BEA BRIEFING

Improving BEA's Accounts Through Flexible Annual Revisions

AS PART of its continuing effort to accurately portray the dynamic U.S. economy, the Bureau of Economic Analysis (BEA) will soon adopt a new approach to annual revisions of its economic accounts that will allow improvements in concepts, definitions, and source data to be introduced earlier than previously possible. Starting in 2010, BEA plans to introduce "flexible" annual revisions that will retain the features of the current annual revisions of BEA's national, industry, and regional accounts but will also allow for the kind of improvements that traditionally were reserved for BEA's comprehensive revisions, which historically occurred every 5 years.[1] Flexible annual revisions will accelerate improvements to BEA's accounts by expanding the current 3-year period of revision to earlier periods if necessary. This new approach will provide several benefits to BEA and its customers. Data users will have a more accurate and up-to-date set of accounts with fewer changes reserved for comprehensive revisions. Internally, flexible annual revisions will allow BEA to better allocate its resources.

This *BEA Briefing* provides an overview of BEA's plans for conducting flexible annual revisions in the national, industry, and regional accounts. See chart 1 for an overview. The first part discusses why BEA is adopting a new approach and provides some background on the role of annual revisions in improving accuracy and maintaining consistency in BEA's economic accounts. The second part discusses the scope of flexible annual revisions, how they will differ from the current annual revisions, and examples of changes that might be introduced. The third part discusses how comparisons of estimates in the national economic accounts and industry accounts can be used to improve both sets of accounts through enhanced integration. Finally, the fourth part presents issues that BEA will face in implementing flexible annual revisions and a tentative timetable.

In the near future, BEA intends to publish additional articles in the SURVEY OF CURRENT BUSINESS with more details about flexible annual revisions. BEA encourages its customers to consider how flexible annual revisions will affect their uses of BEA's estimates and to provide feedback and questions.

Why flexible annual revisions?

Currently, BEA reserves major improvements in definitions, classifications, and methodologies in its economic accounts to periodic "comprehensive revisions." Comprehensive revisions are usually conducted at 5-year intervals that correspond with the integration of updated statistics from BEA's quinquennial benchmark input-output (I-O) accounts. BEA has often introduced major improvements to the accounts in comprehensive revisions because many of these improvements also require revisions to a large number of years or to multiple components within the accounts.

In contrast, BEA's annual revisions are designed primarily to update the accounts with source data for recent periods, for example, information on domestic production, sales, and inventories from Census Bureau surveys and information from foreign trade reports. BEA has also used annual revisions to introduce improvements in methodologies that primarily affected these recent periods. By convention, annual revisions have been limited to the 3 most recent years. As a result, some improvements that would also significantly affect earlier periods have been reserved for comprehensive revisions in order to preserve time-series consistency.

In January 2005, BEA established an internal integration team to explore ways to improve both the national and industry accounts by further integrating

1. The timetable for introducing flexible annual revisions for the national income and product accounts (NIPAs) was announced in the July 2007 issue of the SURVEY OF CURRENT BUSINESS, see <www.bea.gov/scb/pdf/2007/07%20July/0707_ta.pdf>. The concept of flexible annual revisions was discussed at the May 2006 and November 2006 meetings of BEA's Advisory Committee and at the April 2007 National Economic Accounts Data Users' Conference. See <www.bea.gov/about/advisory.htm> and <www.bea.gov/agency/exhibit_schedule.htm>.

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the methodologies and procedures used in these accounts and to explore ways to improve the comprehensive revision process. After the 2003 comprehensive revision of the NIPAs, BEA realized that changes were needed in the scope of comprehensive revisions because that comprehensive revision introduced a large number of important and complex changes that were difficult for BEA's staff to implement and for BEA's customers to easily absorb all at one time.[2]

One important outcome of the integration team's work was initiating an annual "feedback loop" between the industry and national accounts to improve the estimates in both accounts. At the same time, the team recognized that implementing major improvements derived from the feedback loop would be very difficult in the framework of BEA's existing annual revision process and that a more flexible approach was needed.

Another important outcome of the team's work was the recognition that the every-5-year comprehensive revision process was insufficient for keeping up with the rapid, continuous changes in the U.S. economy and with changes in international economic accounting standards. In this area as well, BEA recognized that a more flexible approach to introducing changes in definitions, classifications, and methodologies was needed.

