

**Subcommittee on the Census  
Committee on Government Reform**

**Bureau of Economic Analysis Hearing  
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**Testimony by  
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*“While the GDP and the rest of the national income accounts may seem to be arcane concepts, they are truly among the great inventions of the twentieth century. Much like a satellite in space can survey the weather across an entire continent, so can the GDP give an overall picture of the state of the economy. It enables the President, Congress, and the Federal Reserve to judge whether the economy is contracting or expanding, whether the economy needs a boost or should be reined in a bit, and whether a severe recession or inflation threatens.*

*Without measures of economic aggregates like GDP, policymakers would be adrift in a sea of unorganized data. The GDP and related data are like beacons that help policymakers steer the economy toward the key economic objectives.”*

Paul Samuelson, Nobel Laureate, MIT, and  
William Nordhaus, Yale University,  
coauthors of *Economics* (16<sup>th</sup> edition)

I want to thank the Committee for this opportunity to appear before you to discuss the Bureau of Economic Analysis (BEA). As you on the Census Committee may know, we are the “other” statistical Bureau in the Commerce Department. Though small in size -- with a staff that numbers fewer than 450 people -- BEA is one of the Nation’s most important statistical agencies. BEA’s signature products are Gross Domestic Product (GDP) and the National Income and Product Accounts, which were originally developed in the late 1930s by the Nobel Laureate, Simon Kuznets, and which are regarded as the mainstay for analyzing the U.S. economy.

In essence, BEA serves as the Nation’s economic accountant; that is, we obtain and interpret large volumes of diverse data from both government and private sources and then organize, combine, and transform those data into a consistent and comprehensive set of economic accounts for the Nation as a whole. BEA’s national, industry, regional, and international accounts provide a full, detailed picture of economic activity and include such widely watched statistics as GDP, corporate profits, State and local personal income, and the balance of payments. BEA data are vital ingredients in major decisions affecting areas such as monetary and fiscal policy, Social Security projections, and business planning and investment decisions. Thus, they affect every American who runs a business, saves for retirement, or takes out a mortgage.

**BEA's Statistical Programs:** All major industrialized countries produce statistical accounts of their national economic activity, measured according to accepted international conventions, which serve as a foundation for national and international business and policy planning. BEA's economic accounts are organized into a system that covers the major sectors of the economy:

- National accounts provide a quantitative view of the production, distribution, and use of the Nation's output, and they feature one of the most widely known economic measures, GDP. BEA's national accounts also include estimates of personal income and the Nation's stock of tangible wealth.
  - S BEA's GDP estimates are critically important in the setting of monetary policy and the projecting of Federal budgets and Social Security trust fund balances. They have a major impact on securities and foreign exchange markets, and the private sector uses them for tracking financial developments, domestic and international business planning, and studies of economic growth and inflation.
- C Industry accounts include gross product by industry, which measures the contribution of private industry and government to the GDP, and the input-output tables, which show the linkages between industries.
  - S BEA's industry accounts provide policy makers, business planners, and State and local officials with critical information to assess such issues as the impact of taxes in a particular industry on other industries or the indirect impact of growth in one industry on other industries. The estimates also provide critical information on the sources of economic and productivity growth in the "new economy."
- C Regional accounts provide estimates and analyses of personal income, population, and employment for regions, States, metropolitan areas, and counties. BEA also produces estimates of gross state product.
  - S BEA's regional accounts data are used to allocate more than \$128 billion in Federal funds to State and local governments for programs such as Medicaid and other Federal transfer and grant programs; are used by 17 States to set either expenditure or revenue caps; and are used by most States to help project taxes and expenditures.
- C International accounts include the international transactions (balance of payments) accounts, the monthly estimates of international trade in services, and the estimates of U.S. investment abroad and foreign investment in the United States.

- S BEA's international estimates are key ingredients in international trade, investment, exchange rate, financial market, and monetary policies, as well as international macroeconomic policy coordination. Because the estimates have such a significant impact on exchange and financial markets, they are key inputs into the global risk and operations planning of multinational corporations.

**Accuracy of BEA's Estimates:** Although BEA's estimates of GDP and related measures are probably among the most accurate and timely such estimates in the world, they are not without error. In order to provide timely GDP estimates that present an accurate general picture of economic activity within one month of the end of a quarter, BEA must use partial data and estimate missing source data. As more complete and more accurate source data become available in the following months, BEA revises the estimates. In general, one finds that BEA's early estimates do a relatively good job of providing a general picture of economic activity. The estimates generally can tell you:

- C If the U.S. economy is expanding or contracting.
- C If growth is accelerating or decelerating.
- C If growth is high, average, or low relative to trend.
- C What components of the U.S. economy are the main sources of growth.
- C The timing of, and components contributing to, recessions and economic expansions.
- C What the general trend and patterns of growth are for key analytic variables, such as investment and saving rates, government expenditures as a share of GDP, export and import shares, real GDP per capita, and productivity.

