The Nation's Data at Risk

Meeting America's Information Needs for the 21st Century

INAUGURAL REPORT

This report came about because the American Statistical Association (ASA), in partnership with George Mason University (GMU), recognized that just as engineers regularly assess the physical infrastructure of America's transportation network of roads, bridges, airports, and railroads, so too must the statistics profession assess the nation's federal statistical data infrastructure. The federal statistical system produces invaluable information on our people, economy, and society, including population change and economic growth, employment, education, health, poverty, crime, science and engineering, and other topics. Regular assessment is needed to determine the strengths of the system and where it requires further strengthening to provide the public and policymakers with the best possible information on which to base their decisions. With generous funding from the Alfred P. Sloan Foundation and additional support from ASA and GMU, we set out to assess the core of the system—the 13 principal statistical agencies that produce official statistics as their primary mission and the chief statistician's office in the U.S. Office of Management and Budget (OMB).

Our intention is to update and improve upon this assessment annually. For this first report, we:

1. Conducted listening sessions with each of the statistical agency heads and the chief statistician;

2. Asked the statistical agencies to respond to a detailed questionnaire on the dimensions we were assessing;

3. Conducted an in-person workshop of stakeholders to test ideas and gather information on how the health of the statistical system might be defined; and

4. Gathered a variety of information available in the public domain.

The statistical agencies were generous with their time and availability to support this assessment.

Our team considered whether the 13 principal statistical agencies are able to accomplish their missions as required by law and whether they are able to support the needs of a modern society that is increasingly global and digital. For example, artificial intelligence (AI) is rapidly changing our society and touching all facets of people's lives. Many of the changes that are happening affect whether people are losing or modifying their jobs or new jobs are being created; how products are manufactured and sold; how and what types of healthcare people are receiving; education needs at all levels; and myriad other aspects of people's daily lives. Although some aspects of these changes will be measured by academia and private companies, public policy makers and program administrators need comprehensive, objective, high-quality, timely data they can trust from the government itself. It is our conclusion that without investment and stronger governance structures in place, the federal statistical system will be challenged to fully meet this and other critical needs.

There are grounds for optimism. In recent years, the statistical agencies have made important innovations, including rapid response to the data needs of the Covid-19 pandemic and coordinated efforts to investigate the potential uses of AI for statistical agency functions. Further, Congress has passed legislation—the Foundations for Evidence-Based Policymaking Act of 2018 and provisions of the CHIPS and Science Act of 2022—responding to the need to modernize how we collect, disseminate, and use information to realize the best value for the many purposes for which federal data are used. Other entities (the National Academies' Committee on National Statistics, the congressionally established Commission on Evidence-Based Policymaking, and the chief statistician's office) have issued guidance and recommendations toward a more agile and relevant statistical system. But realizing the promise of the congressional, statistical agency, and other initiatives will require that Congress, OMB, the parent departments of statistical agencies, and the agencies themselves take added steps—in concert, to the greatest extent possible—to bolster the statistical system as a whole and enable it to add value for policymakers and the public.

The project team for the assessment consists of the principal investigators: Steve Pierson of ASA and Jonathan Auerbach of GMU and four people they selected to bring a range of perspectives and experiences to the assessment task. We received invaluable guidance from pro bono members of a Scientific Advisory Board throughout the project and comments from people we asked to review the report in draft form. The heads of the principal statistical agencies and the chief statistician's office also received copies of the draft report to review for accuracy. The project team is responsible for all final decisions on content, findings, and recommendations.

Our report has an executive summary, main body, and supporting materials. Our bios and the roster of Scientific Advisory Board members and report reviewers are in Supporting Materials: M. A separate highlights document is also available.

If you have comments on our project, please contact Steve Pierson (spierson@amstat.org). Our report is in a tradition of reviews of the federal statistical system by the ASA and other organizations (see Supporting Materials: C). We hope to encourage broader and deeper interest in the federal statistical system among the statistics profession and other relevant disciplines. We are gratified that the ASA Board endorsed the report's recommendations at its April 20, 2024, meeting.

June 2024

Jonathan Auerbach, George Mason University

Claire McKay Bowen, Urban Institute

Constance Citro, National Academies of Sciences, Engineering, and Medicine, and independent consultant

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Notes:

Affiliations are for identification only. The views in this report are not necessarily the views of any host organization of the project team members.

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SUPPORTING MATERIALS*

*All Supporting Material sections can be found and downloaded from the website

EXECUTIVE SUMMARY

Federal statistics are essential U.S. infrastructure. Produced by 13 principal federal statistical agencies and other statistical programs, they are the official facts and figures on which countless government, personal, and business decisions depend. The importance of this infrastructure goes beyond commerce. Federal statistics are a core democratic institution, supporting free and fair elections, fair and impartial courts, informed civil discourse, and other vital functions that are not easily replicated by the private sector (see Boxes ES-1 and ES-2). Further, high-quality official statistics are essential to understanding flows of trade, investment, and people with other nations.

> *The return on investment in the federal statistical system is enormous. Similarly, the cost of neglecting our statistical agencies would be tremendous. Their data inform everything from the federal government's setting of interest rates and measurement of inflation to an entrepreneur's next venture and a community's health, education, and safety.*

MICHAEL STRAIN, DIRECTOR, ECONOMIC POLICY STUDIES, AMERICAN ENTERPRISE INSTITUTE

Federal Statistics Are Critical for Our Nation

If federal statistical agencies cannot produce accurate and timely data, policymakers and legislators such as members of Congress will not have trustworthy information or evidence to make essential public policy decisions or administer important programs. The following examples are from among the large number that could be used as illustrations. They highlight selected decisions about essential programs that required high-quality federal statistics.

SUPPORTING THE ECONOMY

The Bureau of Economic Analysis (BEA) needs data on all sectors of the economy on a quarterly basis to develop accurate, timely estimates of Gross Domestic Product (GDP), which in turn are key to effective government policymaking. Prior to 2009, the Census Bureau collected quarterly data on only a few industries in the service sector. It had requested but not received funding to expand coverage (e.g., for finance, insurance, real estate). Consequently, initial estimates of the decline in GDP from the Great Recession were significantly short of the actual decline, which left policymakers assuming that the programs enacted to boost the economy were adequate instead of falling short. (See Reamer, 2014.)

SETTING STANDARDS TO PROTECT PUBLIC HEALTH

The National Health and Nutrition Examination Survey (NHANES), first fielded in the early 1960s by the National Center for Health Statistics (NCHS), combines surveys with physical examinations and tests. NHANES results enabled the federal government to eliminate lead from gasoline and food and soft drink cans, with a decline in elevated blood lead levels of more than 70% since the 1970s. It also provided data to create the growth charts used nationally and worldwide by pediatricians to evaluate children's growth and inform ongoing national programs to reduce high blood pressure and cholesterol levels. NHANES - About the National Health and Nutrition Examination Survey (cdc.gov)

ALLOCATING SCHOOL FUNDING FOR DISADVANTAGED CHILDREN

Since 1965, the federal government has annually allocated billions of dollars of Title I funds ($20.5 billion for FY 2024) to elementary and secondary school districts to provide services to students in low-income families. The allocations use estimates of school-aged children in families with incomes below the federal poverty line from the Census Bureau's Small Area Income and Poverty Estimates (SAIPE) program. SAIPE combines survey and administrative records data (food assistance program and tax data from the principal statistical agency within the Internal Revenue Service [IRS], Statistics of Income [SOI]), to produce up-to-date annual estimates. Small Area Income and Poverty Estimates (SAIPE) Program (census.gov)

Policy analysts used data from the National Center for Science and Engineering Statistics (NCSES)' National Patterns of R&D Resources to inform federal investment priorities on research and development, such as in the CHIPS and Science Act of 2022.

UPDATING THE COSTS OF THE THRIFTY FOOD PLAN, USED FOR SNAP BENEFITS

The Agricultural Improvement Act of 2018 required the U.S. Department of Agriculture (USDA) Food and Nutrition Service (FNS) to update the composition and cost of the Thrifty Food Plan, which sets benefits in the Supplemental Nutrition Assistance Program (SNAP, formerly food stamps). FNS worked with the Economic Research Service (ERS), one of USDA's two statistical agencies, to analyze retail scanner data to price foods purchased by consumers; FNS also used NCHS data from the What We Eat component of NHANES. The 2021 Thrifty Food Plan represents the first update in 45 years in the plan's purchasing power and ability to meet the population's nutrition needs. Thrifty Food Plan, 2021 (azureedge.us)

BEA's GDP accounts are required for budget formulation, fiscal policy, monetary policy, international trade and investment policy and are used to allocate over $300 billion in federal funds.

J. STEVEN LANDEFELD, DIRECTOR, BUREAU OF ECONOMIC ANALYSIS, 1995–2014

Why the Nation Needs Federal Statistics

Federal statistics are a public good. Just like our national defense and national parks systems, the public is best served when the federal government collects and disseminates critically needed data. The private sector may produce many useful statistics, but businesses do not commonly have an economic incentive to produce the kinds of comprehensive, high-quality data produced by federal statistical agencies. In fact, private firms rely on federal statistics, not only for their own planning uses but also when they add value to federal data for resale.

FIVE ESSENTIAL FEATURES OF FEDERAL STATISTICS

Without federal statistical agencies, the private sector would not likely produce high-quality data that:

1. Cover the nation's entire population of people or businesses.

2. Include nationally important but small sectors, such as science and engineering.

3. Are provided consistently over time and with full transparency when needed changes are made.

4. Are accompanied by documentation and quality evaluations so that users can determine if the data are fit to use for their purposes.

5. Are comparable not only across states and other geographic units in the United States but also with other countries, particularly in areas of trade, manufacturing, population, and migration. To facilitate comparability, data quality standards, and other cross-national initiatives, federal statistical staff participate in such bodies as the United Nations Statistical Commission and the Organization for Economic Cooperation and Development (OECD).

Components of the Federal Statistical System

The United States has a decentralized statistical system, in contrast to many other countries—there is no "Statistics USA." As interest grew in having the federal government develop policies and programs in such areas as agriculture, education, labor, and others, cabinet departments were established that included a statistical agency. The chief statistician's office performs an invaluable standard-setting, coordination, and leadership function across the agencies.

THE CHIEF STATISTICIAN'S OFFICE IN THE U.S. OFFICE OF MANAGEMENT AND BUDGET (OMB) COORDINATES:

13 Principal Federal Statistical Agencies—

Department of Agriculture—Economic Research Service (ERS); National Agricultural Statistics Service (NASS)

Department of Commerce—Bureau of Economic Analysis (BEA); Census Bureau

Department of Education—National Center for Education Statistics (NCES)

Department of Energy—Energy Information Administration (EIA)

Department of Health and Human Services—National Center for Health Statistics (NCHS)

Department of Justice—Bureau of Justice Statistics (BJS)

Department of Labor—Bureau of Labor Statistics (BLS)

Department of Transportation—Bureau of Transportation Statistics (BTS)

Department of the Treasury—Statistics of Income (SOI)

National Science Foundation—National Center for Science and Engineering Statistics (NCSES)

Social Security Administration—Office of Research, Evaluation, and Statistics (ORES)

3 recognized statistical units, ~100 programs with statistical content (e.g., surveys) with appropriations of at least $500,000 annually, and 13 statistical officials in departments and independent agencies that do not have a principal statistical agency or recognized unit.

The United States' founders recognized the importance of data infrastructure when they enshrined a decennial census in the U.S. Constitution. Since the first official census in 1790, America's data infrastructure has expanded—like other core democratic institutions—to include multiple agencies spread across a decentralized system (see Box ES-3). Available statistics cover the economy, population change, employment and unemployment, energy, criminal justice, health, education, transportation, agriculture, science and engineering, income, consumption, and wealth, and other areas of public policy interest. Federal statistics are a unique public good, and the agencies that produce them are and need to be accountable to the taxpayers, subject to rigorous scientific and ethical standards, and overseen by democratically elected officials. Federal statistics are widely cited, used, and trusted for decision-making. Their existence and quality are taken for granted even though the agencies that produce them are not, for the most part, visible to the public or policymakers.

Adding to the demands on the federal statistical system is the bipartisan movement to base policies and programs as much as possible on strong evidence of their merit. The Foundations for Evidence-Based Policymaking Act of 2018 specifically directs federal agencies with data assets to make them available to statistical agencies for evidence-building and informing the public. In addition, it (a) directs the statistical agencies to produce relevant, timely, credible, accurate and objective statistical information (hereafter "trusted, quality data," statistics, or information) and make their data as accessible as possible while protecting the confidentiality of individual respondents; and (b) requires their parent departments to enable statistical agencies to meet high standards of trusted, quality data. The act tasks the chief statistician to craft regulations to implement these provisions.
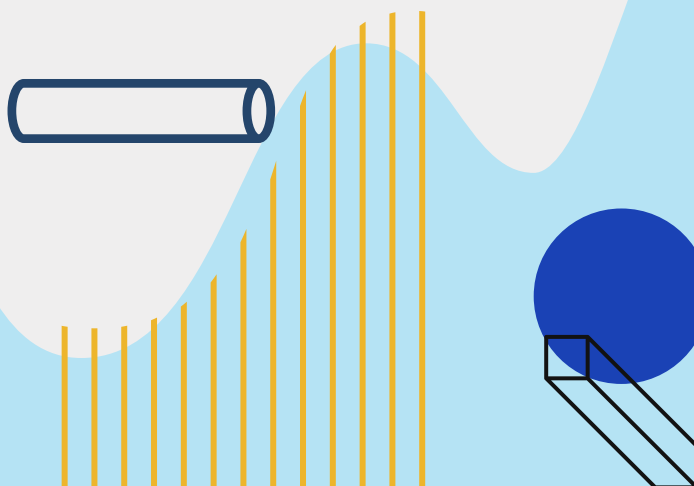
Lousy data beget lousy decisions. It is no exaggeration to say that Americans' well-being and the vitality of the U.S. economy rely in no small part on the quality of information provided by our federal statistical system.

ERICA GROSHEN, COMMISSIONER, BUREAU OF LABOR STATISTICS, 2013–2017; SENIOR ECONOMICS ADVISOR, CORNELL UNIVERSITY SCHOOL OF INDUSTRIAL AND LABOR RELATIONS

CALL TO ACTION

This report is the result of a year-long project to evaluate the strengths and weaknesses of the 13 principal federal statistical agencies and the chief statistician's office. Most importantly, we assessed their capacity to serve the nation in the years ahead in response to the movement for evidence-building; the changes in our population, economy, and society; and the increased demand for more frequent, timely, and granular information. Our bottom-line assessment is that federal statistics are at risk. Federal statistical agencies face increasing challenges to their ability to produce relevant, timely, credible, accurate, and objective statistics and to innovate to the extent necessary to meet the nation's information and evidence requirements in the 21st century. The chief statistician's office is under-resourced for its necessary functions to coordinate a decentralized system. Immediate action is needed to put the agencies and the chief statistician's office on a firmer footing so that federal statistics remain widely trusted and useful to a society that is saturated with information from many sources, credible and not.

