

4. STRENGTHENING FEDERAL STATISTICS

Federal statistical programs produce key information to inform public and private decision makers about a range of topics of interest, including the economy, the population, agriculture, crime, education, energy, the environment, health, science, and transportation. The ability of governments, businesses, and citizens to make appropriate decisions about budgets, employment, investments, taxes, and a host of other important matters depends critically on the ready availability of relevant, accurate, and timely Federal statistics.

The Federal statistical community remains on alert for opportunities to strengthen these measures of our Nation's performance. For example, during 2006, Federal statistical agencies improved their measures of the knowledge economy by releasing a preliminary Research and Development Satellite Account that estimates the effect of investment in research and development on U.S. economic growth (BEA and NSF); published, for the first time, estimates of households experiencing identity theft victimization and its consequences (BJS); developed procedures to ease the reporting burden of the 2007 Economic Census by enhanced electronic reporting, and to collect product data from all 350 service industries, up from 80 in the last census (Census Bureau); published data on the labor force status of persons who evacuated their homes due to Hurricane Katrina (BLS); developed and tested quality improvements to the Commodity Flow Survey, the

most comprehensive source of nationwide data on the transportation of goods (BTS and Census Bureau); introduced new interactive web-based tools to facilitate access to, and use of, health statistics information (NCHS); expanded internet data collection systems to securely process energy survey data more quickly and obtain better quality data (EIA); provided Internet access to forecasts of current year farm income (ERS); offered podcasts of farm broadcast news stories (NASS); and continued the modernization and reengineering of the decennial census to improve its accuracy and usefulness while containing costs (Census Bureau).

For Federal statistical programs to effectively benefit their wide range of users, the underlying data systems must be viewed as credible. In order to foster this credibility, Federal statistical programs seek to adhere to high quality standards and to maintain integrity and efficiency in the production of data. As the collectors and providers of these basic statistics, the responsible agencies act as data stewards—balancing public and private decision makers' needs for information with legal and ethical obligations to minimize reporting burden, respect respondents' privacy, and protect the confidentiality of the data provided to the Government. This chapter discusses the development of standards that principal statistical programs use to assess their performance and presents highlights of their 2008 budget proposals.

Performance Standards

Statistical programs maintain the quality of their data or information products as well as their credibility by setting high performance standards for their activities. The statistical agencies and statistical units represented on the Interagency Council on Statistical Policy (ICSP) have collaborated on developing an initial set of common performance standards for use under the Government Performance and Results Act and in completing the Administration's Program Assessment Rating Tool (PART). Federal statistical agencies have agreed that there are six conceptual dimensions within two general areas of focus that are key to measuring and monitoring statistical programs. The first area of focus is Product Quality, encompassing the traditional dimensions of relevance, accuracy, and timeliness. The second area of focus is Program Performance, encompassing the dimensions of cost, dissemination, and mission achievement.

Statistical agencies historically have focused on measuring performance in the area of product quality, especially dimensions of accuracy and timeliness that are most amenable to quantitative measurement. Rel-

evance, also an accepted measure of quality, can be either a qualitative description of the usefulness of products or a quantitative measure such as a customer satisfaction score. Relevance is more difficult to measure, and the indicators that do exist are more varied.

Program performance standards form the basis for evaluating effectiveness. They address questions such as: Are taxpayer dollars spent most effectively? Are products made available to those who need them? Are agencies meeting their mission requirements or making it possible for other agencies to meet their missions? The indicators available to measure program performance for statistical activities currently are less well developed.

Product quality and program performance standards are designed to serve as indicators when answering specific questions in the Administration's PART process. Chart 4–1 presents each principal Federal statistical agency's assessment of the status of its current and planned use of indicators on the six dimensions. With the exception of cost indicators, where three agencies (ERS, NCES, and NCHS) are still planning their

Chart 4-1. ICSP Statistical Quality and Program Performance Dimensions

Dimension	BEA	BJS	BLS	BTS	Census	EIA	ERS	NASS	NCES	NCHS	ORES	SOI	SRS
Product Quality													
Relevance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Accuracy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Timeliness	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Program Performance													
Cost	✓	✓	✓	✓	✓	✓	P	✓	P	P	✓	✓	✓
Dissemination	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mission	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Achievement	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
✓ Indicator Available P Indicator Planned													

Description of Dimensions

Product Quality

Relevance: Qualitative or quantitative descriptions of the degree to which products and services are useful to users and responsive to users' needs.

