BEA Statistics:
Transparency of Methods and Sources

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bea
Bureau of Economic Analysis
U.S. DEPARTMENT OF COMMERCE

BEA's Mission

"The Bureau of Economic Analysis (BEA) promotes a better understanding of the U.S. economy by providing the most timely, relevant, and accurate economic accounts data in an objective and cost-effective manner."

BEA's Data Products

National Accounts—Gross Domestic Product (GDP), Personal Income, Corporate Profits

International Accounts—Balance of Payments Accounts, Trade in Goods and Services, Foreign Direct Investment

Industry Accounts—Input-Output Accounts, GDP by Industry, Travel and Tourism Accounts

Regional Accounts—GDP by State Accounts, State and Local Area Personal Income

Importance of BEA Data Products

- Economic analysis

  - Businesses

  - Households

  - Research

- Monetary policy

- Fiscal policy
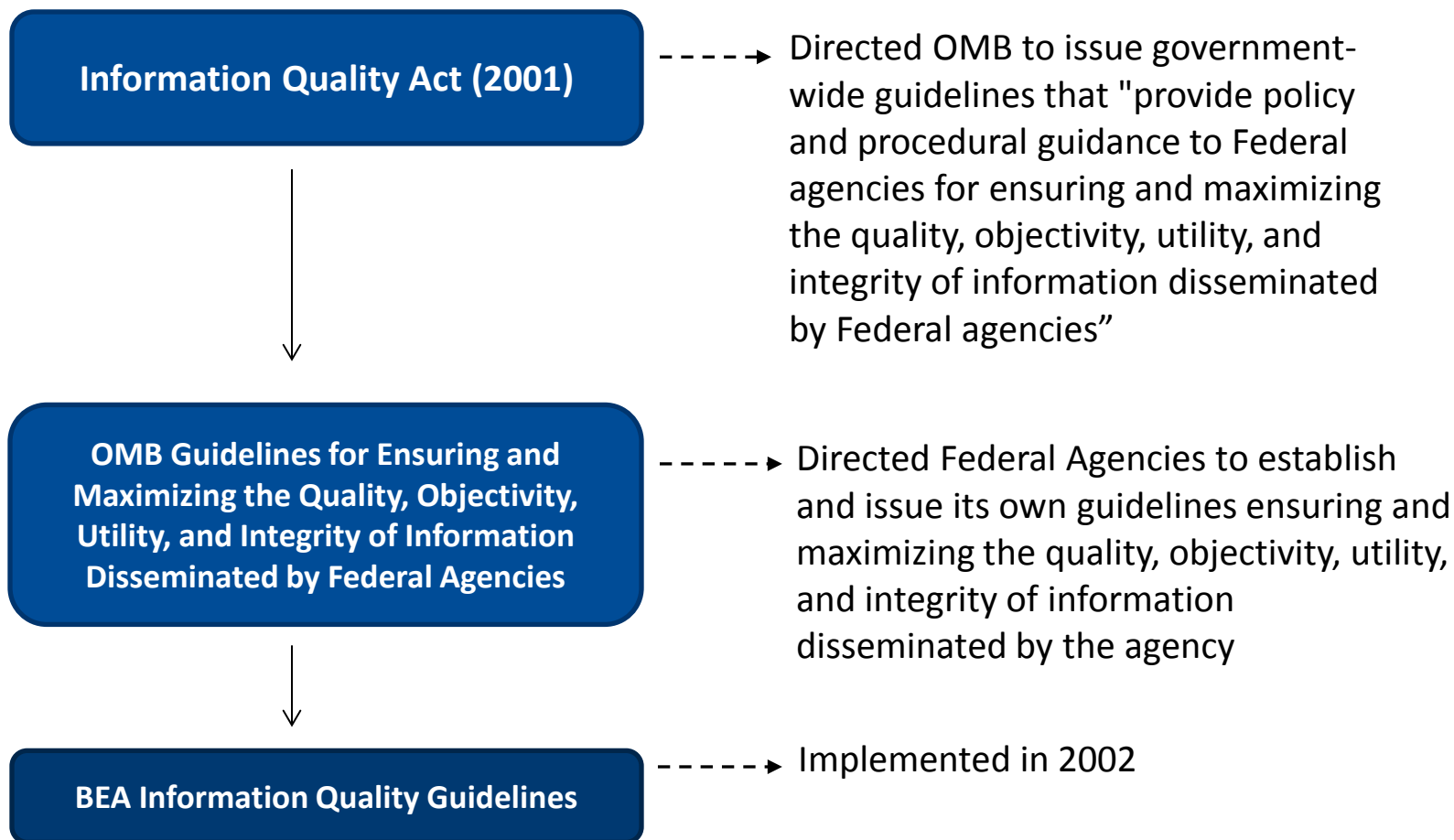
- State and local planning and allocation of funds

Mechanisms for Ensuring Objective Statistics

- Statutory requirements
- Directives & Standards

At the Bureau level...