ASSESSMENT

Below is a high-level overview of our findings (see Box ES-4 at the end of the executive summary for our specific findings).

The federal statistical agencies are increasingly at risk.

✳ Although federal statistical agencies are fulfilling their responsibilities as required by law and developing important new data programs and products, they are handicapped in their ability to respond fully to the increased information needs of a

rapidly changing society. Statistical agencies are experiencing significant weaknesses in at least one out of three critical supports. These supports are:

- **A high and sustained degree of professional autonomy** (i.e., decision-making authority) regarding statistical methods and processes for data collection, estimation, and dissemination to assure data quality and protect against inappropriate political interference. (See Box 9 in the report for a definition and discussion of professional autonomy.)

- **Strong support from the cabinet department or independent agency** ("parent agency") in which the statistical agency resides—from the unit to which it reports up to the department head—so the statistical agency can exercise its autonomy appropriately, obtain adequate budget and staffing, and do its best work.

- **Sufficient resources** (both budget and staffing levels) to carry out, not only basic responsibilities but also the testing and development to meet demands for new, revised, and more detailed information.

> *Today, the GDP accounts are challenged by the impact of new, disruptive, and hard-to-measure technologies and a myriad of other changes in the economy. Without new and updated metrics, the nation's GDP will fall behind in its ability to act as a reliable yardstick for the economy.*
>
> J. STEVEN LANDEFELD, DIRECTOR, BUREAU OF ECONOMIC ANALYSIS, 1995–2014

* One consequence of weaknesses in the three critical supports is that long-standing statistical data series that produce important economic indicators, such as the unemployment rate, are prone to become outdated in content and methods because of the statistical agencies' inability to invest in continuous testing and improvement. Lack of authorization for multi-year funding is a major impediment to continuous improvement. In other cases, essential programs have been cut, delayed, or otherwise curtailed without due consideration of the consequences to data users outside the parent agency. The condition of the federal statistical agencies and their stature within the federal government fails to reflect their everyday importance to Americans.

* Challenges in their environment also threaten the ability of the principal federal statistical agencies to fully meet the data needs of today and into the future. Much of the data collection methodology used by the agencies is rooted in 20th century technology and survey-taking techniques. But the public is less cooperative, and response rates continue to drop despite federal statistical agency surveys historically achieving high response rates. Agencies are hampered in their abilities to more rapidly develop and implement new data collection methods and tap other public and private data sources to sustain quality and timeliness, increase efficiency and productivity, and keep up with policy areas of interest.

* Another challenge for statistical agencies is protecting confidentiality of respondents' information in a time of increased risks of disclosure—while still serving their fundamental responsibility to provide data that are fit for users' needs. Increasingly, statistical agencies are reducing available data content or taking other steps that threaten equitable data access.

* Federal statistical agencies remain vulnerable because of weaknesses in their professional autonomy to political meddling and improper influence, as has been attempted in the past. Such interference, if successful (as has occurred in some countries), would undercut the federal statistical agencies' ability to support informed civil discourse and policymaking in the public and private sectors, as well as compromising public trust in the data, both domestically and abroad.

* The chief statistician's office lacks sufficient resources to fully carry out its myriad responsibilities. Sixty years ago, the chief statistician's office had upwards of 40 staff; today, it has 12 staff positions supplemented by staff on short-term details from the statistical agencies. The unit is remarkably productive given its small size, but it lacks capacity to conduct meaningful strategic planning, expedite and coordinate needed innovation in cross-cutting topic areas (e.g., education, health, labor force, economic well-being) across agencies, and issue timely standards and regulations. Adding staff with subject matter expertise in different policy areas in the chief statistician's office could help ensure that data gaps are filled and improvements are coordinated across relevant agencies and within OMB so that the decentralized federal statistical system can operate more seamlessly to support the nation's data needs.

Immediate action is needed to assure that the federal statistical infrastructure is able to adapt and evolve in its role as a core democratic institution that meets society's information demands.

Americans are increasingly saturated with information from many sources, both credible and not. Federal statistical data can be an important tool in fighting disinformation and misuse of AI and other information dissemination technologies. The ability of professional statistical agency staff to meet scientific standards and produce objective information in a timely, relevant, and transparent way requires continued government attention and investment. Such investment is necessary for a system in which public data and statistics are produced by apolitical professionals, who are accountable to Congress, their parent agency, and data users, and are widely trusted as a basis for decision-making.
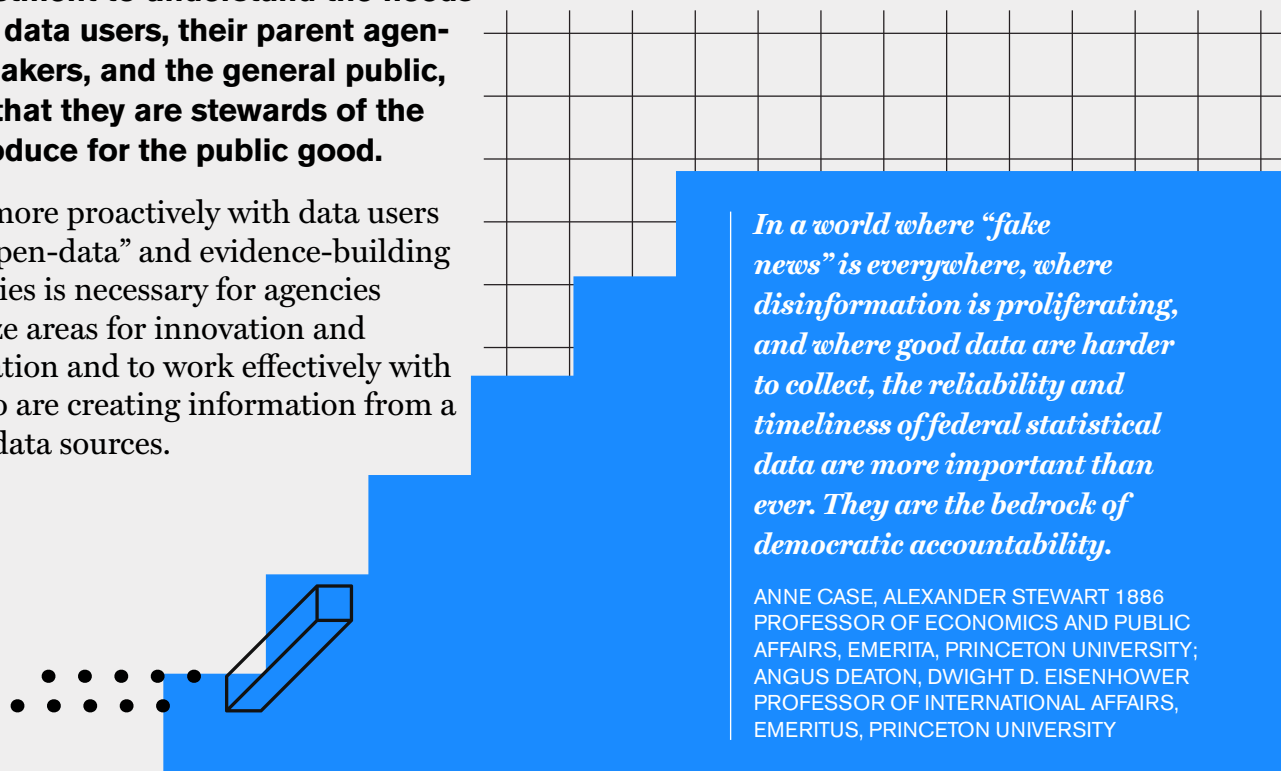
Statistical agencies themselves need to step up their investment to understand the needs and views of data users, their parent agencies, policymakers, and the general public, recognizing that they are stewards of the data they produce for the public good.

✳ Engaging more proactively with data users and the "open-data" and evidence-building communities is necessary for agencies to prioritize areas for innovation and modernization and to work effectively with others who are creating information from a variety of data sources.

✳ This more proactive engagement is required by the Evidence Act in order to build broad collaborative communities of practice that can give feedback to the agencies on the usefulness of their data.

✳ Such engagement has major benefits but requires adequate support beyond the support needed to produce and disseminate trusted, quality data.

RECOMMENDATIONS

We identified actions that Congress, parent agencies where the statistical agencies reside, OMB, and the statistical agencies themselves should take now. Each of these bodies has an important role to play in ensuring the nation's information needs are met. We urge, to the extent possible, collaborative work toward this goal. Our recommendations are summarized below (see the report, including the supporting materials, for background and the full text of the recommendations). They are all high priority for immediate action.

In a world where "fake news" is everywhere, where disinformation is proliferating, and where good data are harder to collect, the reliability and timeliness of federal statistical data are more important than ever. They are the bedrock of democratic accountability.

ANNE CASE, ALEXANDER STEWART 1886 PROFESSOR OF ECONOMICS AND PUBLIC AFFAIRS, EMERITA, PRINCETON UNIVERSITY; ANGUS DEATON, DWIGHT D. EISENHOWER PROFESSOR OF INTERNATIONAL AFFAIRS, EMERITUS, PRINCETON UNIVERSITY

CONGRESS

1. Enact legislation that accords all principal statistical agencies autonomy over data collection and analysis, as well as other professional autonomy components specified in this report, and explicitly authorizes those statistical agencies that lack specific authorization (BEA, ERS, NASS, ORES, SOI). For the three agencies that lack authority to use their appropriations to balance in-house and contractor staff (NCES, NCSES, and BJS), authorize the use of a new appropriations line for salaries and expenses.

2. Enact legislation to extend the authority in the Foundations for Evidence-Based Policymaking Act for data sharing between statistical agencies and from other federal and state agencies to the statistical agencies. To meet user needs, agencies require access to alternative data sources to blend with data from surveys, which the public is increasingly less willing to answer. Yet the Evidence Act, for example, does not provide for sharing of business data to all the statistical agencies or for sharing of state data with the federal statistical agencies.

3. Make budget levels and authority commensurate with responsibilities. Adequate funding levels as well as authority for multi-year funding are essential to enable statistical agencies to regularly update and supplement long-running data series and to test and implement data collection improvements. Budget levels should also support continual improvements to statistical agencies' IT and data infrastructure to align with ever-changing security requirements and data user needs.

Federal statistical agencies must be able to report the truth regardless of who is in power. This is even more important when you don't agree with the party in power. Therefore, lawmakers must ensure they provide independence to agencies when they are in power.

JAMES WOODWORTH, COMMISSIONER, NATIONAL CENTER FOR EDUCATION STATISTICS, 2018–2021

4. Enact legislation to help build a shared culture of responsible data access and confidentiality protection among the statistical agencies and their data users. Legislation that extends existing penalties for statistical agency staff to anyone who willfully misuses federal statistics to identify an individual or business is needed for statistical agencies and data users to strike a reasonable balance of access and protection for federal statistics.

5. Ensure informed monitoring and oversight through annual or more frequent meetings of relevant congressional members and staff directly with statistical agency leadership.

Data and statistics are a critical component of this nation's infrastructure and key inputs into effective decision-making by policymakers, business leaders, and citizens. We must support and sufficiently fund the principal statistical agencies of the U.S. government.

MAURINE HAVER, PRESIDENT AND FOUNDER, HAVER ANALYTICS; CHAIR, STATISTICS COMMITTEE, NATIONAL ASSOCIATION FOR BUSINESS ECONOMICS

PARENT AGENCIES

6 Proactively protect and promote professional autonomy. Parent agencies should regularly examine their procedures and policies for protecting statistical agency autonomy, including making sure that current and incoming leadership are aware of them.

7 Provide shared services as expeditiously as possible. Agency HR offices, for example, should facilitate and speed the hiring process for statistical agency staff. When services such as IT are shared, parent agencies should take steps to ensure that the statistical agency can meet deadlines, protect confidentiality, and innovate.

8 Provide adequate budget and staffing. Parent agencies have multiple bureaus to support but should recognize that statistical agencies need sufficient resources for continuous improvement of long-standing data series and other initiatives, including IT modernization.

9 Interact with and support their statistical agencies. Parent agency leadership should regularly meet with statistical agency leadership to learn what their statistical agency does, what it needs to fulfill its responsibilities, and how its functions are unique within the parent agency.

PRINCIPAL STATISTICAL AGENCIES

10 Relate to parent agencies and Congress. Statistical agencies should proactively demonstrate agility and flexibility to meet parent agency and congressional needs for data for policymaking and evidence building, while maintaining integrity and objectivity in methods and operations.

11 Relate to stakeholders and data users. Statistical agencies should proactively and interactively reach out to stakeholders and data users, using not only one-way methods (e.g., webinars) but also two-way, interactive dialogue and feedback to help establish priorities and understand user needs. They should ensure that stakeholder outreach covers as much of the political and policy spectrum as possible.

12 Increase transparency and accessibility. Statistical agencies should provide comprehensive, accessible documentation of content, technical features, and methodological decisions for data programs. When data user needs conflict, or when data series require major changes, statistical agencies should proactively reach out to affected users and be as transparent as possible about the rationale for the ultimate decision.

For compelling reasons of national and economic security, the federal government is making major investments so that key U.S. industries, such as semiconductors and electric vehicles, can compete in global markets. Successful investments will depend on the capacity of the federal statistical system to provide reliable economic intelligence in near real time, by sector.

ANDREW REAMER, RESEARCH PROFESSOR, GEORGE WASHINGTON INSTITUTE OF PUBLIC POLICY, GEORGE WASHINGTON UNIVERSITY

U.S. OFFICE OF MANAGEMENT AND BUDGET (OMB)

13 OMB leadership should finalize as soon as possible its regulation on the fundamental responsibilities of statistical agencies and parent agencies ("Trust Regulation") as required by the Evidence Act. This regulation is essential to bolster parent-agency support for all statistical agencies, which, in turn, is essential to enable the statistical agencies to do their job and have credibility with the public. The chief statistician's office should move expeditiously to craft and issue the regulations on data access and confidentiality required by the Evidence Act.

14 The chief statistician's office and the Interagency Council on Statistical Policy should develop a strategic plan and vision for the federal statistical system and take actions to implement it. The plan should include maximizing the visibility and effectiveness of the statistical agencies, individually and collectively (e.g., consider mechanisms for upgrading IT infrastructure and providing staff training opportunities in new methods for all of the principal statistical agencies, large and small).