At the recommendation of the integration team, BEA decided to implement flexible annual revisions. Flexible annual revisions will allow some of the complex and cross-cutting improvements currently introduced only every 5 years during comprehensive revisions to be incorporated into the accounts on a flow basis, providing the users of BEA's economic accounts better information earlier. BEA's users will also

2. The 2003 comprehensive revision of the NIPAs was described in Eugene P. Seskin and Daniel Larkins, "Improved Estimates of the National Income and Product Accounts for 1929–2002: Results of the Comprehensive Revision," Survey 84 (February 2004): 7–29.

Chart 1. Flexible Annual Revisions and Future Comprehensive Revisions, Compared With Traditional Revisions

Traditional Annual Revisions

- Released once a year typically
- Revised statistics for the 3 most recent years
- Incorporated recently updated source data
- Limited changes in methods and definitions for the 3 most recent years
- Refrained from revising estimates in the reference year

Flexible Annual Revisions

- Will continue to be released once a year
- Will potentially revise statistics for the entire time period, not just for the 3 most recent years, to incorporate important improvements
- Will incorporate some changes in methods and definitions that were previously reserved for comprehensive revisions
- Will revise statistics for the reference year in some cases
- Will benefit from enhanced integration among BEA accounts, notably the annual industry accounts and the national income and product accounts

Traditional Comprehensive Revisions

- Released every 5 years typically
- Integrated statistics from BEA's benchmark input-output accounts
- Revised statistics for the entire time period
- Incorporated major changes in methods and definitions
- Updated the reference year

Future Comprehensive Revisions

- Will continue to be released every 5 years typically
- Will continue to integrate statistics from BEA's benchmark input-output accounts
- Will continue to revise statistics for the entire time period when appropriate
- Will continue to incorporate complex changes that are first incorporated in the benchmark input-output accounts
- Will result in less onerous changes that will likely be easier for customers to digest
- Will continue to update the reference year

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benefit from having fewer cross-cutting improvements to absorb when trying to understand how and why the longterm picture of the economy has changed in comprehensive revisions. (Comprehensive revisions update estimates over long time periods.)

Flexible annual revisions will also strengthen BEA's review of many account improvements by removing them from the peak production periods leading up to comprehensive revisions when the demands on BEA staff are greatest.

In addition, flexible annual revisions are expected to improve the accounts by increasing the frequency and scope of staff interaction across BEA's program areas. Because BEA's national, industry, regional, and international accounts are integrated, incorporating improvements that arise from any of these program areas requires close coordination. For example, state-level estimates of gross domestic product (GDP) by industry include allocations of U.S.-level estimates of GDP by industry, whereas U.S.-level industry estimates of taxes on production reflect aggregations of state-level industry data. Historically, staff interactions across program areas in reviewing and implementing cross-cutting proposals for comprehensive revisions have resulted in exchanges of source data, methodologies, and insights that led to further improvements in the accounts. With flexible annual revisions, these dialogues will become continuous rather than periodic around comprehensive revisions. Distributing this work over a longer period will also help BEA increase its efficiency in producing economic accounts in a tight budget climate.

Scope of flexible annual revisions

The 3-year scope of annual revisions has served BEA's business, government, and academic customers well for many years but has delayed some important changes to the accounts until comprehensive revisions. Many improvements, such as a measure for a new service or new source data for a transaction, are introduced in annual revisions; however, the current 3-year scope prevents improvements significantly affecting earlier years from being introduced in annual revisions.

Other improvements, such as a new treatment of research and development expenditures, are too comprehensive and complex to incorporate into an annual revision and need to be incorporated into a benchmark I-O table before incorporation in BEA's other economic accounts. Flexible annual revisions would allow the less comprehensive and less complex improvements to be introduced into BEA's accounts once they are ready. Such improvements would be limited to those that would have a substantive effect on a major aggregate or that provide a significantly clearer picture of economic activity of widespread market or policy interest.

Under flexible annual revisions, the current timetable for releasing each BEA program's annual revisions will not change, but more flexibility in the time period open to revision will be allowed in implementing some of the improvements. Beginning in 2010, the window for allowing revisions will no longer be limited to the 3 most recent years but may extend to earlier years.

One change under this new policy is that reference-year statistics for chained-dollar estimates and for price and quantity indexes (currently 2000) may be subject to revision. Under the present policy, estimates for the reference year are not subject to change in annual revisions. However, with flexible annual revisions, revisions could extend to earlier years and result in revisions to estimates in the reference year, potentially resulting in revisions to chained-dollar estimates and indexes for the entire historical period and for all related time series. BEA will carefully consider the impact of changes that could affect reference-year estimates.