Where the GDP estimates have been subject to greater uncertainty is in the measurement of longer-term growth rates for real GDP. Small differences in real GDP growth can have major implications for Federal budget projections, monetary policy, and business planning. Unfortunately, in recent years there has been a persistent difference between BEA's estimate of growth as measured by production (GDP) and growth as measured by the incomes earned in production, Gross Domestic Income. In concept the two measures should be equal, but in recent years the income measure has been growing about 0.4 percentage points faster annually than the product measure. (Over the last three years, growth, as measured by income, has grown at a 4.9 percent annual rate, while growth, as measured by product, has grown at a 4.5 percent annual rate).

While there has always been uncertainty about trend growth in real GDP, the difference between the two measures is not only larger than in the past, but the impact of such a discrepancy seems to have a larger pocket book effect. This larger pocket book effect is due to the increasing importance of BEA's estimates for long-term budget and Social Security projections and the increasing reliance on BEA data for the allocation of Federal funds to state and local governments.

In addition, the discrepancy has a larger affect on the economy because of the increasing sophistication of financial markets in this information age and the large impact BEA's data have on financial and foreign exchange markets; the fact that almost half of U.S. households hold stock in one form or another; the increasing use of indexing for loans; and the increasing globalization of the U.S. economy and the impact of changes in exchange rates on everyone from Midwestern farmers to foreign students registering at U.S. colleges.

Rather than review BEA's statistical programs in detail, I will provide three examples of the statistical challenges that confront us in trying to measure the economy, the reasons why getting an accurate measure in each area is important, a review of the progress that we've made in improving the estimates, and the challenges that remain.

**Measuring Growth in the Economy, Inflation, and Productivity<sup>1</sup>: Impact on Monetary and Fiscal Policy and on Business Planning** -- One of the most difficult issues confronting public and private decision makers is uncertainty over the exact rates of inflation and economic growth in the U.S. economy over the last 5 years and their likely rates of change over the next 5 to 10 years. Despite its best efforts to take into account the changes in the structure of today's economy, BEA has not been able to keep pace with these changes, and errors have increasingly been creeping into BEA's measures of trend growth in real GDP, incomes, inflation and productivity. Upward revisions in estimated tax receipts, or the "tax surprises," seen in recent have been, in part, the result of upward revisions in BEA's statistics.

The recent and longer term trends in real GDP growth and in inflation are among the most important determinants of fiscal and monetary policy; and relatively small errors in those estimates can swamp differences in proposed policy alternatives. BEA's estimates are important to policies with a lasting impact on the economy because most long-term projections assume that future growth will resemble the recent trends published by BEA. As the *New York Times* reported in an article entitled "Greenspan Calls for Better Data Collection," the Federal Reserve Board Chairman, in recent speech before National Association for Business Economics, noted that, "The biggest payoffs in efforts to improve economic forecasts are likely to come from raising the quality of the data the data

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<sup>1</sup> BEA's real, or inflation adjusted, GDP estimates are the basis for the numerator in BLS's estimates of labor productivity, so errors and biases in real GDP have a direct impact on productivity measurement.

collected.’<sup>2</sup>

Understatement of the trend rate of growth in real GDP associated with a given rate of inflation may lead monetary policy officials to understate the rate of real GDP growth that can be sustained without sparking higher inflation.<sup>3</sup> Business planners are also affected as they try to determine whether the performance of the economy over the last 5 years (relative to the past and to other countries) is real and permanent (the so called New Economy). The business press, exemplified by the *Economist*, have questioned whether the combination of low inflation and strong growth seen in the United States over the last 5 years is real or is a “statistical mirage.” Most economists, however, seems to hold that the improved performance is largely real.

BEA has worked hard in recent years to keep up to date with the rapidly changing U.S. economy. Using resources made available at BEA by eliminating programs such as the leading indicators, regional projections, and detailed state-level foreign direct investment data, and utilizing improved data developed by BEA and its source data agencies – BLS, Census, the Federal Reserve Board, and Treasury – BEA has been able to develop:

- C New measures of real GDP and prices that use up-to-date weights that reflect current purchasing patterns and prices. These new indexes address the biases in price and output indexes associated with the old fixed-weighted indexes and they significantly improve the accuracy of estimates of real GDP growth, inflation, and productivity.
- C Quality-adjusted price indexes for semiconductors, cell phones, and selected other types of telecommunications equipment that minimize biases in prices and real GDP of the type identified in the Boskin Commission Report to the Senate Finance Committee.
- C New price and output indexes that better measure rapidly growing and changing components of the economy such as banking services, cable TV, sport utility vehicles, casino gambling, and the Internet.