15 OMB leadership should provide the chief statistician's office with sufficient resources to effectively carry out its statutory duties and other responsibilities. In particular, staff are needed so that the office can not only update statistical policy standards, issue guidance, and approve survey questionnaires but also provide substantive leadership to the federal statistical system, engage in strategic planning for the system, seek out and expedite the approval of statistical agency innovations in data collection and methodologies, engage internationally with other statistical agencies and bodies, and facilitate inter-agency collaboration to enable the system to meet current and future data needs for the public good.

We believe that the package of 15 recommendations we propose above would fill important gaps in existing legislation and regulations to bolster statistical agencies' professional autonomy, data sharing authority, and resources, which, in turn, are critical for the agencies' ability to continue to provide relevant, accurate, timely, detailed, and credible data for the public and policymakers. The statistical agencies are achieving much with the resources and authorities they have. Following through on our recommendations, which include the agencies' stepping up their interactions with data users and stakeholders, should position them to respond effectively to the increasing information demands and challenges of the future.

Specific Findings

Our findings are organized by categories that we assessed, which include professional autonomy, parent-agency support, resource sufficiency, challenges and opportunities for data quality, innovation, and user and stakeholder engagement.

PROFESSIONAL AUTONOMY

Finding 1: While federal statistical agencies continue to reliably produce trustworthy data, the agencies remain susceptible to the types of political meddling and improper influence that have occurred in the past due, in part, to weaknesses in their professional autonomy. (See Box 9 for a definition and discussion of professional autonomy.) Such interference undercuts the federal statistical agencies' ability to maintain trust with the public and policymakers in the public and private sectors and to fulfill their fundamental responsibility to produce trusted, quality data.

PARENT-AGENCY SUPPORT

Finding 2: Parent-agency support for their statistical agency (or agencies), including protecting the basic tenets under which statistical agencies must operate, is essential for the agencies' agility and visibility, but it varies widely from strong to weak. The proposed OMB "Trust Regulation" would strengthen parent-agency support across the board.

RESOURCE SUFFICIENCY (BUDGET AND STAFFING)

Finding 3: The majority of principal federal statistical agencies have lost more than 14% of purchasing power over the past 15 years despite increasing responsibilities. (For comparison, federal discretionary, nondefense spending, accounting for inflation, has increased 16% over the same period.) Several agencies also have severe constraints on staffing. These resource deficiencies undermine the ability of many agencies to produce relevant and timely data and to innovate effectively.

CHALLENGES AND OPPORTUNITIES FOR DATA QUALITY

Finding 4: Surveys remain invaluable because some information (e.g., self-reported health or crime victimization) can only be obtained by asking people questions. Yet, declining response and rising costs to address the decline raise significant concerns for their future. As the Committee on National Statistics documents, opportunities exist to combine surveys with administrative records and other sources to improve quality, although there are challenges in properly blending data sources, accounting for the uncertainty in estimates from them, and using them for estimates when that was not their original intent. Statistical agencies will need adequate resources to evaluate and implement, as appropriate, blending approaches for the future and to continue research into ways to improve the cost-effectiveness of surveys.

Finding 5: Long-running data series on important social and economic topics, which generally meet high standards of timeliness, are susceptible to becoming outmoded in content, accuracy, and efficiency. Reasons include the costs to run overlapping data series to enable users to changeover from the old to the new, inertia and hesitation to change on the part of agency staff and the user community, and the lack of adequate (ideally, multiyear) funding for continuous testing and implementation of improvements.

Finding 6: Because of increased threats that traditional publicly available data products could be reverse engineered to identify individual respondents, statistical agencies are experimenting with newer confidentiality protection methods that inject noise into every data output. They are also considering making some data products available only through secure enclaves or through use of "synthesized" data products with subsequent validation. The challenge is how to balance confidentiality protection with the agencies' mission to provide accurate, usable data to users in all sectors—Congress, federal, state, and local governments, businesses, NGOs, academia, the media, and the general public. Solutions may require legislation to make confidentiality protection a shared responsibility of statistical agencies and data users.

INNOVATION

Finding 7: The principal federal statistical agencies have a rich history of meeting the nation's data needs through innovation—in concepts, collection, processing and estimation, dissemination, and evaluation (e.g., the first nondefense use of computers for the 1950 Census). Overall, they rose to the occasion when the Covid-19 pandemic called for new data delivered promptly. They continue to innovate but not at the level needed, and external and internal barriers, if not addressed, will leave them behind at a time when the demands for more timely, accurate, and granular data are growing every day.

USER AND STAKEHOLDER ENGAGEMENT

Finding 8: Proactive data-user engagement, including involving users up front when major changes are needed to data programs, and knowledge of users and uses are important to enable the statistical agencies to assess the relevance, responsiveness to users, transparency, and accessibility of their data. Yet these areas do not appear to get the priority they need for the agencies to fulfill their role as data stewards for the public good. (Title II of the Evidence Act and the proposed Trust Regulation emphasize user engagement.) Resources for user engagement, documentation, and research and development to continually improve statistical agency data programs are often not explicitly included in agency funding requests. Resources for these activities and those needed to collect, process, and disseminate data can be in competition, and the competition is increased when overall funding is not sufficient to meet core needs.

Finding 9: Agencies are not uniformly adopting available tools to expand their ability to identify users in a more granular manner (a stipulation in the proposed Trust Regulation, 1321.5(b)). Using tools, such as AI searches for the use of agency datasets, would enable the agencies to better target outreach to a broader community of users and proactively engage with underserved communities of practice that may include researchers from smaller institutions and minority-serving institutions.

INTRODUCTION

Our democracy, economy, and society could not function without objective, accurate, timely, relevant, and credible statistics from the federal government. Indeed, no country that aspires to attract foreign investment, engage in overseas trade, and otherwise relate to other nations, let alone inform its own people, can do so effectively over the long run without credible, high-quality official statistics.

(See Boxes 2a–2c for U.S. examples.)

We are only a few short years from unreliable unemployment numbers on the 'first Friday' of every month without serious interventions to modernize the underlying data collection (the Current Population Survey).

WILLIAM BEACH, COMMISSIONER, BUREAU OF LABOR STATISTICS, 2019–2023; SENIOR FELLOW IN ECONOMICS, ECONOMIC POLICY INNOVATION CENTER

The federal statistical system provides the information that is essential for supporting our democracy, economic growth, and evidence-based policy-making at all levels of government.

JOHN THOMPSON, DIRECTOR, U.S. CENSUS BUREAU, 2013–2017

The federal agencies responsible for meeting the data needs of our policymakers and taxpayers, following scientific standards for quality and ethical standards for collecting and protecting data, are essential national infrastructure, as the below statements attest:

✳ To operate efficiently and effectively, the Nation relies on the flow of objective, credible statistics to support the decisions of individuals, households, governments, businesses, and other organizations.... [U.S. Office of Management and Budget, 2014, p. 71610]

✳ Many actors provide useful information, but, across the world, central governments have the role of producing key national statistics in ways that maximize their credibility and utility to inform policy makers and the public.... In that regard, national statistical information forms a data infrastructure that resembles the role of physical infrastructure for a nation, like interstate highways, national defense assets, interstate utility grids, and basic scientific research. All of these national investments serve the common good.... [National Academies of Sciences, Engineering, and Medicine, 2021, p. 10]

✳ Official statistics provide an indispensable element in the information system of a democratic society, serving the Government, the economy and the public with data about the economic, demographic, social and environmental situation. To this end, official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honour citizens' entitlement to public information. [United Nations Statistical Commission, 2014, p. 1]

The importance of this infrastructure goes beyond commerce. Federal statistics are a core democratic institution, supporting free and fair elections, fair and impartial courts, informed civil discourse, and other vital functions that are not easily replicated by the private sector.

Like other critical infrastructure, such as the nation's transportation network, the nation's statistical infrastructure requires regular review to assess its ability to meet not only today's data needs but also the needs of the future. This project's intent is to produce annual updates to document achievements and identify areas requiring action.

In the United States, multiple agencies conduct statistical activities, and these agencies are spread throughout the federal government.[1] Components of the federal statistical system include the chief statistician's office in the U.S. Office of Management and Budget (OMB); 13 principal statistical agencies, whose primary mission is the collection, analysis, and dissemination of statistics; and over 100 statistical units and programs of at least $500,000 in annual expenditures. This first-year ASA-GMU assessment focuses on the 13 principal statistical agencies and the chief statistician's office, as the core of the decentralized U.S. system (names, acronyms, and departments of the 13 agencies are in Box 1).

1 While several other countries also have a decentralized system, centralized statistical offices are more common internationally. We do not examine the merits of either and assume the United States will continue to have a decentralized system for the foreseeable future

Following this introduction, the core report provides context on why this ASA-GMU team sought to assess the principal statistical agencies at this time, outlines what aspects of the agencies' operations and characteristics the project assessed, and presents the project's findings and recommendations. Because there are so many actors with responsibility for the effective functioning of the federal statistical agencies, the report makes recommendations to the U.S. Congress, the parent agencies[2] of the statistical agencies, OMB and the chief statistician's office, and the statistical agencies themselves. The supporting documents provide background material on the statistical system, including profiles of principal agencies and added detail on the topics covered in the findings and recommendations.
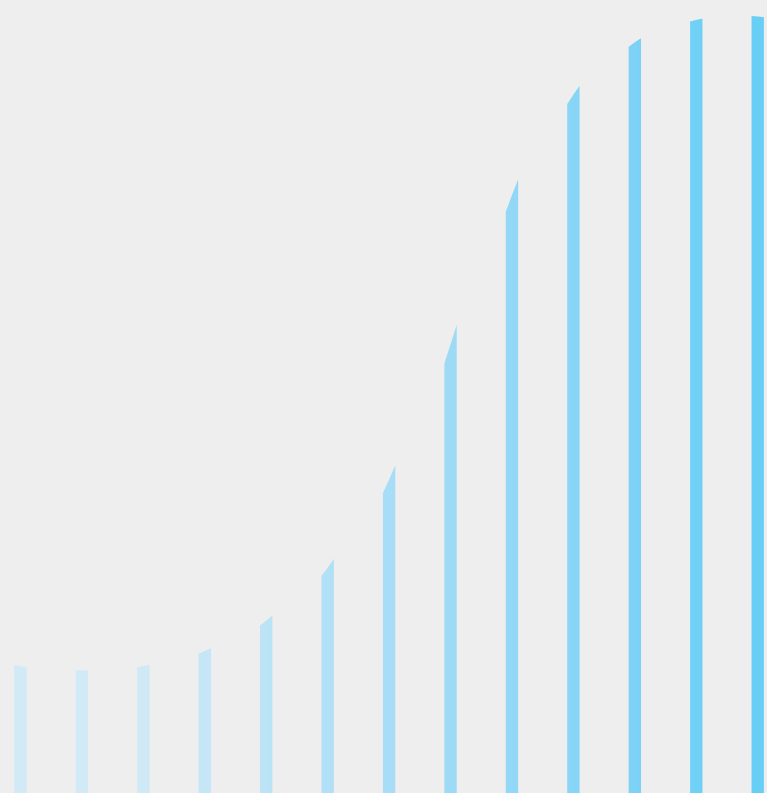
Box 1:

List of Principal Federal 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 Bureau	U.S. 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
NCSES	National Center for Science and Engineering Statistics, National Science Foundation
ORES	Office of Research, Evaluation, and Statistics, Social Security Administration
SOI	Statistics of Income, Department of the Treasury

2 Each statistical agency resides in a cabinet department or independent agency, typically reporting to a unit below the department head (see column 2 of Table 1 in Context below). The entire organizational structure from the unit to which a statistical agency reports up to the head of the cabinet department or independent agency is the "parent agency" (see OMB, 2023).

Federal Statistics Determine Votes & Dollars

DATA FROM MANY STATISTICAL AGENCIES DIRECT FEDERAL AND STATE FUNDS TO STATES AND LOCALITIES, SUCH AS:

→ **Educational funds for school districts:** The federal government allocates funds based on estimates of school-age children in families with incomes below the federal poverty line (Census Bureau estimates, using American Community Survey [ACS] data and administrative records from SOI and USDA).

→ **Medicaid:** The federal government reimburses states with lower per capita income at higher rates (BEA personal income estimates and Census Bureau population estimates).

CENSUS BUREAU DATA ARE KEY TO REAPPORTIONMENT, REDISTRICTING, AND ENFORCEMENT OF VOTING RIGHTS:

→ Article 1, Section 2 of the U.S. Constitution mandates a decennial census of population for reapportionment of the U.S. House (states and cities/towns use census data to reapportion, too).

→ States and localities use census data (population and race/ethnicity for 5.8 million populated blocks) to redistrict Congress, state legislatures, and city and town councils.

→ The Department of Justice uses estimates of the citizen voting age population by race and ethnicity for 240,000 block groups from the ACS to enforce the Voting Rights Act of 1965.