Accuracy: Qualitative or quantitative measure of important features of correctness, validity, and reliability of data and information products measured as degree of closeness to target values.

Timeliness: Qualitative or quantitative measure of the timing of information releases.

Program Performance

Cost: Quantitative measure of the dollar amount used to produce data products and services.

Dissemination: Qualitative or quantitative information on the availability, accessibility, and distribution of products and services.

Mission Achievement: Qualitative or quantitative information about the effect of, or satisfaction with, statistical programs.

Key to Statistical Agencies

BEA = Bureau of Economic Analysis, Department of Commerce
 BJS = Bureau of Justice Statistics, Department of Justice
 BLS = Bureau of Labor Statistics, Department of Labor
 BTS = Bureau of Transportation Statistics, Department of Transportation
 Census = Census Bureau, Department of Commerce
 EIA = Energy Information Administration, Department of Energy
 ERS = Economic Research Service, Department of Agriculture
 NASS = National Agricultural Statistics Service, Department of Agriculture
 NCES = National Center for Education Statistics, Department of Education
 NCHS = National Center for Health Statistics, Department of Health and Human Services
 ORES = Office of Research, Evaluation, and Statistics, Social Security Administration
 SOI = Statistics of Income, Internal Revenue Service, Department of the Treasury
 SRS = Science Resources Statistics Division, National Science Foundation

measures, the ICSP agencies have now developed performance measures for all six dimensions. Use of the indicators may be for internal management, strategic planning, or annual performance reporting. The dimensions shown in the chart reflect an overall set of indicators for statistical activities, but the specific measures vary among the individual programs depending on their unique characteristics and requirements. Annual performance reports and PARTs provide these specific measures, as well as additional information about performance goals and targets and whether a program is meeting, or making measurable progress toward meet-

ing, its performance goals. The examples below illustrate different ways agencies track their performance on each dimension.

Product Quality: Statistical agencies agree that product quality encompasses many attributes, including (but not limited to) *relevance*, *accuracy*, and *timeliness*. The basic measures in this group relate to the quality of specific products, thereby providing actionable information to managers. These are “outcome-oriented” measures and are key to the usability of information products. Statistical agencies or units establish targets and monitor how well targets are met. In some sense,

relevance relates to “doing the right things,” while accuracy and timeliness relate to “doing things right.”

Relevance: Qualitative or quantitative descriptions of the degree to which products and services are useful and responsive to users’ needs. Relevance of data products and analytic reports may be monitored through a professional review process and ongoing contacts with data users. Product relevance may be indicated by customer satisfaction with product content, information from customers about product use, demonstration of product improvements, comparability with other data series, agency responses to customer suggestions for improvement, new or customized products or services, frequency of use, or responses to data requests from users (including policy makers). Through a variety of professional review activities, agencies maintain the relevance and validity of their products, and encourage data users and other stakeholders to contribute to the agencies’ data collection and dissemination programs. Striving for relevance requires monitoring to ensure that information systems anticipate change and evolve to appropriately measure our dynamic society and economy.

Accuracy: Qualitative or quantitative measures of important features of correctness, validity, and reliability of data and information products measured as degree of closeness to target values. For statistical data, accuracy may be defined as the degree of closeness to the target value and measured as sampling error and various aspects of non-sampling error (e.g., response rates, size of revisions, coverage, edit performance). For analysis products, accuracy may be the quality of the reasoning, reasonableness of assumptions, and clarity of the exposition, typically measured and monitored through review processes. In addition, accuracy is assessed and improved by internal reviews, comparisons of data among different surveys, linkages of survey data to administrative records, redesigns of surveys, or expansions of sample sizes.