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<sup>2</sup> “Greenspan Calls for Better Data Collection,” *The New York Times*, Wednesday March 28, 2001, p. C2. The full text of Chairman’s Greenspan’s speech is available on the Federal Reserve Board’s Web site ([www.federalreserve.gov/s-t.htm](http://www.federalreserve.gov/s-t.htm)) In his speech, the Chairman provided an interesting overview of the challenges that BEA faces in measuring GDP in today’s increasingly complex economy.

<sup>3</sup> Revisions to real GDP, such as that BEA introduced for Banking services, both lower the measured rate of inflation and raise real GDP growth; others such as bringing in more comprehensive source data in annual and benchmark revisions tend to raise the measured rate of growth, but have little impact on measured inflation.

- C Improved measures of international trade in services and international financial transactions that have made the United States a model for efforts by the U.S. Treasury and the International Monetary Fund to promote greater accuracy, consistency, and transparency in balance of payments accounts around the world.
- C Updated, expanded, and more timely industry account estimates that have been the basis for a wide range of studies on the impact and importance of innovation in today's economy.

These accomplishments notwithstanding, scarce resources at BEA and gaps in the source data used in compiling the accounts have prevented the U.S. National Accounts from keeping up with changes in the economy. As a result, the following measurement problems contribute to the uncertainty about trend growth in GDP and prices:

- C For over 20 percent of real GDP – mainly in services – there are no price indexes to produce inflation-adjusted estimates. BEA must estimate real GDP using measures of physical inputs and outputs or cost-based deflators, resulting in an understatement of real GDP and productivity growth and an overestimate of inflation for these components.
- C For over 20 percent of nominal GDP – also in services – BEA has to estimate these components using a broad range of private and public source data that differ significantly in coverage, concept, level of detail, classification, and timing.
- C There are no consistent and timely data on wage and salary income for supervisors and for many professional and other employees who account for over 40% of compensation in the United States. The existing source data used in BEA's quarterly estimates focus on the old industrial economy and cover only the wages and salaries of production and nonsupervisory workers.
  - S BEA must estimate the wages and salaries of the missing workers and attempt to measure the impact of stock options, in-kind benefits, and other new forms of compensation using a patchwork of partial data.
- C BEA lacks quality-adjusted price indexes for a number of key products in telecommunications and other IT areas. A number of studies have pointed out that the absence of quality-adjusted price indexes for these products may significantly understate real GDP and productivity growth and overstate inflation.

Addressing these problems will require a combination of new conceptual work, the development

of new statistical methodologies, and expanded data collections. BEA and its source data agencies, including BLS, Census, and the Federal Reserve Board, have a successful track record in these areas and have plans for moving forward in them. What is now required are the additional resources to move this work forward. (Attachment 1 outlines BEA plans in these and some of the other areas outlined below).

**Measuring International Trade and Finance: Impact on Trade, Financial, and Monetary Policy:** One set of problems in measuring GDP, not mentioned above, overlaps with BEA’s balance of payments and international trade statistics. Increasing problems in measuring international trade in goods and services and international financial flows not only cause problems for international trade, exchange rate, security market, monetary, and international policies – and international business planning – but also affect domestic policies and business planning through their impact on GDP. These problems and concerns were highlighted in the recent report of the U.S. Trade Deficit Review Commission, which noted<sup>4</sup>:

*“Accurate data are the basis for understanding the complex role that international trade plays in the U.S. economy. Reductions in government import barriers and technological advances in communications, computing, and transportation have enabled world trade in goods and services to increase in both volume and significance. However, this increase greatly complicates how the statistics are gathered and makes assuring their accuracy more difficult. The growing importance of trade in our economy and the needs of government and businesses for information to be able to make good decisions make it essential that data on international trade in goods and services be relevant, accurate, and timely.*

*The federal statistical system, however, does not provide adequate or timely data on international trade and finance. The system is not gathering all the information needed to understand the evolving economy, nor can the system ensure that all of the data are accurate. Testimony before the Commission and other studies point out major weaknesses in the types of statistics gathered and the accuracy of the information. For example, the Commission heard testimony that the undercount in U.S. exports could overstate the U.S. trade deficit by as much as one-third. Similarly, there are a number of factors that lead to the undercounting of imports.”*

Over the last decade, BEA has worked hard to address these problems and improve its international data by:

- C Initiating data exchanges with foreign central banks and statistical agencies so as to reduce respondent burden and improve statistical quality.
- C Expanding the scope and level of detail for the annual and quarterly estimates of international trade by developing estimates for over 50 types of services.