- Security and release procedures
- Transparency of methods and sources
- Regular review of revisions

Statutory Requirements

Information Quality Act (2001) - - - - → Directed OMB to issue government-wide guidelines that "provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by Federal agencies"

OMB Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies - - - - → Directed Federal Agencies to establish and issue its own guidelines ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by the agency

BEA Information Quality Guidelines - - - - → Implemented in 2002

Directives & Standards

- OMB Statistical Policy Directives

  - Identify minimum requirements for Federal principal statistical agencies when they engage in statistical activities.

- Measurement Standards – SNA, BOP Manual, SEEA, etc.

- Classification Standards – NAICS, NAPCS, ISIC, etc.
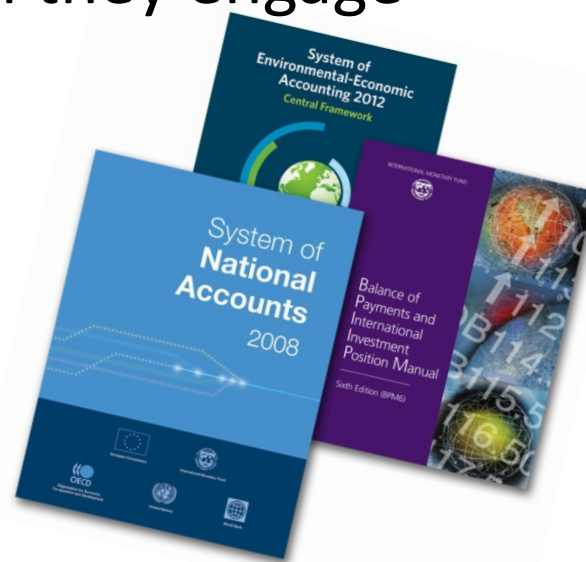
Security & Release Procedures

- BEA procedures include:
  - Limiting access to sensitive estimates to those with a clear need to know.
  - Providing physical and computer security necessary to limit access to those with a need to know
  - Ensuring no BEA employee uses (or gives the appearance of using) pre-release information for personal gain or inadvertently provides pre-release information to the media or other unauthorized individuals
  - Regular "best practices" training for staff handling and processing sensitive data
  - Lockups for principal economic indicators
  - Releasing data according to an announced schedule
    - minimizes the risk of pre-release access,
    - provides a clear separation of statistical agency and policy officials' statements
    - ensures simultaneous release to all of the public

Transparency of Sources & Methods

- Source Data
  - Source Data Improvement and Evaluation Program (SDIEP) established in the 1980s
  - Monitors the needs of all BEA's programs for data provided by Federal agencies
  - Documents the data sources underlying BEA estimates

- Concepts, Methods and Estimation Procedures
  - Strive to make information on concepts and methods readily available
  - Transparency facilitates not only an understanding of the concepts and methods but also forecasts of future estimates by outside experts

National Accounts

- Measuring the Economy: A Primer on GDP and the National Income and Product Accounts December 2015
- A Guide to the National Income and Product Accounts of the United States – Replaced by NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts
- MP-1: An Introduction to the National Income and Product Accounts September 2007
- Taking the Pulse of the Economy: Measuring GDP Journal of Economic Perspectives, Spring 2008
- Updated Summary NIPA Methodologies | *SCB*, November 2016 (PDF)

NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts Note: Additional chapters, including Chapter 12: Rental Income of Persons, are planned or under development.