Timeliness: Qualitative or quantitative measure of timing of information releases. Timeliness may be measured as time from the close of the reference period to the release of information, or customer satisfaction with timeliness. Timeliness may also be measured as how well agencies meet scheduled and publicized release dates, expressed as a percent of release dates met.

Program Performance: Statistical agencies agree that program performance encompasses balancing the dimensions of cost, dissemination, and mission accomplishment for the agency as a whole; operating efficiently and effectively; ensuring that customers receive the information they need; and serving the information needs of the Nation. Costs of products or programs may be used to develop efficiency measures. Dissemina-

tion involves making sure customers receive the information they need via the most appropriate mechanisms. Mission achievement means that the information program makes a difference. Hence, three key dimensions are being used to indicate program performance: *cost* (input), *dissemination* (output), and *mission achievement* (outcome).

Cost: Quantitative measure of the dollar amount to produce data products or services. The development and use of financial performance measures within the Federal Government is an established goal; the intent of such measures is to determine the “true costs” of various programs or alternative modes of operation at the Federal level. Examples of cost data include full costs of products or programs, return on investment, dollar value of efficiencies, and ratios of cost to products distributed.

Dissemination: Qualitative or quantitative information on the availability, accessibility, and distribution of products and services. Most agencies have goals to improve product accessibility, particularly through the Internet. Typical measures include: on-demand requests fulfilled, product downloads, degree of accessibility, customer satisfaction with ease of use, number of participants at user conferences, citations of agency data in the media, number of Internet user sessions, number of formats in which data are available, amount of technical support provided to data users, exhibits to inform the public about information products, issuance of newsletters describing products, usability testing of web sites, and assessing compliance with Section 508 of the Rehabilitation Act, which requires Federal agencies to make their electronic and information technology accessible to people with disabilities.

Mission Achievement: Qualitative or quantitative information about the effect of, or satisfaction with, statistical programs. For Government statistical programs, this dimension responds to the question—have we achieved our objectives and met the expectations of our stakeholders? Under this dimension, statistical programs document their contributions to the goals and missions of parent departments and other agencies, the Administration, the Congress, and information users in the private sector and the general public. For statistical programs, this broad dimension involves meeting recognized societal information needs; it also addresses the linkage between statistical outputs and programmatic outcomes.

However, identifying this linkage is far from straightforward. It is frequently difficult to trace the effects of information products on the public good. Such products often are necessary intermediate inputs in the creation of high visibility information whose societal benefit is clearly recognized. For example, the economic statistics pro-

duced by a variety of agencies are directly used by the Bureau of Economic Analysis in the calculation of the Gross Domestic Product (GDP), which analysts universally use to assess changes in the level of domestic economic activity. Similarly, statistics from specific surveys are directly used by the Bureau of Labor Statistics in the calculation of the Consumer Price Index (CPI), which is widely used in diverse applications, such as indexing pensions for retirees. As a result, a number of statistical agencies can claim credit for contributing to the GDP and/or the CPI and to the many uses of these information products. In addition, statistics produced by Federal agencies are used to track the performance of programs managed by their parent or other organizations related to topics such as crime, education, energy, the environment, health, science, and transportation.

Moreover, beyond the direct and focused uses of statistical products, the statistical agencies and their programs serve a diverse and dispersed set of data users working on a broad range of applications. Users include government policy makers at the Federal, State, and local levels, business leaders, households, academic researchers, analysts at public policy institutes and trade groups, marketers and planners in the private sector, and many others. Information produced by statistical agencies often is combined with other information for use in the decision-making process. Thus, the relationship between program outputs and their beneficial uses and outcomes is often complex and difficult to track. Consequently, agencies use both qualitative and quantitative indicators to make this linkage as explicit as feasible.

In the absence of preferred quantitative indicators, qualitative narratives can indicate how statistical agency products contribute to and evaluate progress toward important goals established for government or private programs. In particular, narratives can highlight how statistical agencies measure the Nation's social and economic structure, and how the availability of the information influences changes in policies and programs. These narratives contribute to demonstrating mission accomplishment, particularly in response to questions in Section I of the PART, "program purpose and design." Narratives may describe statistical information's effects on measuring agency policy or change of policy, supporting research focused on policy issues, informing debate on policy issues, or providing in-house consulting support.