Source data that normally become available, or are revised, for periods earlier than the 3 most recent years will be incorporated in flexible annual revisions when they have a substantive effect on a major aggregate or provide a significantly clearer picture of economic activity. For example, revisions to estimates from BEA's balance of payments accounts often extend back more than 3 years. These revisions will be incorporated into the accounts when they are large and important. Also, final source data from the Census Bureau's Government Finance program would not likely be incorporated because they routinely result in minor revisions earlier than the 3 most recent years.

Industry-national feedback loop

The feedback loop between the national and industry accounts is expected to lead to ideas for improvements that could be introduced earlier via flexible annual revisions. The feedback loop, which compares corresponding estimates in BEA's annual industry accounts with the national income and product accounts (NIPAs), became feasible when these accounts were integrated in 2004.

For an example of how this feedback loop might lead to improved estimates via flexible annual revisions, consider personal consumption expenditures (PCE) as measured in the NIPAs and the annual industry accounts. The two measures are conceptually equivalent, however, each account uses its own estimation methodology. The industry account's commodity flow method uses source data on the domestic supply of goods and services; the NIPA's retail control method uses source data on the merchandise sales of the various types of retail trade establishments.

Both accounts' methodologies have limitations. The commodity flow method lacks current information on the share of the domestic supply of televisions purchased by individuals; it applies the share from the previous benchmark I-O table. The retail control method lacks current information on the product mix of sales for the various types of retailers; it applies the product mix from the previous benchmark I-O table. Recently, the commodity flow method's estimates of PCE for televisions have been substantially higher than the retail control method's estimates published in the NIPAs.

Research is underway to reconcile the largest of the discrepancies that result from these alternative methods.[3] Improved estimates of PCE are expected from this research.

Once improved PCE estimates are prepared, tested, reviewed, and approved, flexible annual revisions would allow revised PCE estimates to be incorporated in both recent and earlier periods if necessary to retain time series consistency.

Implementation issues

Implementing flexible annual revisions within the tight timeframes now used for annual revisions of national, international, industry and regional accounts will require early reviews of proposed improvements. Some revisions may require new methods to incorporate at the regional level. BEA's program areas have initiated test implementation procedures that will (1) show the full impact of a proposed improvement, (2) clarify when it is ready for implementation, and (3) expedite the implementation of approved improvements. These review procedures are generally more far reaching than the procedures that were previously possible in comprehensive revisions.

BEA has already begun developing new test and implementation procedures for flexible annual revisions. For example, testing a proposed reclassification of PCE for the 2009 comprehensive revision of the NIPAs is well underway using prototype procedures.[4] BEA staff are identifying and coordinating work on research that may result in improvements for future flexible annual revisions. Several research projects identified on BEA's strategic plan are among those that may be considered for implementation.[5] With the new testing and implementation procedures, BEA expects to incorporate improvements to definitions, classifications, and methodologies in future flexible annual revisions.

As noted above, flexible annual revisions will be introduced in 2010. The annual revisions over the next 12 months will continue to result in revisions for the 3 most recent years (2005–2007): the annual revision of the NIPAs will be released in July 2008, the revision of the annual industry accounts will be released in December 2008, and the revision of the gross domestic product by state will be released in June 2009. Comprehensive revisions to these accounts will follow in 2009 and 2010. Flexible annual revisions are scheduled to begin with the NIPA release in July 2010.

For flexible annual revisions, BEA will announce the improvements to be made and the periods subject to revision in advance of their release. This policy will provide time for BEA's customers to prepare for the changes and determine how to incorporate them into their uses of the data. BEA will continue to investigate issues related to the impact on chained-dollar estimates and various price and quantity indexes of reference year changes and how best to incorporate changes that affect long historical time series.

3. In practice, the annual industry accounts commodity flow based estimates of PCE are adjusted to be consistent with the NIPA's published retail control based category-level estimates of PCE.

4. The new classification of PCE was described in Clinton P. McCully and Teresita D. Teensma, "Preview of the 2009 Comprehensive Revision of the National Income and Product Accounts: New Classifications for Personal Consumption Expenditures," Survey 88 (May 2008): 6–17. This article presented restated PCE estimates for 2002–2006 using the proposed classification.

5. BEA's strategic plan is updated annually and is available at <www.bea.gov/about/pdf/strategic_plan_matrix_2007-2011.pdf >.