- All Chapters October 2016
- Chapters 1-4: Concepts, Source Data, and Estimating Methods October 2016
- Chapters 1: Introduction February 2014
- Chapter 2: Fundamental Concepts October 2016
- Chapter 3: Principal Source Data October 2016
- Chapter 4: Estimating Methods December 2015
- Chapter 5: Personal Consumption Expenditures December 2015
- Chapter 6: Private Fixed Investment October 2016
- Chapter 7: Change in Private Inventories October 2016
- Chapter 8: Net Exports of Goods and Services December 2015
- Chapter 9: Government Consumption Expenditures and Gross Investment October 2016
- Chapter 10: Compensation of Employees November 2014
- Chapter 11: Nonfarm Proprietors' Income December 2015
- Chapter 13: Corporate Profits December 2015
- Appendix: Summary National Income and Product Accounts December 2015 Note: This appendix provides definitions of the entries in the NIPA 7 account summary table.
- NIPA Glossary October 2016
- Housing Services in the National Economic Accounts September 2007
- Gross Domestic Product as a Measure of U.S. Production *SCB*, August 1991

External GDP forecasters

- Macroeconomic Advisors http://www.macroadvisers.com/

- GDP Now-Federal Reserve Bank of Atlanta

  https://www.frbatlanta.org/cqer/research/gdpnow.aspx

- Goldman Sachs (www.goldmansachs.com)

- JP Morgan (www.jpmorganchase.com)

- Bank of America (www.bankofamerica.com)

- PNC Financial Services (www.pnc.com)

- Wells Fargo (www.wellsfargo.com)

- Bloomberg News consensus forecast (www.Bloomberg.com)

- Wall Street Journal consensus forecast (projects.wsj.com/econforecast/)

- Federal Reserve Bank of New York Nowcasting Report

  (https://www.newyorkfed.org/research/policy/nowcast)

Transparency of Sources & Methods

- Example: Public release of key assumptions

  - Discussion of assumptions and revisions used for source data not yet available for incorporation into GDP

  - Available in technical notes for news releases, annual and comprehensive revision articles

Regular Review of Revisions

- Revision plans and procedures advertised well in advance in various forms: *Survey of Current Business* articles, BEA Blog, FAQs, etc.

- Current period analysis

2016Q3 Release of GDP (Second Estimate)

Revisions to Quarterly Percent Changes of GDP: Vintage Comparisons

[Annual rates]

Vintage	Average without regard to sign
Real GDP	
Advance to second	0.5
Advance to third	0.6
Second to third	0.2
Advance to latest	1.1

Regular Review of Revisions

- Periodic revision studies
  - Examine the accuracy of the estimates over time and for the existence of any systematic overstatement or understatement
  - Important vehicle to ensure the quality of the estimates
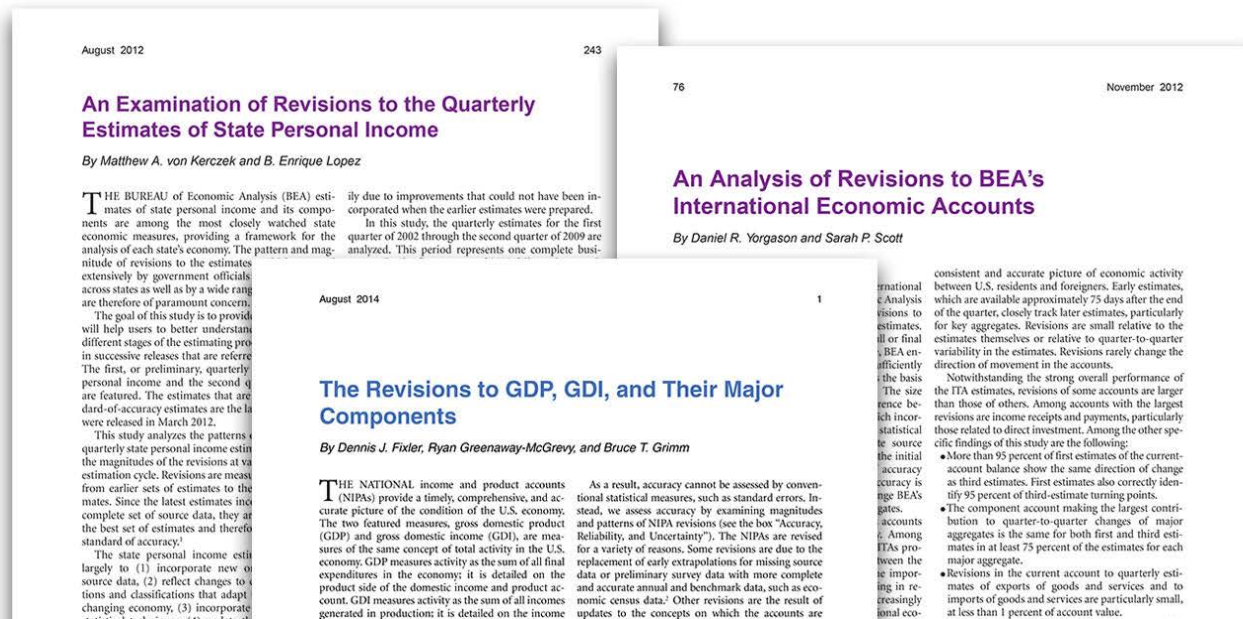
An Analysis of the Reliability of BEA's International Transactions Accounts