In addition to narratives, quantitative measures may be used to reflect mission achievement. For example, customer satisfaction with the statistical agency or unit indicates if the agency or unit has met the expectations of its stakeholders.

Of the 14 principal Federal statistical agencies or units that are members of the ICSP, eleven agencies have programs that have been assessed using the PART process. All but one of these agencies' programs have received PART summary ratings of Effective or Moderately Effective, as shown in Chart 4-2. While recognizing the strength of the Energy Information Administration's purpose and management, in 2004 EIA received an initial rating of "Results Not Demonstrated" for two key reasons, both of which have since been rectified. At the time of the evaluation, EIA had recently adopted new performance measures and lacked the necessary historical baselines and future targets; these now exist for all measures. EIA was also critiqued for having no recurring independent evaluation of its entire program. EIA recruited an energy expert from the Massachusetts Institute of Technology to select and lead a team to conduct such an evaluation, and the team completed its report in 2006. EIA management will evaluate the team's recommendations as part of its strategic planning process in 2007. As additional ICSP agencies have an opportunity to undergo the PART process, the agencies plan to continue to use the results of the collaborative performance standards development effort to help maintain and extend their generally favorable assessments.

Chart 4-2. MOST RECENT PART SUMMARY RATINGS FOR STATISTICAL PROGRAMS

	Summary Rating
Bureau of Economic Analysis	Effective
Bureau of Justice Statistics	
Criminal Justice Statistics Program	Effective
National Criminal History Improvement Program	Moderately Effective
Bureau of Labor Statistics	Effective
Bureau of Transportation Statistics	Moderately Effective
Census Bureau	
Current Demographic Statistics	Effective
Decennial Census	Moderately Effective
Intercensal Demographic Estimates	Moderately Effective
Survey Sample Redesign	Effective
Economic Census	Effective
Current Economic Statistics	Moderately Effective
/Census of Governments	
Economic Research Service	Effective
Energy Information Administration	Results Not Demonstrated
National Agricultural Statistics Service	Moderately Effective
National Center for Education Statistics	
Statistics	Effective
Assessment	Effective
National Center for Health Statistics	Moderately Effective
Science Resources Statistics Division, NSF	
NSF's Infrastructure and Instrumentation component	Effective

Highlights of 2008 Program Budget Proposals

The programs that provide essential statistical information for use by governments, businesses, researchers, and the public are carried out by more than 70 agencies spread across every department and several independent agencies. Approximately 40 percent of the funding for these programs provides resources for 13 agencies or units that have statistical activities as their principal mission. (Please see Table 4–1.) The remaining funding supports work in 60-plus agencies or units that carry out statistical activities in conjunction with other missions such as providing services or enforcing regulations. More comprehensive budget and program information about the Federal statistical system will be available in OMB’s annual report, *Statistical Programs of the United States Government, Fiscal Year 2008*, when it is published later this year. The following highlights elaborate on the Administration’s proposals to strengthen the programs of the principal Federal statistical agencies.

Bureau of Economic Analysis: Funding is requested to: (1) extend the prototype Research & Development satellite account, funded by the National Science Foundation in 2006 and 2007, with annual updates and extensions to BEA’s Gross Domestic Product and other estimates between 2008 and 2012, and full incorporation into the economic accounts in 2013; (2) complete BEA’s five-year program to improve the accuracy and timeliness of the Nation’s economic accounts by addressing data gaps and measurement problems, expanding integration with other accounts, and improving consistency with international standards; and (3) continue to improve the accuracy of statistics on services, profits, compensation, international trade in services, and off-shoring.

Bureau of Justice Statistics: Funding is requested to provide for BJS’s core statistical programs and for two initiatives: (1) a redesign of the National Crime Victimization Survey based on anticipated recommendations from the Committee on National Statistics of the National Research Council; and (2) development of a national recidivism statistical series, which will provide baseline data, as well as representative data every 3 years, on the rates of rearrest, reconviction, and reincarceration among released State and Federal prisoners to provide a quantitative basis for evaluating the effectiveness of reentry programs, post-custody surveillance, and State policies related to parole revocation.