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<sup>4</sup> The U.S. Trade Deficit: Causes, Consequences, and Recommendations for Action, the U.S. Trade Deficit Review Commission, November 14, 2000, Washington D.C.

- C Developing monthly estimates of international trade in services that provide a more complete picture of international trade than that provided by the old merchandise trade series alone.
- C Working with the Treasury Department and the Federal Reserve Board to improve the statistics on both international portfolio investments and foreign direct investments.

Despite these efforts, changes in international markets have outpaced upgrades to the statistics. Some of the difficult problems that BEA faces in measuring international trade and finance are:

- C The valuation of computer software.
- C The rise in low-value exports shipped by express couriers and plants located near the Mexican border that are exempt from reporting requirements.
- C The increase in the size and volatility of international trade in services.
- C Intra-firm trade and transfer pricing.
- C The large increase in the volume and complexity of international financial transactions.
- C Difficulties in valuing and capturing derivatives and other new financial instruments. (The absence of comprehensive and consistent data on U.S. international assets and liabilities in derivatives is particularly disturbing in the light of the near collapse and subsequent rescue of a major U.S. hedge fund in 1998.)

The need to address these and other measurement problems has accelerated as the United States has taken on a world leadership role in promoting greater accuracy, consistency, and transparency in balance of payments statistics by serving as a model for less developed economies to follow, in hopes of helping to prevent future global financial disruptions, such as those associated with the Mexican, Russian, and Asian financial crises. BEA has worked closely with the Treasury Department, the Federal Reserve Board, and the International Monetary Fund, to bring the United States into compliance with the IMF's Data Dissemination Standards, which encourage greater accuracy, consistency, and transparency in the preparation and release of economic statistics by all countries. While BEA's efforts have helped the United States to become one of the first countries in full compliance with the IMF's initial set of Standards, substantial additional work and resources will be required to address derivatives and other data outlined in the IMF's forthcoming expansion of the Standards.



**The Need for a Comprehensive View of Economic Activity: Impact on Perceptions of the Adequacy of U.S. Savings and the Financial Wealth of Households** – One of the most talked about aspects of the economy in recent years has been the precipitous decline in the personal saving rate, which has fallen from over 10 percent in 1984 to near zero today, a level not seen since the Depression. This decline has prompted concerns about the adequacy of U.S. saving for capital formation, the increasing dependence on borrowing from foreigners, the health of consumer finances, the ability of consumers to afford retirement or to handle unexpected needs, and the ability of U.S. households to maintain the rate of spending growth that has fueled this economic expansion.

In order to better explain the changes in the personal saving rate, BEA and the Federal Reserve Board are currently engaged in a joint project to provide an integrated picture of the “real” and “financial” aspects of personal saving. BEA also hopes to work with the Federal Reserve Board on a longer term project that integrates the real GDP and National Income estimates produced by BEA and the Balance Sheet and Flow of Fund estimates produced by the Federal Reserve Board and provides a comprehensive and integrated picture of all sectors of the U.S. economy.

**Conclusion:** In summary, while BEA is doing a good job of measuring today’s economy, significant challenges remain. In discussing the problems that new technologies and changes in the structure of output pose for the measurement of GDP, Chairman Greenspan recently noted:

*“Certainly, statistical systems in the United States, both public and private, are world class and, indeed, in many respects set the world standard. But given the rapidly changing economic structure, one could readily argue that more statistical resources need to be applied to understanding the complexities of the newer technologies that confront analysts.”*

In the current fiscal year, BEA received its first real increase in funding in nearly eight years. The President’s budget blueprint for FY 2002 proposes a \$9 million, or 18% increase, in BEA’s budget to extend the work begun in FY 2001 in order to “improve key measures used by government and business policy makers.” Those funds would enable BEA to begin to:

- 1) Fill the gaps in BEA’s estimates outlined above, by developing: a) new price and output indexes for services and high-tech products; b) new measures of compensation that better measure stock options and rapidly growing forms of compensation, c) updated measures of international trade and finance, and d) integrated measures of changes in the real and financial economy.
- 2) Upgrade BEA’s IT infrastructure so as to raise the efficiency and accuracy of BEA’s estimates, upgrade BEA’s ability to disseminate its data to its customers, and to introduce electronic reporting to reduce the respondent burden on companies reporting on BEA’s surveys.