> *BEA's GDP accounts are required for budget formulation, fiscal policy, monetary policy, international trade, and investment policy and are used to allocate over $300 billion in federal funds.*
>
> J. STEVEN LANDEFELD, DIRECTOR, BUREAU OF ECONOMIC ANALYSIS, 1995–2014

Federal Statistics Drive Economic Decisions

POLICYMAKERS, BUSINESSES, MARKETS, ECONOMIC FORECASTERS, AND THE MEDIA LOOK AT MEASURES OF:

OVERALL ECONOMIC GROWTH—Gross Domestic Product (GDP) quarterly estimates (produced by BEA from BLS, Census Bureau, and other agencies' data; available for states, counties, metro areas)

GROWTH, PRODUCTIVITY, AND OTHER CHARACTERISTICS FOR SPECIFIC SECTORS, SUCH AS:

→ Agriculture: crop forecasts (various surveys, NASS); farm finances (Agricultural Resource Management Survey, ERS and NASS)

→ Energy: weekly gasoline prices, residential energy consumption (various surveys, EIA)

→ Housing: new residential construction (various surveys, Census Bureau)

→ Manufacturing, Retail/Wholesale Trade, Services: payroll, revenue, etc. (Economic Census, Annual Integrated Economic Survey, monthly retail trade, other surveys, Census Bureau)

→ Transportation: airline delays, commodity flows (various surveys, BTS)

LABOR MARKETS—Monthly labor force participation, unemployment, wages (Current Population Survey [CPS], BLS); jobs added (Current Employment Statistics, BLS)

HOUSEHOLD ECONOMIC WELL-BEING, SUCH AS:

→ Food security (CPS annual supplement, ERS)

→ Income and poverty (CPS Annual Social and Economic Supplement [ASEC], Census Bureau)

→ Prices (monthly Consumer Price Index, BLS)

→ Retirement security (ORES)

→ Spending (Consumer Expenditure Survey, BLS)

→ Taxes (SOI)

→ Wealth (Survey of Income and Program Participation, Census Bureau; Survey of Consumer Finances, Federal Reserve Board)

Federal Statistics Inform Policy, Planning, and Research in Education, Public Health, Safety, & Other Areas

EDUCATION:

→ Student achievement (National Assessment of Educational Progress, NCES)

→ K-12, college characteristics (various surveys, NCES)

→ Health insurance coverage: Family and individual (CPS ASEC, Census Bureau; National Health Interview Survey, NCHS)

POPULATION GROWTH:

→ Children—for school projections (Population Estimates Program [PEP], Census Bureau; U.S. Vital Statistics System, NCHS)

→ Elderly—for social services planning (PEP, for states, counties, cities, towns)

PUBLIC HEALTH:

→ Life expectancy (U.S. Vital Statistics System, NCHS)

→ Health status, health conditions, functioning, and risk factors (various surveys, NCHS)

→ Public safety: Crimes reported by the population and whether reported to the police (National Crime Victimization Survey, BJS)

SCIENCE & ENGINEERING:

→ Government and private research and development investment (various surveys, NCSES)

→ Women, minorities, and disabled people in science and engineering (various surveys, NCSES)
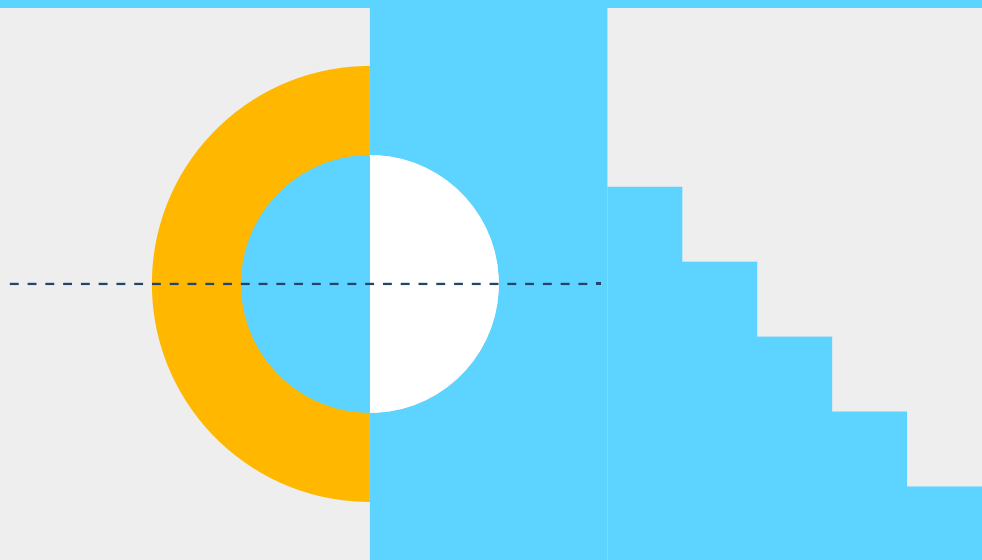
CONTEXT

This project to assess the effectiveness of the 13 principal statistical agencies and the chief statistician's office follows a long tradition of reviews of the federal statistical system, conducted by ASA, other concerned professional associations, and government commissions and working groups. To provide context for the findings of our assessment, we briefly describe (1) the structure of our statistical system; (2) threats and challenges to federal statistics and statistical agencies; (3) opportunities for federal statistics and agencies to meet the data needs of the future; and (4) previous efforts to assess the effectiveness of the federal statistical system. We conclude with (5) a description of how our project differs from prior assessments.

1. THE FEDERAL STATISTICAL SYSTEM

The United States developed its system of federal statistics piece by piece, department by department, over more than two centuries as policy concerns about population, trade, agriculture, education, crime, health, and other domains rose to the federal level. These concerns birthed new cabinet departments, with statistical agencies and programs in each, and ultimately a highly decentralized system (see Box 3 for key historical dates). Today, the federal statistical system is coordinated by the chief statistician with help from the Interagency Council on Statistical Policy (ICSP), which consists of the chief statistician; the heads of the 13 principal statistical agencies, who also serve as statistical officials for their respective departments and independent agencies; the heads of 3 recognized statistical units, and the 13 statistical officials representing the remaining departments and large independent agencies lacking a principal statistical agency.

USDA policymakers and agricultural producers rely heavily on unbiased statistics and research to make market assessments, validate economic opportunities, and be better stewards of federal funds.

HUBERT HAMER, ADMINISTRATOR, NATIONAL AGRICULTURAL STATISTICS SERVICE, 2016–2024

Key Dates in History of the Federal Statistical System

→ **1790** - First population census conducted by U.S. marshals under the Secretary of State (Thomas Jefferson) in accordance with Article 1, Section 2 of the Constitution

→ **1790** - Beginning of annual reports on U.S. imports and exports (necessary because tariffs were the primary source of U.S. revenue)

→ **1810** - First census of manufactures

→ **1850** - Birth and death information collected through the 1850 Census for the first time

→ **1862** - Department of Agriculture established with a responsibility to collect statistics

→ **1867** - Department of Education established with a responsibility to collect statistics (department shut down shortly thereafter but statistical office remained)

→ **1884** - Bureau of Labor established to collect statistics on wages, hours, and related topics

→ **1902** - Census Bureau established as a permanent agency; given authority to work with states to establish vital statistics system (e.g., birth, death records) (now responsibility of NCHS)

→ **1916** - Revenue Act mandated publication of statistics from income tax returns

→ **1933** - Central Statistical Board established to coordinate federal statistics; moved to Bureau of the Budget in 1939

→ **1935** - Social Security Board (now Social Security Administration) established with a responsibility to collect statistics (a predecessor statistical unit existed from 1974-1977 in the Federal Energy Administration)

→ **1950** - National Science Foundation established with a responsibility to collect statistics

→ **1960** - NCHS established to bring together the National Health Survey and the collection of vital statistics

→ **1968** - Predecessor to BJS established to collect statistics on criminal justice system (FBI collected police crime reports since 1929)

→ **1977** - Department of Energy established with responsibility to collect statistics

→ **1985** - Paperwork Reduction Act authorized the already-existing role of the chief statistician of the United States in OMB

→ **1991** - BTS established in Department of Transportation to focus on statistics involving multiple modes of transportation (each "modal" agency in DOT, e.g., highways, collected its own statistics)

SOURCE: See Supporting Materials: B

The principal federal statistical agencies vary widely in size and visibility (see Table 1 for key attributes of the 13 principal agencies and the chief statistician's office). At one extreme, BTS, ORES, and SOI each have a fiscal year (FY) 2024 budget of $50 million or less. At the other extreme, the Census Bureau has an FY 2024 budget of about $1.4 billion and the highly visible responsibility for the constitutionally mandated decennial census. The principal federal statistical agencies also vary widely in their organizational placement, professional autonomy, and other characteristics: NCES, for example, has little autonomy vis-à-vis the unit to which it reports in the Department of Education, the Institute of Education Sciences, over such matters as determining the best ratio of agency staff to contractors. BJS and NCHS are among the agencies that are several layers down in their departments' organization chart, which affects their visibility and professional autonomy. In contrast, EIA has considerable professional autonomy.

Understanding the decentralized structure of the federal statistical system is key for understanding its strengths and weaknesses. Decentralization can help the statistical agencies be more responsive to the data needs of their parent agencies. However, it can make it harder for the agencies, individually and collectively, to fend off threats and pursue opportunities. In addition, a decentralized system where each of the statistical agencies operates under different authorizations and requirements makes it challenging to develop a comprehensive, coordinated, and efficient statistical infrastructure.

Table 1. The 13 Principal Statistical Agencies and Chief Statistician's Office in Brief

AGENCY/ ATTRIBUTE	OFFICIAL IN PARENT AGENCY TO WHICH STATISTICAL AGENCY REPORTS	TYPE OF APPOINTMENT FOR AGENCY HEAD	ESTABLISHED	FY 2024 BUDGET ($ MILLIONS)
Office of the Chief Statistician of the United States	Administrator, Office of Information and Regulatory Affairs, Office of Management and Budget	Career civil service	1995 (predecessors date to 1933 Central Statistical Board)	12 staff[†]
Bureau of Economic Analysis (BEA)	Under Secretary for Economic Affairs, Department of Commerce	Career civil service	1973 (predecessors in Commerce date to 1903; in Treasury to 1820)	$118.0
Bureau of Justice Statistics (BJS)	Assistant Attorney General, Office of Justice Programs, Department of Justice	Presidential appointment	1979 (predecessor dates to 1968)	$58.8
Bureau of Labor Statistics (BLS)	Secretary (Deputy), Department of Labor	Presidential appointment, Senate confirmation, 4-yr term, renewable once	1913 (predecessor Bureau of Labor dates to 1884)	$698.0
Bureau of Transportation Statistics (BTS)	Assistant Secretary for Research and Technology, Department of Transportation	Career civil service	1991	$26.5 (plus $9.0 from other DOT agencies)

Table 1. The 13 Principal Statistical Agencies and Chief Statistician's Office in Brief

AGENCY/ ATTRIBUTE	OFFICIAL IN PARENT AGENCY TO WHICH STATISTICAL AGENCY REPORTS	TYPE OF APPOINTMENT FOR AGENCY HEAD	ESTABLISHED	FY 2024 BUDGET ($ MILLIONS)
Census Bureau	Under Secretary for Economic Affairs, Department of Commerce	Presidential appointment, Senate confirmation, 5-yr term, renewable once	1902 (temporary census office for each census dates to 1850, Secretary of State supervised 1790–1840)	Current Surveys: $328.5 Periodic Censuses: $1,054.0
Economic Research Service (ERS)	Under Secretary for Research, Education, and Economics, Department of Agriculture	Career civil service	1961 (predecessors date to 1905)	$90.6
Energy Information Administration (EIA)	Secretary (Deputy), Department of Energy	Presidential appointment, Senate confirmation	1977 (when Department of Energy established)	$135.0
National Agricultural Statistics Service (NASS)	Under Secretary for Research, Education, and Economics, Department of Agriculture	Career civil service	1862 (when Department of Agriculture established)	Surveys: $140.7 Census: $46.9
National Center for Education Statistics (NCES)	Director, Institute of Education Sciences, Department of Education	Presidential appointment, to serve out a 6-yr term that expires every sixth June 21, beginning in 2003	1867 (when Department of Education briefly established)	NAEP: $185.0 NCES Statistics: $121.5
National Center for Health Statistics (NCHS)	Deputy Director, Public Health Scientific Services, Centers for Disease Control and Prevention, Department of Health and Human Services	Career civil service	1960 (vital statistics program dates to 1902 in Census Bureau; health surveys date to 1956)	$187.4
National Center for Science and Engineering Statistics (NCSES)	Assistant Director of Social, Behavioral, and Economic Sciences, National Science Foundation	Career civil service	2010 (predecessors date to 1950, when National Science Foundation established)	$86.3
Office of Research, Evaluation, and Statistics (ORES)	Deputy Commissioner for Retirement and Disability Policy, Social Security Administration	Career civil service	1935 when Social Security established	$41.0
Statistics of Income (SOI)	Office of Research, Applied Analytics, and Statistics, Internal Revenue Service, Treasury Department	Career civil service	1916 consequent to 1913 passage of 16th amendment authorizing income taxes	$46.6

† The budgets for OMB units are generally not known.
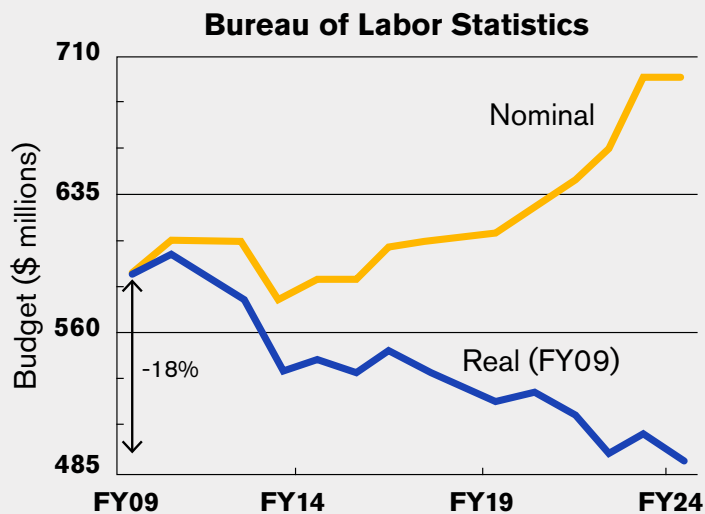
2. THREATS TO FEDERAL STATISTICS AND AGENCIES

We describe four broad categories of threats that affect the federal statistical agencies' ability to continue to produce high-quality, relevant, timely, and objective data for policy and public use into the 21st century.

Neglect. The first threat is neglect by Congress and the executive branch. Such neglect may be unintentional but, regardless, the consequences can be dire. For example, funding for most of the principal statistical agencies has declined 14% in purchasing power over the past 15 years (see Figure 1 for an illustration for three agencies). In contrast, federal discretionary, nondefense spending, accounting for inflation, has increased 16% (Pierson et al., 2024—tab 10). Moreover, the amount of funding that individual agencies receive owes more to historical happenstance than careful coordination and prioritization across the statistical system. For example, the budget for BTS, despite the importance of the transportation sector in the economy, has been limited since its founding in 1992 to the originally dedicated small amount of Highway Trust Funds supplemented by transfers from other Department of Transportation agencies.

FIGURE 1.

Appropriations for Three Principal Statistical Agencies, BLS, NCHS, and NASS, Nominal and Inflation-Adjusted ("Real"), Fiscal Years 2009–2024

Bureau of Labor Statistics

Budget ($ millions): 710, 635, 560, 485 — FY09, FY14, FY19, FY24 — Nominal, Real (FY09), -18%

Political interference. The second threat is at the other end of the spectrum from the first: inappropriate political interference by the executive branch that compromises the agencies' ability to provide high-quality, objective, trustworthy information. Boxes 4a and 4b provide, respectively, some recent examples from the United States and from other countries for comparison. OMB statistical policy directives are intended to guard against undue political interference, but the fact that many agencies lack authorizing legislation securing their professional autonomy leaves them dependent on their parent agency's goodwill to maintain their autonomy in practice (see Citro et al., 2023).