By Ryan Howley

THIS ARTICLE EXAMINES the reliability of the statistics composing the U.S. international transactions accounts (ITAs) produced by the Bureau of Economic Analysis (BEA). The ITA statistics are updated on a regular basis to include preliminary or "first" estimates for the most recent quarter and revised estimates for prior quarters. The revised estimates reflect newly available source data that are more complete, more detailed, and otherwise more reliable than those that were previously incorporated. The revised estimates may also include improvements in methodologies. To assess the reliability of the statistics, BEA analyzes revisions to early vintages, or the first published, account estimates. While these estimates are published before full or final information regarding an account is available, BEA endeavors to ensure that these estimates are sufficiently timely and reliable to be used confidently as the basis of economic policy and business decisions. The size and pattern of revisions—that is, the difference between early estimates and later estimates, which incorporate more up-to-date concepts and statistical methods and more complete and accurate source data—provide a measure of the reliability of the initial estimates. In this article, BEA's standard of reliability hinges on these revisions; the standard of reliability is met if the revisions do not substantively change BEA's measures of behavior and trends in key aggregates.

Among BEA's international economic accounts, the

Major findings

Based on an analysis of revisions to the 1999–2015 quarterly ITA statistics, estimates from BEA provide a consistent and accurate picture of economic activity between U.S. residents and foreign residents. Early estimates, which are available approximately 75–80 days after the end of the quarter, closely track later estimates, particularly for key aggregates. Revisions are small relative to the estimates themselves or relative to quarter-to-quarter variability in the estimates. Revisions rarely change the direction of movement in the accounts and early estimates of key aggregates closely track turning points identified in later estimates.

Among the other specific findings of this study are the following:

- First estimates of the quarterly current-account balance show the same direction of change as the third estimates 94 percent of the time and identify a significant majority of the turning points identified in the latest estimates.
- The comprehensive restructuring of the ITAs in 2014 led to large revisions to the *levels* of several accounts, including the top-line current-account aggregates. However, quarterly changes are largely unaffected.
- Revisions to estimates of exports of goods and services and to imports of goods and services are particularly small, at less than 1 percent of the account value.

Ensuring the Integrity of BEA Products: Addressing Measurement Challenges

- Improving the accuracy of early GDP estimates
  - Collaborate with source-data agencies to accelerate and improve the data used to estimate GDP
  - Target the timeliness, coverage, and quality of macroeconomic indicators leading to improvements in timeliness and accuracy of measures of economic growth

- Residual Seasonality – 3 Stage Plan
  - Review existing BEA source data and aggregations for origins of residual seasonality
  - Modify GDP estimation process based on results of stage 1 review
  - Develop and release not seasonally adjusted current-quarter GDP estimates in nominal and real terms

Ensuring the Integrity of BEA Products: Developing New Products

- Prototyping
    - Real Personal Income for State and Metro Area
    - Quarterly GDP by Industry
    - Quarterly GDP by State
    - Consumer Spending by State
- Satellite Accounts
    - R&D (now incorporated into core accounts)
    - Health Care Spending
    - Arts & Culture
    - Travel & Tourism
    - Small Business
    - Outdoor Recreation

Ensuring the Integrity of BEA Products: Exploring New Data Sources

- Current push to exploit "Big data" presents challenges for use in official economic statistics:
  - How representative are the data?
  - Do the concepts match those needed to measure output, prices, employment, etc.?
  - Do the data provide consistent time series and classifications?
  - Is it possible to bridge gaps in coverage?
  - How timely are the data?
  - How cost effective?
  - What confidential issues arise and how limiting are they?