Bureau of Labor Statistics: Funding is requested to support the production, dissemination, and improvement of BLS economic measures, including: (1) the introduction of continuous updating to the housing and geographic area samples in the Consumer Price Index (CPI), which will improve the accuracy and timeliness of the CPI; (2) the continuation of efforts to modernize the computing systems for monthly processing of the Producer Price Index (PPI) and U.S. Import and Export

Price Indexes (IPP); and (3) the publication, for the first time, of local area Employment Cost Index (ECI) and *Employer Costs for Employee Compensation* (ECEC) series as deemed feasible as a result of testing completed in 2007.

Bureau of Transportation Statistics: Funding is requested to: (1) conduct the Commodity Flow Survey, a major national benchmark survey of shippers; (2) release monthly statistics on the commodities and mode of transportation used in trading with our largest partners; (3) produce a core set of economic data and indicators, including the Government Transportation Financial Statistics Report, multi-factor productivity measures, the State Transit Expenditure Survey, and the Air Travel Price Index; (4) produce and release the National Transportation Atlas Data Base, a compendium of national geospatial transportation data; and (5) conduct the biennial Census of Ferry Operations in the U.S.

Census Bureau: Funding is requested for the Census Bureau’s ongoing economic and demographic programs and for a re-engineered 2010 Census. For the Census Bureau’s economic and demographic programs, funding is requested to: (1) collect and process economic census returns for the 2007 Economic Census; (2) create the universe frame and develop organizational information for the 2007 Census of Governments, as well as collect and process data for the employment phase, and collect and process data from States and other sources for the finance phase; (3) undertake an initiative to close the current gap in service sector coverage; and (4) continue reengineering the Survey of Income and Program Participation. For the 2010 Census program, funding is requested to continue to: (1) conduct planning, testing, and development activities to support a re-engineered 2010 Census, including the 2008 Census Dress Rehearsal and early operations for the 2010 Census; (2) improve the accuracy of map feature locations for the remaining 367 counties of the total of 3,232 counties; and (3) continue to conduct the American Community Survey to provide socio-economic data on an ongoing basis rather than only once-a-decade.

Economic Research Service: Funding is requested to: (1) strengthen and enhance the ERS market analysis and outlook program to provide timely analysis of global agricultural product markets; and (2) strengthen ERS’s research and modeling capacity in the area of bio-energy with particular emphasis given to the changing economics of livestock feeding and the role of ethanol byproducts.

Energy Information Administration: Funding is requested to continue ongoing operations to: (1) maintain critical energy data coverage, analysis, and forecasting; (2) improve data reliability and statistical accuracy through redesigning key petroleum and natural

gas surveys; (3) initiate monthly ethanol and biofuels data collections on a national and regional basis as mandated in Section 1508 of the *Energy Policy Act of 2005*; (4) strengthen global oil and gas data and modeling capabilities; and (5) improve the ability to assess and forecast supply, demand, and technology trends affecting U.S. and world energy markets.

National Agricultural Statistics Service: Funding is requested to support printing, postage and handling of questionnaire packages, logging returned questionnaires, capturing reported data, and conducting telephone and personal follow-up interviews with non-respondents for the quinquennial Census of Agriculture via questionnaires that are scheduled to be mailed to the Nation's agricultural producers in December 2007.

National Center for Education Statistics: Funding is requested to: (1) conduct the National Assessment of Educational Progress, including 12th grade reading and mathematics assessments in 2009; (2) plan for a new high school longitudinal study that will begin with a cohort of 9th graders in 2009 and follow them through postsecondary education and into the workforce; (3) analyze data from international studies such as the 2007 Trends in International Mathematics and Science Study and plan for new international assessments; (4) undertake a pilot study on the development of postsecondary unit records, an essential restructuring of several components of the Integrated Postsecondary Education Data System; (5) carry out the 2007–08 Schools and Staffing Survey to obtain information on public and private schools, principals, and teachers; and (6) conduct the Beginning Postsecondary Student Longitudinal Survey, which provides information on the progress of postsecondary students, as well as the 2008 National Postsecondary Student Aid Survey.