NASS (Excluding Census of Agriculture)

Budget ($ millions)

150

120

90

-19%

Nominal

Real (FY09)

FY09   FY14   FY19   FY24

National Center for Health Statistics

Budget ($ millions)

190

160

130

-15%

Nominal

Real (FY09)

FY09   FY14   FY19   FY24
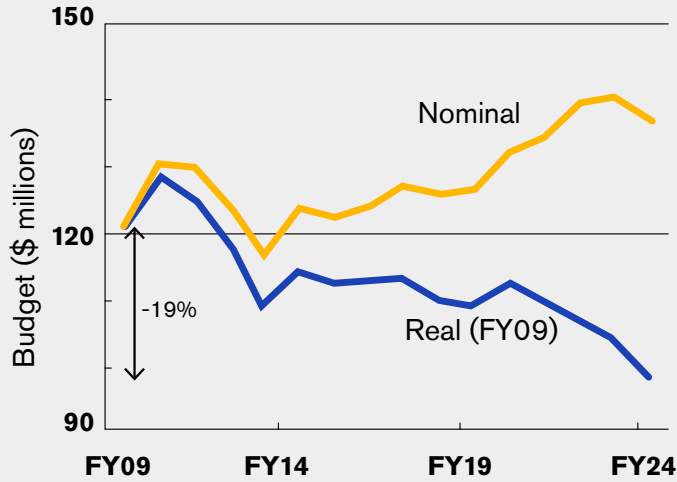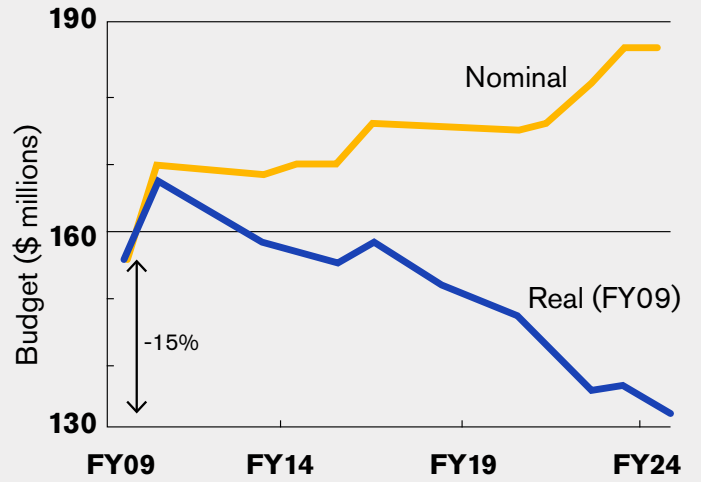
NOTE: The GDP deflator is used to adjust nominal appropriations for inflation.
SOURCE: See Supporting Materials I: Agency Profiles; Pierson et al. (2024)

Undue Political Interference with Statistical Agencies: Selected Examples, Past 20 Years, United States

"Undue political interference" is to be contrasted with appropriate political influence or direction, which is a necessary element of accountability for federal statistical agencies in a democratic society. The president and political appointees may request information to inform an initiative or a policy or to address a pressing issue. Undue political interference or meddling refers to improper influence by political appointees on the production of official statistics that could result in inaccurate and nonobjective statistical data.

The political interference of the magnitude exemplified in these examples, while **fortunately relatively rare, illustrates the risks to the statistical agencies. The second and third instances played out for more than a year and were broadly opposed by stakeholders, including the American Statistical Association. (For further details on how undue political interference was exerted in each example, see, e.g., Congressional Research Service, 2020; American Statistical Association, 2018; Leadership Conference on Civil and Human Rights, 2018.) Because examples of political influence of this magnitude are sparse, one should not draw conclusions on the conditions under which they are more likely to occur.**

CRIMINAL JUSTICE STATISTICS: 2005

What happened? A U.S. Department of Justice (DOJ) political official required BJS to rewrite a press release accompanying survey results on traffic stops by police. The BJS director refused to do so and was reassigned to another position in DOJ. No press release was issued.

Response. The Government Accountability Office (GAO) investigated (March 2007); the chief statistician (as GAO recommended) issued Statistical Policy Directive (SPD) No. 4 (March 2008), which clarified that statistical press releases are not subject to parent agency revision; the Committee on National Statistics (National Academies of Sciences, Engineering, and Medicine) (CNSTAT) strengthened language accordingly in the next edition of *Principles and Practices for a Federal Statistical Agency* (National Academies, 2009, p. 6).

AGRICULTURAL ECONOMIC RESEARCH: 2018–2019

What happened? Department of Agriculture political officials proposed drastic budget cuts for ERS, which Congress did not act on. In summer-fall 2018, they reassigned the ERS administrator to another agency and, "to improve its ability to attract and retain highly-qualified staff; place its resources closer to stakeholders and consumers; and reduce costs to taxpayers" (GAO, 2022), hastily

obtained bids from cities to relocate most of the ERS staff out of Washington, DC, without the input of stakeholders or Congress. The relocation took place in October 2019 to Kansas City, MO (Morris, 2021).

Response. About half of the ERS staff of 275 resigned rather than move; a GAO report (April 2022) questioned the analysis used to evaluate the proposed sites. ERS was able to rebuild its staff but lost institutional knowledge.

2020 CENSUS: 2017–2020

What happened? In 2017, the Secretary of Commerce asked DOJ to request a citizenship question on the 2020 census, and in 2020 he installed two political officials at the Census Bureau. In 2019, the president issued an executive order (EO) requiring the Census Bureau to obtain administrative records to estimate citizen voting-age population for redistricting and a memorandum in 2020 requiring the Census Bureau to produce estimates of undocumented immigrants to subtract from 2020 state apportionment counts (National Academies, 2023a).

Response. The Supreme Court in 2019 ruled that the justification for adding a citizenship question was not adequate. (CNSTAT identified several problems with adding a citizenship question to the census—see National Academies, 2018.) The question was not added to the census, but the citizenship question controversy may have contributed to worse coverage of Hispanic people in 2020. The Census Bureau determined that it could not meet its quality standards in calculating the number of undocumented immigrants, and due to pandemic-related delays and problems with the data, the Census Bureau delivered the apportionment counts to the president on April 26, 2021, four months late. The Census Bureau did not provide the information requested in the 2019 EO and 2020 memorandum, and the new administration rescinded the EO and memorandum in January 2021.
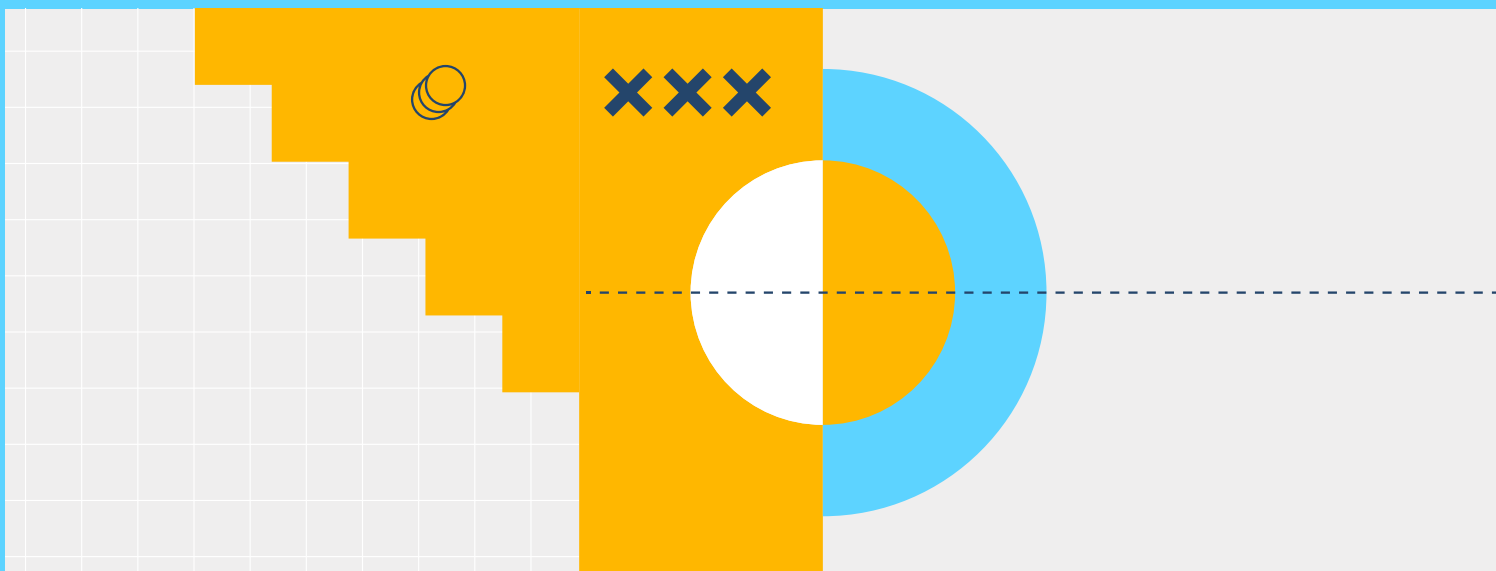
Undue Political Interference with Statistical Agencies: Selected Examples, Past 20 Years, Abroad

ARGENTINA (INFLATION ESTIMATES): 2007, 2013

What happened? The National Institute of Statistics and Census was accused by the opposition party in 2007 and censured by the International Monetary Fund (IMF) in 2013 as deliberately and substantially underestimating the rate of inflation due to pressure and staff firings by the Argentine government (Van Woerden, 2013).

Response. The MIT Billion Prices Project began publishing credible inflation estimates for Argentina (and other countries) in 2008 using price data scraped from online retailers' websites (Cavallo and Rigobon, 2016); a change in government led to the resumption of credible official estimates, and the IMF lifted its censure in 2016.

GREECE (PUBLIC FINANCE ESTIMATES): 2009

What happened? The European Union (EU) could not validate the Hellenic Statistical Authority (ELSTAT) public finance statistics for 2006–2009 (during the Great Recession). Greece passed a law in 2010 adopting EU rules for statistics, and revised statistics were produced under a new ELSTAT director, which enabled Greece to qualify for EU and IMF economic aid. The new director (2010–2015) became a scapegoat for the austerity measures required of Greece and was prosecuted on numerous charges, including violations of duties and complicity against the state (American Statistical Association, 2021b).

Response. Eurostat replicated ELSTAT estimates for 2010–2015, and scientific communities supported and honored the director. He moved to the United States and is working to clear his name in the Greek courts.

CHINA (YOUTH UNEMPLOYMENT ESTIMATES): 2023

What happened? The National Bureau of Statistics in China stopped releasing youth unemployment estimates (first released in 2018) in August 2023, citing the need to improve the relevant surveys. (The rates had been rising.) The statistics office had previously suspended estimates of declining consumer confidence, a series that had been published for 33 years (Fu, 2023).

Response. The U.S. business press noted the absence of the unemployment statistics, which were restored in January 2024. It is not known for certain whether the statistics were temporarily suppressed due to pressure from China's leadership.

Environmental Headwinds. The third threat comprises a variety of factors in the environment that make it increasingly difficult for statistical agencies to obtain quality data at a reasonable cost and to provide quality data that are accessible to all users. These factors include:

✳ Markedly declining response rates to sample surveys (see Figure 2 for some examples), which have been the backbone of federal statistics for 75 years (this phenomenon, discussed further below, is worldwide and affects surveys in all sectors)—the lower the response rate, the less reliable the survey data and the greater the likelihood that some estimates may not properly represent the population.

✳ The increasing availability of data on the internet that can be used to reverse engineer statistical agency data products to identify individuals, which raises the tensions for agencies in their responsibilities to provide accurate data to users and at the same time protect the confidentiality of data providers.

✳ Difficulties in obtaining the people and the hardware and software necessary to engage in state-of-the-art data collection, processing, estimation, and dissemination.

Today, the GDP accounts are challenged by the impact of new, disruptive, and hard-to-measure technologies and a myriad of other changes in the economy. Without new and updated metrics, the nation's GDP will fall behind in its ability to act as a reliable yardstick for the economy.

J. STEVEN LANDEFELD, DIRECTOR, BUREAU OF ECONOMIC ANALYSIS, 1995–2014

FIGURE 2.
Response Rates for the National Crime Victimization Survey (NCVS) Household & Person Interviews and the National Health Interview Survey (NHIS) Household and Sample Adult Modules, 1997–2022

NCVS & NHIS – Response Rates
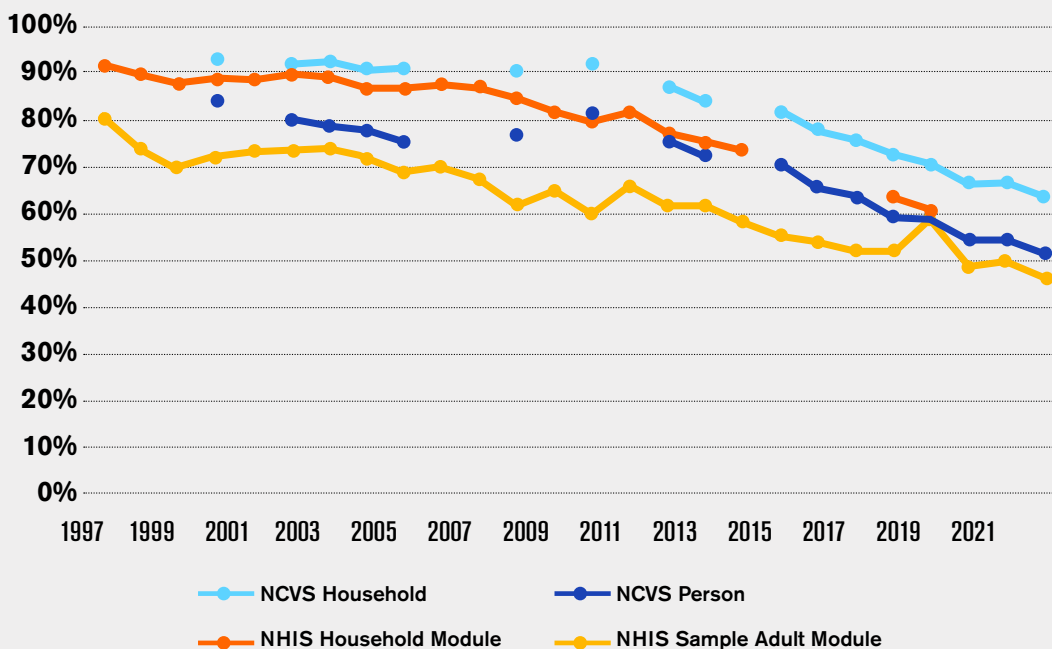
NOTE: The NCVS person and NHIS sample adult module response rates are unconditional; that is, they account for household nonresponse as well as person nonresponse within responding households. Cooperation rates (not shown) for persons (i.e., responding persons as a percentage of responding households) are higher than the household rates.
SOURCE: Rates compiled by Constance Citro from BJS and NCHS publications

Innovation Barriers. Finally, the fourth threat comprises barriers to innovation embedded in our decentralized statistical system. We note that the statistical agencies continue to produce relevant, timely, credible, accurate, and objective data (hereafter "trusted, quality" data, statistics, or information) and have innovated in many significant ways historically and up to the present. To name two hugely consequential innovations, statistical agencies institutionalized and improved on probability sampling, which is the basis for the survey enterprise worldwide, and made use of the first nondefense computer (to process the 1950 census). More recently (as discussed further below), several agencies responded with alacrity to increased needs for relevant, timely data during the Covid-19 pandemic.

