i>s</i> | <i>i</i> |
| | Nov. | | | | | | | <i>i</i> |
| 2011 | Feb. | | | | | | | <i>i</i> |
| | May | | | | | | | <i>i</i> |
| | Aug. | | <i>i</i> | | | | <i>i</i> | <i>i</i> |
| | Nov. | | | | | | | <i>i</i> |
| 2012 | Feb. | | | | | | | <i>i</i> |
| | May | | | | | | | <i>i</i> |
| | Aug. * | | | | | | | |
| | Nov. | | | | | | | <i>i</i> |
| 2013 | Feb. | | | | | | | <i>i</i> |
| | May | | | | | | <i>i</i> | <i>i</i> |
| | Aug. | <i>s</i> | <i>s</i> | | <i>s</i> | <i>s</i> | <i>s</i> | <i>i</i> |
| | Nov. | | | | | | <i>s</i> | <i>i</i> |
| 2014 | Feb. | | | | | | | <i>i</i> |
| | May | | | | | | <i>i</i> | |
| | Aug. | <i>i</i> | <i>i</i> | | | | <i>i</i> | |
| | Nov. * | | | | | | | |
| 2015 | Feb. | | | | | | | <i>i</i> |
| | May | | | | | | <i>i</i> | |
| | Aug. | | | | | | | <i>i</i> |
| | Nov. * | | | | | | | |

Notes: *s* - marks the date of a structural revision; *i* - marks the date of an information-based revision; * - indicates a quarter in which no data revisions occur