National Center for Health Statistics: Funding is requested to: (1) continue data collection, analysis, and dissemination for key national health data systems, including the National Vital Statistics System, National Health Interview Survey, National Health and Nutrition Examination Survey, and National Health Care Survey; (2) continue gains in timeliness by implementing systems improvements in data collection and processing; (3) continue efforts to develop survey data

that address the health care delivery system; and (4) work collaboratively with States and other agencies on upgrading the technology for collecting data from State birth and death certificates.

Office of Research, Evaluation, and Statistics, SSA: Funding is requested to: (1) continue strategic planning to modernize ORES's processes for developing and disseminating data from the Social Security Administration's major administrative data files for statistical purposes; (2) support outside surveys and linkage of SSA administrative data to surveys; (3) create a new public use file of administrative data on earnings histories and benefits for a sample of Social Security numbers; and (4) evaluate the analytic validity of a synthetic data file based on data from the 1990–1993 and 1996 Survey of Income and Program Participation (SIPP) panels matched to SSA and IRS administrative data.

Science Resources Statistics Division, NSF: Funding is requested to: (1) implement ongoing programs on the science and engineering enterprise; (2) continue to implement redesign and improvement activities for a broad range of surveys, particularly the suite of research and development (R&D) surveys; (3) support the NSF/SBE initiative on the Science of Science and Innovation Policy to develop the data, tools, and knowledge needed for a new science of science policy by enhancing the comparability, scope and availability of international data; and (4) develop data on innovation and R&D conducted or funded by nonprofit organizations.

Statistics of Income Division, IRS: Funding is requested to: (1) maintain and modernize tax data collection systems, including developing interfaces with modern electronic tax return filing systems; (2) implement a databank repository for SOI and IRS population file data to more efficiently build longitudinal databases and enable sub-national estimates; (3) examine means to more effectively mask individual records to minimize the possibility of identification in the Individual Public Use Sample files; and (4) modernize and expedite dissemination of data and publications, including enhancement of products and features on the www.irs.gov/taxstats website.

Table 4–1. 2006–2008 BUDGET AUTHORITY FOR PRINCIPAL STATISTICAL AGENCIES¹

(In millions of dollars)

	2006 Actual	Estimate	
		2007	2008
Bureau of Economic Analysis	75	75	81
Bureau of Justice Statistics ²	50	50	62
Bureau of Labor Statistics	537	537	573
Bureau of Transportation Statistics	27	27	27
Census Bureau ³	822	817	1250
Salaries and Expenses ³	216	210	223
Periodic Censuses and Programs	606	607	1027
Economic Research Service ⁴	75	75	83
Energy Information Administration	85	85	105
National Agricultural Statistics Service ⁵	139	140	168
National Center for Education Statistics	183	183	236
Statistics	90	90	119
Assessment	88	88	111
National Assessment Governing Board	5	5	6
National Center for Health Statistics ⁶	109	109	110
Office of Research, Evaluation, and Statistics, SSA	16	18	15
Science Resources Statistics Division, NSF	33	33	37
Statistics of Income Division, IRS	38	41	41

¹ Reflects any recissions.² Includes funds for management and administrative costs of \$11, \$11, and \$17 million in 2006, 2007, 2008, respectively that were previously displayed separately.³ Includes Mandatory Appropriations of \$20 million for each year for the Survey of Program Dynamics and collection of data related to the allocation to States of State Children's Health Insurance Program funds.⁴ 2007 funding assumes the reallocation of \$350,000 provided in 2006 for a comprehensive report on the economic development and current status of the sheep industry in the United States. Funding for that purpose will not be needed in 2007.⁵ Includes funds for the periodic Census of Agriculture of \$29, \$29, and \$54 million in 2006, 2007, and 2008, respectively. The FY 2008 Budget includes an increase of \$24.7 million due to cyclical activities.⁶ All funds from the Public Health Service Evaluation Fund. Administrative costs for NCHS that previously were displayed as part of the NCHS budget line are now reflected in two consolidated CDC-wide budget lines for management and administrative costs.