Yet barriers in the system impede the ability of the statistical agencies, individually and collectively, to respond to challenges in their environment in a comprehensive and timely way. Just as demands for data—on more topics, with greater detail for geographic areas and population groups and with greater frequency and timeliness—are increasing, it has become more difficult and costly for the statistical agencies to provide quality data. Moreover, the public and policymakers can find it hard to distinguish the high-quality data produced by the various (and often obscure) statistical agencies from the welter of variable-quality information from competing sources available on the internet. Compounding this issue is what Radermacher (2019) diagnoses as "a misconception that has

taken root in politics and in general opinion that statistics have become superfluous with the increasing availability of data."[3]

Three examples of barriers to innovation in our decentralized system include:

- Each agency is largely on its own for recruitment and training of agency staff in new fields essential for innovation, such as data science and AI, which puts the smaller agencies at a particular disadvantage.

- Long-standing legal restrictions and OMB's failure to date to issue the relevant regulations required by the Foundations for Evidence-Based Policymaking Act of 2018 (hereafter, Evidence Act) make it difficult or impossible to share data among agencies or to obtain confidential data from states to produce value-added combined datasets.

- The chief statistician's office is so short-staffed, considering its many responsibilities—it employs 12 people (only a short while ago, 7 people) plus people on short-term details from statistical agencies—that it cannot fully meet the needs of the statistical system. The productivity of this staff is remarkable, but even supported by the ICSP, it cannot begin to handle the full range of needed work to ensure the coherence, consistency, relevance, accuracy, and timeliness of federal statistics across the entire system or to plan for the future.

3 Personal communication from Walter Radermacher, 2024.

3. OPPORTUNITIES FOR FEDERAL STATISTICS AND AGENCIES

Opportunities abound for statistical agencies to innovate to improve accuracy, timeliness, geographic and population detail, and the relevance of their data, using multiple data sources (surveys, administrative records, commercial and other data) and state-of-the-art modeling techniques. Opportunities abound, that is, if the barriers and threats outlined previously can be eliminated or greatly reduced. Recent legislation has made strides toward reducing some of the barriers and threats. For example, the Evidence Act enhanced the professional autonomy and role of the statistical agencies (see Box 5a). The Evidence Act also provides the foundation for enabling the statistical agencies to combine data sources (surveys, administrative records, commercial sources) to improve data quality and relevance. The Evidence Act, the CHIPS and Science Act of 2022, and recommendations of the Advisory Committee on Data for Evidence Building

(ACDEB) promise to improve access to statistical agencies' data assets for policy analysis and research (see Box 5b).

The full potential of the Evidence Act will not be realized, however, until OMB finalizes three required regulations. Issued in August 2023 in a Notice of Proposed Rulemaking, the Fundamental Responsibilities of Statistical Agencies and Recognized Statistical Units (hereafter referred to as the "Trust Regulation") provides guidance to facilitate the federal government fulfilling the four fundamental responsibilities of a statistical agency (see Box 5a). As of the date this report went to print (July 2024), OMB had not finalized the Trust Regulation nor had it issued for comment draft regulations for data sharing and greater access to statistical agencies' data.[3]

Finally, the statistical agencies themselves have made advances that show their capability, appropriately resourced, to make creative use of a variety of data sources to improve the relevance, accuracy, timeliness, and geographic and population detail of their data products for the common good (see Box 5c).

Box 5a:
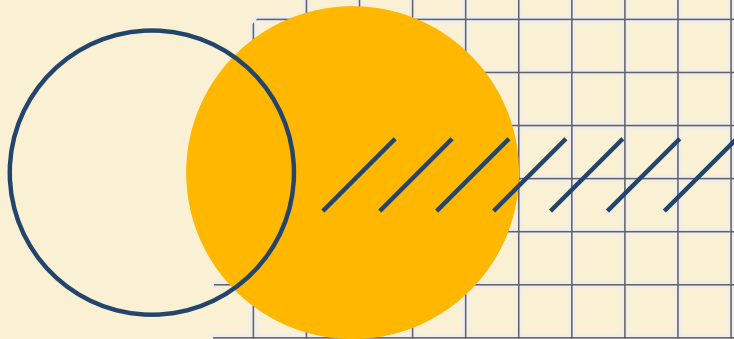
Recent Enhancements to the Role and Autonomy of Federal Statistical Agencies

The Evidence Act of 2018 contains many provisions that pertain to the federal statistical system. Title III, Confidential Information Protection and Statistical Efficiency (CIPSEA) (44 USC 3563), which we summarize below, is most pertinent to our work. We also mention a few of the relevant components of Titles I and II.

Title III incorporated the provisions of CIPSEA as originally enacted in 2002, which include: legal authority for data collected under a pledge of confidentiality to be protected by statistical agencies and their contractors and other agents (e.g., researchers sworn in as special employees) under pain of jail time and fines for disclosing confidential information; and authority for limited sharing of business data among BEA, BLS, and the Census Bureau. Importantly, Title III expands on CIPSEA by codifying the fundamental responsibilities of federal statistical agencies from Statistical Policy Directive No. 1 (U.S. Office of Management and Budget, 2014, p. 71610):

> *Each statistical agency or unit shall—... produce and disseminate relevant and timely statistical information; ... conduct credible and accurate statistical activities; ... conduct objective statistical activities; and ... protect the trust of information providers by ensuring the confidentiality and exclusive statistical use of their responses.*

Title III further enjoins all agencies across the federal government, including parent agencies and OMB, to "enable, support, and facilitate" statistical agencies to carry out their fundamental responsibilities, while Title I, Federal Evidence-Building Activities, confers authority on statistical agency heads to serve as the "statistical official" for the relevant department or independent agency to "advise on statistical policy, techniques, and procedures" for the entire department.

For the departments that do not have a federal statistical official agency (but are a "Chief Financial Officers (CFO) Act agency"), Title I directs them to designate "any senior agency official with appropriate expertise, as a statistical official to advise on statistical policy, techniques, and procedures." To further support the use of data as evidence in policymaking, the Evidence Act also creates an evaluation official (Title I) and a chief data officer (Title II) in each department. The statistical official will need to work closely with these new positions to ensure proper execution of the Evidence Act. Also relevant to this report is the Title II provision requiring federal agencies to include in their strategic information resources management, to the extent practicable, processes and procedures that "facilitate collaboration with non-Government entities (including businesses), researchers, and the public for the purpose of understanding how data users value and use government data."

Responding to the Evidence Act, OMB issued for public comment in August 2023 the draft Trust Regulation to foster trust in federal statistics by clarifying statistical agencies' fundamental responsibilities and the responsibilities of parent agencies for their statistical agencies. If adopted, the regulation would brand statistical agencies more clearly, give them direct responsibility for presenting their budget to OMB, and require parent agencies to ensure that "shared services" (e.g., human resources, IT) provided to the statistical agency enable the agency to meet deadlines, protect confidentiality, and serve data user needs.

NOTE: Title III of the Evidence Act is the section of U.S. Code that is closest to what is often termed a "national statistical law" in other countries. Its provisions for data sharing, however (see Box 5b), do not pertain to state data nor to data (e.g., tax data) covered by another statute that explicitly limits sharing.
SOURCE: For more on the Evidence Act and its supporting materials, including international, see Supporting Materials: D

Box 5b:

Bolstering Opportunities to Use "Blended Data" and Improving Access to Statistical Agency Datasets

Title III of the Evidence Act requires federal agencies to default to providing requested data assets to statistical agencies for evidence-building unless another statute explicitly prohibits or limits such sharing. The CHIPS and Science Act of 2022 authorized a demonstration at NCSES of a National Secure Data Service (NSDS), as recommended by the Commission on Evidence-Based Policymaking (2017). The commission strongly recommended that NSDS operate in such a way that it does not become a giant data warehouse but, instead, is "able to temporarily link existing data and provide secure access to those data for exclusively statistical purposes in connection with approved projects." The ACDEB 2022 Year 2 Report outlined a vision for the NSDS and recommended that the chief statistician and the ICSP identify ways to streamline data-sharing agreements across federal agencies. It also recommended that OMB issue a "presumption of accessibility" regulation (as required in the Evidence Act) to maximize the impact of federal administrative data for policymaking and identify models for shared responsibility among data providers and users for confidentiality protection, with both subject to penalties and not just the statistical agencies.

The Evidence Act requires statistical agencies to expand access to their data for evidence-building while protecting the data appropriately. It tasked OMB to provide regulations in order for statistical agencies to implement that requirement and also to establish a standard application process (SAP) to facilitate access by researchers to confidential statistical data in secure environments. The SAP portal was implemented on a pilot basis in December 2019 and went live in February 2022 with datasets listed for 16 principal statistical agencies and recognized statistical units at ResearchDataGov.org. To date, it not only enables researchers and others to learn about and apply to use any of the datasets listed in the SAP but also provides criteria and timeliness standards for agency approval. However, it does not yet address other impediments to gaining research access to confidential datasets, such as the time required for security clearances for researchers and that a "seat" at a Federal Statistical Research Data Center (FSRDC) is costly. There are also a limited number of FSRDCs, which may be hundreds of miles from a researcher's location, and remote access is not available for all datasets of interest.
SOURCE: See Supporting Materials: D

Box 5c:

Examples of Statistical Agencies Using Multiple and Alternate Data Sources to Improve Quality and Relevance

→ Agencies developed and deployed state-of-the-art record linkage methods (e.g., the Census Bureau's models for linking data sets securely using name, address, and date of birth) in numerous data improvement and enhancement projects, such as improving estimates of household income.

→ Agencies developed linked data files with enhanced quality and content for use in secure environments that have proven their value to generate new policy-relevant findings (e.g., NCHS's links of Medicare, Medicaid, Department of Housing and Urban Development [HUD], and Veterans Affairs [VA] data with survey data).

→ Agencies used data available on the internet and from commercial enterprises and models to improve data quality, timeliness, and relevance (e.g., BEA used credit card data to provide weekly data on consumer spending, BTS used anonymized cell phone data for weekly estimates of daily travel, and NCES used small-area models to produce state and county estimates of adult literacy).

SOURCE: See Supporting Materials: H

The passage of the Evidence Act represents an important step toward enabling the federal statistical system to meet the data needs of the future, but the executive branch's lack of progress in implementing it leaves its potential far from realized. Providing sustained resources for implementation is also critical. The challenge will be for the chief statistician's office and the statistical agencies to make the most of new authorities, mandates, technical capabilities, and resources to enhance the value-added of federal statistical agency output for policymakers and the public. However, without resources, progress in these areas will be slow.
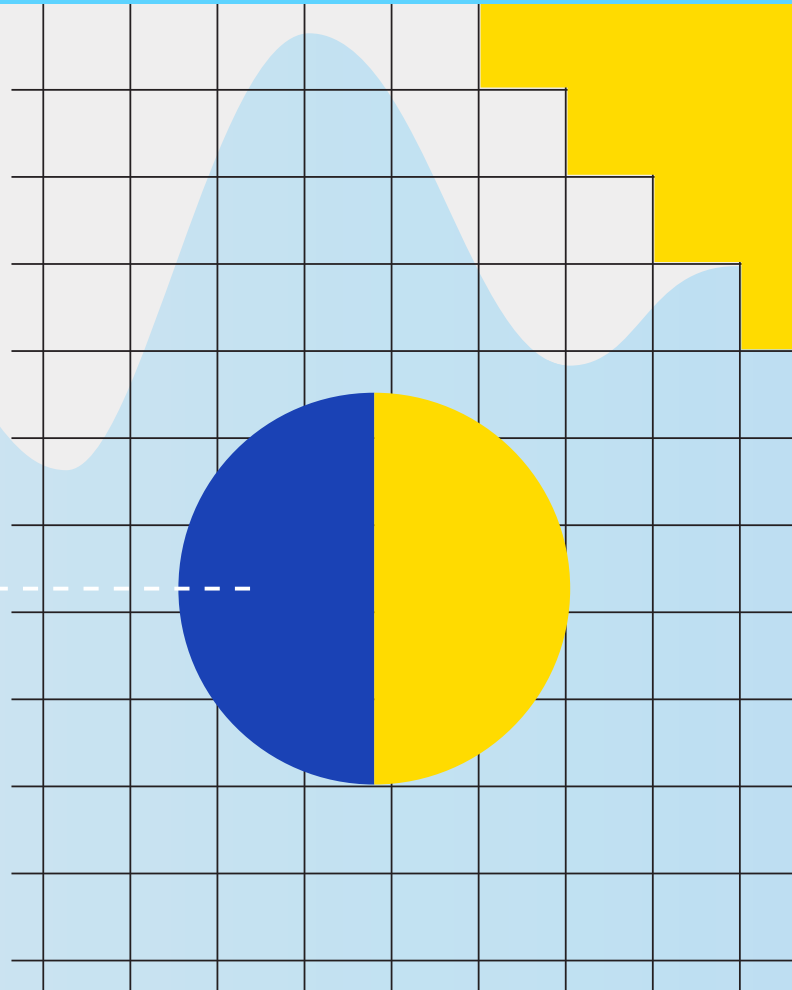
4. PREVIOUS EFFORTS TO ASSESS THE EFFECTIVENESS OF THE FEDERAL STATISTICAL SYSTEM

From 1903 through the 2010s, numerous presidential commissions, task forces, and committees of such organizations as the American Statistical Association have studied the organization and responsibilities of the federal statistical system (see Supporting Materials: C and Appendix H of Commission on Evidence-Based Policymaking, 2017). Other studies have responded to a particularly problematic incident of political interference or attempted interference with a statistical agency's objective work (e.g., GAO, 2007; American Statistical Association, 2021a).

Several studies made recommendations to increase the visibility of the statistical agencies. For example, the Bonnen Reorganization Project (1977) recommended the establishment of an Office of Statistical Policy in the Executive Office of the President, alongside but not within OMB, like the Office of Science and Technology Policy. Other studies made recommendations for regular monitoring of the statistical agencies:

✳ The Wallis Commission (1971) recommended that a standing committee be established at the National Academy of Sciences to perform a monitoring function. The Committee on National Statistics (CNSTAT) was established at the National Academies in 1972, but while it has carried out many consequential studies of specific agencies and programs and it publishes the influential Principles and Practices for a Federal Statistical Agency every four years, it is not funded to conduct regular assessments of the entire system.

✳ The Joint Ad Hoc Committee on Government Statistics of ASA, the American Sociological Association, the Federal Statistics Users' Conference, the National Association of Business Economists, and the Population Association of America (1976) recommended that a consortium of associations monitor the statistical system. The Council of Professional Associations on Federal Statistics (COPAFS) was established in 1981. It reviews developments in federal statistics at its quarterly meetings, but it does not engage in systematic monitoring.

Finally, some studies made recommendations toward centralization but with no agreement on which agencies to consolidate, while other studies argued against consolidation of two or more statistical agencies. See Auerbach (2023) and citations within for details.

None of the recommendations on establishing a new office or council on federal statistics in the White House, providing for regular external monitoring of federal statistics, or consolidating two or more agencies have gained traction. The draft Trust Regulation (see previous section) provides for monitoring how the statistical agencies are living up to their fundamental responsibilities and how parent agencies are fulfilling their mandate to support their statistical agencies. The monitoring proposed, however, is more akin to auditing and is internal to the federal government—options identified are for inspectors general or a peer review committee under the ICSP to perform a review every three years. On consolidation, it seems that once separate agencies are established in different departments, often with different congressional committees responsible for their oversight and

appropriations (see Supporting Materials: B), the chances that all affected parties will coalesce around a particular consolidation proposal diminish greatly.

5. A NEW EFFORT TO ASSESS THE EFFECTIVENESS OF THE FEDERAL STATISTICAL SYSTEM

We believe a new assessment of the vitality and effectiveness of the federal statistical system—and specifically the 13 principal statistical agencies—from an outside perspective is long overdue. We have identified both threats and opportunities for the agencies and believe it imperative to highlight the agencies' value, assess their strengths and weaknesses, and propose recommendations to better position them to serve the data needs of the 21st century. We do not make organizational recommendations, such as consolidation of two or more agencies. We recommend actions by Congress, OMB, parent agencies, and the statistical agencies themselves that we believe will strengthen the statistical system in important ways and markedly increase its value-added for the nation.

We anticipate being able to update and expand the scope of this first assessment in regular annual reports that will focus on change. We will identify progress of the statistical agencies in meeting their fundamental responsibilities and providing enhanced value, for which regulations to implement the provisions in the Evidence Act for expanded data sharing and data access are key. We will also identify any new threats or opportunities for the agencies. We expect to actively disseminate our findings and recommendations and believe that is an advantage of an ongoing external review. We invite comments on this report and suggestions for future reports.

HOW WE ASSESSED THE HEALTH OF THE FEDERAL STATISTICAL AGENCIES

To assess the extent to which the principal federal statistical agencies are able to meet the current and future data needs of the nation, we considered six questions about each:

1. Does the agency consistently produce quality data? i.e., Does it produce relevant, timely, credible, accurate, and objective statistics (trusted, quality statistics)?

2. Is the agency trustworthy and accountable?

3. Does the agency have sufficient support in three key areas—professional autonomy, parent-agency support, and sufficient budget and skilled staff?

4. What are the challenges and threats the agency faces and their magnitude and potential consequences?

5. Is the agency agile? What are its innovation record and its opportunities to respond to future data needs?

6. Is the agency responsive to user needs and transparent about its data products and decisions that affect users?

The rationale for each of these questions, elaborated upon in this section, is based on assessing the extent to which an agency is fulfilling, and is equipped to fulfill, its Evidence Act responsibilities (Box 5a), which go hand in hand with meeting the needs of data users in the public and private sectors.

For our assessment, we collected a wide range of data (see Box 6). The data enabled us to address questions 3–5 in detail and questions 1, 2, and 6 in part. In particular, the absence of information from in-depth user surveys makes it difficult to address question 6. That said, four principal statistical agencies have information on researchers using their data and the topics of that research, while other agencies have data on who has requested microdata and also less granular data on numbers of website visits and downloads.

Box 6:

Data Sources: First-Year Assessment

Listening sessions: We held listening sessions in 2023 with the chief statistician of the United States, current leaders of the principal statistical agencies, and people active with groups that consider issues of federal statistics (e.g., the Committee on Economic Statistics of the American Economic Association).

Presentations: We presented the project at relevant professional association meetings to obtain feedback.

Survey of agencies: We conducted a survey of principal statistical agencies to solicit information on budget and staffing, parent agency relationships, innovations, user outreach, and other topics.

Workshop: We held a workshop on November 6, 2023, to obtain input on the proposed assessment from current and former statistical agency leadership and others active in the federal statistical system.

Publicly accessible data: We reviewed public data on agency budget requests and appropriations, innovations in selected data series, responses to the Federal Employee Viewpoint Survey and other federal workforce data from the U.S. Office of Personnel Management, timeliness measured from the end of a reference period for a survey to the first public release of data, survey response rates, and text of relevant legislation, regulations, and other documents.

NOTE: See Supporting Materials: J for documentation of data sources.

1 **Does the agency produce quality data?**
i.e., Does it consistently produce relevant,
timely, credible, accurate, and objective
statistics? The first of our six questions
addresses the extent to which an agency is
fulfilling three of the four responsibilities
of statistical agencies mandated in the
Evidence Act; see Box 5a above. Collectively,
the attributes in this question compose data
quality, considered broadly; see Box 7, which
lists these and other quality attributes in a
Data Quality Framework developed by the
Federal Committee on Statistical Methodology
(FCSM).

2 **Is the agency trustworthy and
accountable?** The second question addresses
trust and accountability in two respects. First,
does the agency meet the fourth responsibility
of a statistical agency in the Evidence Act—
namely, that it [emphasis added] "protect
the trust of information providers by
ensuring the confidentiality and exclusive
statistical use of their responses." Second,
is the agency accountable to and trusted by
a diverse array of stakeholders, including
Congress, the executive branch, and the
public, by providing them with trusted, quality
statistical information in a transparent way?
Transparency and proactive communication
with stakeholders are particularly important
when stakeholder data needs are in conflict.

3 **Does the agency have sufficient support?**
The third question addresses three aspects of
the essential support for a statistical agency:
professional autonomy, parent-agency
support, and sufficient budget and staff with
appropriate flexibility. These requirements
take into account the many ways a federal
statistical agency is unique, at least within its
parent agency; see Box 8.

Box 7:

Data Quality Framework of the Federal Committee On Statistical Methodology (FCSM)

Utility: Relevance, accessibility, timeliness, punctuality, granularity

Objectivity: Accuracy and reliability, coherence

Integrity: Scientific integrity, credibility, computer and physical security, confidentiality

SOURCE: FCSM-20-04 A Framework for Data Quality; see also Supporting Materials: G

Box 8:

Unique Function of a Federal Statistical Agency

Statistical agency products must serve not only their parent agencies but also other federal agencies, Congress, the courts, state and local governments, the business community, nonprofit organizations, researchers and policy analysts, the media, and the general public. Statistical agencies are charged with producing robust statistical information for public use with scientific methods that meet statutory criteria and OMB guidance. This function is distinct from regulation, enforcement, grant-making, policy and program evaluation, and other federal agency functions. It is also labor intensive. Statistical agencies must be especially trustworthy, accountable, and agile so that their data are credible with all, regardless of party, and so they can respond quickly to emerging data needs. As noted in Box 5a above, the Evidence Act requires parent agencies to support their statistical agencies in carrying out their fundamental responsibilities. Each agency is also part of a broader federal statistical system coordinated by the chief statistician of the United States and the Interagency Council on Statistical Policy.

NOTE: See Supporting Materials: B for an overview and brief history of the evolution and organization of the federal statistical system.

Professional Autonomy. A statistical agency's professional autonomy, or control over its professional and statistical operations, stems from the requirement for statistical agencies to meet scientific standards for producing trustworthy and credible statistics for public use. In the words of the Trust Regulation, the "Federal Statistical System's ability to meet its mission reliably and objectively … requires an appropriate level of autonomy and authority." Indeed, the Trust regulation preamble states an "aim to explicate where autonomous decision-making authority is important and why."

It is helpful to think of professional autonomy as the statistical agency having authority over "how" it produces its statistical products but not over "what" topics it should cover (Habermann et al., 2023). The "what" is largely the purview of Congress and executive branch leadership, informed by the user community. Professional autonomy is critical to an agency being both agile and trusted so that it can efficiently produce useful, credible statistical information. It is also a necessity for a statistical agency to be accountable; see Box 9.

> *Federal statistical agencies must be able to report the truth regardless of who is in power. This is even more important when you don't agree with the party in power. Therefore, lawmakers must ensure they provide independence to agencies when they are in power.*
>
> JAMES WOODWORTH, COMMISSIONER, NATIONAL CENTER FOR EDUCATION STATISTICS, 2018–2021

Box 9:

Professional Autonomy

Professional autonomy is essential for a federal statistical agency to be agile, trusted, and accountable. Citro et al. (2023) define professional autonomy for a statistical agency as "the ability to act independently from political or other undue external influence with regard to its operations, such as data collection and analysis, staffing, and publications." We expand the six components of professional autonomy in Citro et al. to the following 10 components:

1. Data collection & analysis
2. IT systems
3. Publications
4. Hiring
5. Budget
6. Contracting, cooperative agreements, and grants
7. Staffing level (combined with #4, hiring, in Citro et al., 2023)
8. Agency name and logo ("brand") autonomy
9. Direct interactions with government officials, including Congress, on statistical activities
10. Direct interactions with the public and the data user community

NOTE: See Supporting Materials: E for elaboration on the 10 aspects of professional autonomy.

Parent-Agency Support. The Evidence Act requires the following of parent-agency leadership: "The head of each agency shall enable, support, and facilitate statistical agencies or units in carrying out the responsibilities described in [Box 5a]." The importance of full support for the statistical agency from its parent agency, broadly defined by OMB (2023),[4] cannot be overstated, as indicated by the 143 mentions of "parent agency" in the proposed Trust Regulation mandated by the Evidence Act (see "Context" section above and Supporting Materials: D). The parent agency typically provides the infrastructure that is key to the health of its statistical agency, including human resources, IT support, physical space, security, finance and accounting services, contracting support, and legal counsel. The smaller statistical agencies are especially reliant on the parent agency for these

services. The efficiency and timeliness of those shared services is critical to a statistical agency being agile and its products relevant and timely. The proposed Trust Regulation delineates the myriad of responsibilities of the parent agency to help its federal statistical agency/ies fulfill their Evidence Act requirements and overall mission, which includes providing policy relevant data on topics within their purview. The statistical agency has a responsibility to regularly seek input on data needs from the parent agency (as well as Congress and other stakeholders). Similarly, the parent agency has a responsibility to communicate its data needs to the statistical agency, while respecting the bright line for how the agency produces the needed data—in other words, respecting the agency's professional autonomy; see Figure 3.

FIGURE 3. Yeses and Nos of Parent Agency Support

Parent Agency

Federal Statistical Agency

Yes:
- Support to ensure the agency can be agile, trusted, effective, and efficient, and meet the scientific standards for a federal statistical agency
- Guidance, with Congress, on <u>what</u> topics to be covered

No:
- Influence on <u>how</u> the agency produces its information or that otherwise undermines the agency's professional autonomy

A statistical agency must be responsive to its parent agency for its information needs and should constantly work to earn the trust of the parent agency.

4 The Trust Regulation states, "The definition of 'parent agency' includes the full organizational structure, including every organizational level (including sub-agencies, offices, components, and units within the highest organizational level such as the Department), as well as the highest organizational level such as the Department, including any agency and aside from the Recognized Statistical Agency or Unit, and any organizational units that contain the Recognized Statistical Agency or Unit."

Budget and staffing. The third essential support is adequate budget and staffing with appropriate flexibility. While sufficient budget and staffing are not a unique requirement in the federal government, it is important to note that a federal statistical agency's work to produce data that meet scientific standards is person- and expertise-intensive. Insufficient funding hamstrings an agency's ability to be agile and accountable and to produce useful, credible statistical information. Specific funding levels should be informed by such factors as the agency's mission, past budget levels, innovation record, need to redesign major surveys, planned new products, necessary modernization of IT systems, and proposed initiatives. Our approach to determining whether an agency's staffing level is commensurate with its budget was informed by comparing its budget-to-staff ratio and its staff-to-contractor ratio with other statistical agencies. For three agencies, BJS, NCES, and NCSES, funding cannot be used for salaries, and their staffing is determined out of a parent agency's budget for personnel. For these agencies, we separate budget from staffing in assessing the adequacy of their support. Agencies also need flexibility in budget and staffing. Authority for multi-year funding is an important example of budget flexibility, as is the ability of an agency to determine an optimum allocation of in-house and contractor staff.

For each agency (Supporting Materials: I), we assign a ranking from weak (1) to strong (5) for professional autonomy, parent-agency support, and budget and staffing based on our scoring rubric (see Supporting Materials: F).

As electricity utilization grows in the energy transition, accurate and reliable statistics for renewable power supplies and novel end-uses will be increasingly important. EIA is struggling to keep up with Congressionally mandated reports like the Annual Energy Outlook—and finding the resources for new initiatives is proving difficult.

ADAM SIEMINSKI, ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION, 2012–2017; SENIOR ADVISOR TO THE BOARD OF TRUSTEES, KING ABDULLAH PETROLEUM STUDIES AND RESEARCH CENTER

4 **What are the challenges and threats the agency faces and their magnitude and potential consequences?** A federal statistical agency's ability to respond to challenges and threats also provides insights into its health. Many challenges affect most if not all the federal agencies:

✳ Declining response rates to surveys; barriers to acquiring administrative records that could be used with surveys to improve the resulting data products;

✳ Availability of alternative data sources from the private and academic sectors that, in the best case, complement federal data sources, but, in the worst case, undermine federal data sources when the alternative sources are of inferior quality but are taken as correct by the public;

✳ Declining trust in the federal government; and increased threats to confidentiality that, in turn, threaten ready access to federal data for the broadest possible range of users.

Rising labor, data, and other costs are also a burden on agencies, especially when those costs increase at rates higher than inflation or budget increases. Improper external influence on a statistical agency's work, such as that seen in the 2020 Census and the rushed geographic relocation of ERS, is an ever-present threat. Federal government lapses in appropriations can disrupt time-sensitive data collection efforts, cause delays in product development and releases, and result in unfunded or underfunded legislative mandates.

5 **Is the agency agile?** What is its innovation record and its opportunities to respond to future data needs? We consider the innovation record of the federal statistical agencies and their opportunities to innovate for the future in five domains:

✳ **Concepts and topics:** to keep abreast of social and economic change and new data needs

✳ **Data collection:** to collect high-quality data as efficiently as possible with the least burden on people and businesses to respond

✳ **Data processing and estimation:** to produce relevant data efficiently and accurately

✳ **Data dissemination:** to ensure that users with all levels of expertise and experience can readily find the data they need

✳ **Data evaluation and testing:** to assess the relevance and accuracy of collected data and experiment with methods to improve and collect new data

The Trust Regulation and regulations for data sharing and greater access to statistical agencies' data required by the Evidence Act, as well as NCSES's National Secure Data Service (NSDS) demonstration project (see Box 5b), should greatly facilitate innovation and agility on the part of the statistical agencies. The agencies should be able to take advantage of a plenitude of data sources from state and local governments and the private and academic sectors to blend with survey data and federal administrative records to produce new and improved data products for the public good. Nonetheless, there are still significant barriers to innovation, such as the practical difficulties in obtaining access to administrative records, lack of incentives for data sharing on the part of the states, lack of sufficient

resources for the agencies to invest in innovation, and uneven ability or effort to establish partnerships with academia for joint research and development. For example, some statistical agencies make extensive use of cooperative agreements and detailing people to or from academic and nonprofit research institutions under the Intergovernmental Personnel Act (IPA), while others do not have or do not use these authorities.

6 **Is the agency responsive to user needs and transparent about its data products and decisions that affect users?** Statistical agencies know less about their data users than one might ideally want, in part because their data are public goods—once in the hands of the public, data have many secondary and tertiary uses that are hard to track. For example, a state demographer might use data from the decennial census, the American Community Survey, and the Population Estimates Program by downloading files from the Census Bureau's website. In turn, the state demographer might provide selected estimates not only to its state government but also to myriad local governments for use in planning, applying for grants, and the like. A full picture of state and local government uses would not be known to the Census Bureau unless the agency had made a special attempt to learn of them. We have some information on data usage that we summarize in "Findings" below, but this information does not inform on unmet user needs and concerns. Surveys of data users themselves could help address such questions.

Findings

We find ***increasing challenges to the principal federal statistical agencies' ability to produce trusted, quality statistics and to innovate to the extent necessary in meeting the nation's information requirements in the 21st century.*** The increase in these challenges can be attributed to many reasons. Importantly, ***at least one out of three critical supports—professional autonomy, parent-agency support, and adequate budget and skilled staff—exhibits significant weaknesses for most agencies.*** The agencies depend on these supports to produce quality data, to be trustworthy and accountable, and to build an innovative, agile organizational culture. Further, weaknesses in these supports may leave the agencies susceptible to the types of political meddling and other improper outside influence that have occurred in the past, as described in the "Context" section of this report, above.

We first review the three necessary supports for a statistical agency to do its job well (question 3). We then examine additional challenges the federal statistical agencies face in producing quality statistics and opportunities to improve quality in the future (responding, in part, to question 1 as well as question 4). Because the agencies must constantly innovate in order to fulfill their missions and mandates, we assess the agencies' past innovation record, their responsiveness to the increased demands for information during the Covid-19 pandemic, and innovations they are undertaking currently (responding to question 5 and in part to question 2 on the extent to which agencies are trustworthy and accountable). We also review the significant barriers to innovation that continue to confront the statistical agencies. These barriers are increasingly problematic given policymakers' and the public's expanding data needs and the availability of less reliable information than official statistics that may be flawed or misleading. The barriers include weaknesses in the three necessary supports and such factors as the lack of legislation to facilitate the full range of needed data sharing with other federal agencies and state and local governments. Finally, we review the agencies' knowledge of and relationships with data users, to the extent of our information on this topic (responding to question 6).

We offer recommendations in the next section to address our findings on agency support, opportunities to improve data quality, and opportunities to foster innovation.

In the supporting materials, we have profiles for 12 of the principal statistical agencies.[5] Each profile briefly summarizes the work and fundamental characteristics of the agency, rates the strengths of its essential supports (see Table 5, below), and identifies recent successes, strengths, vulnerabilities, challenges, and opportunities. The profiles also have agency-specific recommendations. The agencies were given the opportunity to review the profiles for accuracy.

Control over Professional and Statistical Operations ("Professional Autonomy")

A statistical agency's professional autonomy—control over the 10 components of its professional and statistical operations (see Box 9 and Supporting Materials: E)—is a necessary requirement for an agency to be accountable, trusted (e.g., insulated from political meddling and improper influence), and agile (i.e., able to make needed changes in a timely manner to produce relevant and timely statistics). As

discussed in our early work for this project (Citro et al., 2023), protections for statistical agency professional autonomy include a legal and policy framework—i.e., statutes, executive orders, OMB directives, and memoranda of understanding (MOUs) between a statistical agency and its parent agency—as well as organizational and operational support—i.e., the influence of the chief statistician and the statistical office staff in OMB and an agency's own leadership. Citro et al. (2023, p. 15), however, found "remarkable variation in autonomy protections and a surprising lack of statutory protections for many agencies" and that "many existing autonomy rules and guidelines are weakened by unclear or unactionable language."

Former BLS commissioner Erica Groshen used the analogy of statutes serving as the bones and the other protections, such as MOUs, serving as muscles enveloping the bones: Strong muscles, fully engaged, can compensate for weak bones

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5 We did not produce a profile on the Office of Research, Evaluation, and Statistics in the Social Security Administration for lack of information.

(Citro et al., 2023, p. 12). Yet it would be optimal to have strong bones as well as strong muscles. For that reason and because the chief statistician and agency leadership must spend significant amounts of time ensuring professional autonomy with each change in administration, Citro et al. recommended statutory autonomy protections for the agencies, including explicit authorization for the principal federal statistical agencies that currently are not established in statute.

We note in addition that the authorizing legislation for at least three statistical agencies cedes some of the agency's professional autonomy to the parent agency:

✳ **NCES**: Prior to the 2002 legislation creating the unit to which it reports, the Institute of Education Sciences (IES), NCES had data collection authority in statute. This statute specified that no NCES data collection shall be subject to any review, coordination or approval except by OMB (see Elliott et al., 2023). The Education Sciences Reform Act of 2002 transferred such authority to the IES director. Elliott et al. (2023) document several other diminutions of NCES professional autonomy in their second appendix.

✳ **BTS**: The authorizing legislation for BTS cedes some of its professional autonomy for budget, hiring, and cooperative agreements, with the use of the word, "significant": "The Director [of BTS] shall have a significant role in the disposition and allocation of the authorized budget of the Bureau…." [6]

✳ **Census Bureau**: Beginning in 1950, the duties of the director of the Census Bureau were transferred to the Secretary of Commerce. Thus, the director has no authority except to carry out duties as assigned and delegated by the Secretary, including determining the content of surveys and censuses. Title 13 U.S.C. Section 4 states:

> *The Secretary shall perform the functions and duties imposed upon him by this title, may issue such rules and regulations as he deems necessary to carry out such functions and duties, and may delegate the performance of such functions and duties and the authority to issue such rules and regulations to such officers and employees of the Department of Commerce as he may designate.*

6 See 49 USC Ch. 63: BUREAU OF TRANSPORTATION STATISTICS (house.gov).

The 2023 proposed rule Fundamental Responsibilities of Recognized Statistical Agencies and Units (known as the "Trust Regulation;" see Supporting Materials: D) articulates and significantly advances the professional autonomy of federal statistical agencies. Once finalized, its impact on the statistical agencies' professional autonomy will be profound and far-reaching. Nonetheless, the regulation as proposed did not address all 10 components of professional autonomy described here (e.g., staffing level), nor had its compliance and enforcement mechanisms been decided.[7]

FINDING 1: **While federal statistical agencies continue to reliably produce trustworthy data, the agencies remain susceptible to the types of political meddling and improper influence that have occurred in the past due, in part, to weaknesses in their professional autonomy. Such interference undercuts the federal statistical agencies' ability to maintain trust with the public and policymakers in the public and private sectors and to fulfill their fundamental responsibility to produce trusted, quality data.**

Strong Active Support from the Parent Agency

The Evidence Act requires parent-agency support—and the OMB proposed Trust Regulation underscores its importance for the effectiveness and nimbleness of a federal statistical agency in carrying out its mission and responding to emerging data needs. The parent agency, particularly in the case of the smaller statistical agencies, typically provides such shared services (infrastructure) as human resources, IT support, security, contracting support, administrative support, and legal counsel. The efficiency, timeliness, and adequacy of those shared services is critical to a statistical agency being able to produce relevant and timely products. Further, just as the statistical agency has a responsibility to regularly seek input from the parent agency on data needs, the parent agency has a responsibility to communicate its data needs to the statistical agency, while respecting the agency's professional autonomy.

An examination of the agency profiles (see Supporting Materials: I) indicates the variety of ways and extent to which parent agencies support their statistical agencies. Such support involves shared services and shepherding the statistical agency's budget through the annual appropriations process. It also involves engaging a statistical agency in the parent agency's policy initiatives and meetings, recognizing its accomplishments, including it in congressional meetings, and integrating the role of the statistical official in the parent agency's Evidence Act requirements. These forms of support also

7 The Federal Register notice for the Trust Regulation asked if the regulation provides "adequate accountability measures for Recognized Statistical Agencies and Units to ensure they are meeting their fundamental responsibilities" and asked for feedback on three options for compliance review, each specifying enforcement actions for the chief statistician. In its comments, the American Statistical Association (2023) replied no to the question and, instead of one of the three options, urged a fourth option that included enforcement by the director of OMB.

help a statistical agency maintain visibility and credibility with stakeholders and recruit and retain qualified staff.

Shared Services—Human Resources (HR). Today, most of the principal statistical agencies receive HR services from their parent agency. A question we asked regarding HR consolidation is if HR delays and/or other factors have kept statistical agencies from being able to staff up to the level their budget would allow with qualified people in relevant fields. In response to our inquiries, some agencies did not indicate any major hiring challenges. Other agencies cited HR delays and applicants turning down offered positions (attributed by agencies to a combination of HR delays such that the applicant had already accepted another position, no opportunity for 100% remote work, and noncompetitive salaries). Other factors cited as hiring challenges included lack of qualified applicants, the parent agency disapproving hires, and delays in security clearances, onboarding, and other steps in the recruiting process. Some agencies noted that departmental HR units were themselves understaffed.

Shared services—IT support. Many statistical agencies receive IT services from their parent agency, and IT services in many departments are undergoing major changes, such as moving to the cloud and implementing increased cybersecurity requirements. When asked to what extent the statistical agency makes decisions regarding its IT infrastructure and access to servers (whether

they are in a central service center, cloud environment, or self-hosted by the agency), several agencies replied that they had final authority or "most" of the authority, while others said they had some or "little if any" authority. Several agencies said that lack of resources precluded their ability to "modernize aging IT systems," replace "end-of-life-hardware," or "timely install new software or make important upgrades."

Annual budget process. Once finalized, the Trust Regulation will fundamentally change the budget proposal process for a federal statistical agency. The draft specifies that each statistical agency shall produce a budget request, which is to be:

> . . . *included independently (i.e., clearly presented as the request for the Recognized Statistical Agency or Unit with figures and justification specific to the Recognized Statistical Agency or Unit) as part of the highest organizational unit's annual budget submission and process, and [the statistical agency is to] participate directly, accompanied by the highest organizational unit as appropriate, in presenting their agency specific request to the Office of Management and Budget.*

In the meantime, we focus our assessment on statistical agencies' annual budget requests and the extent to which statistical agency leadership is included by the parent agency in meetings with the congressional appropriations committees. Three statistical agencies—NCSES, ORES, and SOI—are anomalies in that they do not have specific appropriations from Congress so that the parent agency allocates their budget and staffing—and not always in an optimal manner. For that reason, we exclude the budget requests of those agencies from our analysis. We also exclude BTS from our analysis because it is funded through the Highway Trust Fund. This means its budget is set every few years through the transportation reauthorization process. While the administration regularly requests funding for BTS through the annual appropriations process, we are aware of only one instance in the last two decades of BTS receiving appropriations funding, and the influence of the administration's request is not clear.

For the other nine agencies, we find the administration's annual median requested percentage budget increase for 2001–2025 was almost always above the annual inflation rate (as measured by the GDP deflator); see last column and last row of Table 2 and Pierson et al. (2024). An outlier is NCHS, for which the annual median requested increase was only 0.4%. We also note that the individual requested increases were larger than the actual percentage increases enacted by Congress, except during the Trump administration, when the median requested percentage changes for the nine agencies were mostly negative for the first three years and the actual median change after congressional action was zero percent; see Figure 4 and Pierson et al. (2024). In a preliminary analysis of the influence of the president's budget request for a statistical agency on its actual budget, we find the requested increase to be more influential than, for example, changes in the overall federal discretionary, nondefense budget and the political parties in charge of the administration and Congress.

TABLE 2. President's Requested Budget for Nine Statistical Agencies or Agency Accounts as a Percentage Change Relative to Prior Year Enacted Level, FY 2014–FY 2025, and Median

Agencies (budgets in $ Millions)*	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	MEDIAN
BEA	12.7	4.0	9.7	5.3	-6.6	-1.0	7.1	2.5	4.0	14.5	14.4	11.1	9.7
BJS appropriations line	-15.1	0.1	49.8	41.5	-16.5	-14.6	11.6	0.0	0.0	12.5	85.7	20.0	11.6
BLS	6.3	3.0	6.8	5.2	-0.2	-0.4	0.0	2.8	4.7	12.5	8.7	2.1	4.7
Census Current Surveys	-0.1	-9.5	1.9	5.7	-8.9	-7.7	-2.2	1.9	7.4	12.1	13.8	11.8	5.7
EIA	17.5	4.7	12.0	7.5	-3.3	-8.0	-5.6	1.5	0.0	2.7	15.9	4.9	4.9
ERS	9.0	-2.8	0.7	6.9	-11.6	-48.2	-30.3	-26.8	6.0	5.9	6.4	8.2	5.5
NASS surveys (non-Census) line	7.4	4.1	8.0	-6.6	-5.5	-6.5	-8.7	-2.6	6.7	5.4	10.7	4.4	4.4
NCES	9.4	5.2	18.4	5.1	0.9	1.3	0.4	11.8	5.4	-11.7	3.1	0.0	5.2
-Assessment line	1.3	-5.6	16.2	0.0	0.3	0.0	-1.3	18.3	9.1	-18.9	2.2	0.0	1.3
-Statistics line	19.1	19.1	21.1	12.0	1.6	3.0	2.7	2.7	0.0	0.0	4.5	0.0	6.3
NCHS	13.4	0.0	3.0	0.0	-3.1	-3.1	-3.1	-3.1	0.0	0.8	1.1	0.0	0.4
MEDIAN	9.0	3.0	9.7	5.7	-3.3	-3.1	-1.3	1.9	4.7	5.4	8.7	4.4	5.7
GDP Deflator	1.7	0.9	1.0	1.8	2.3	1.7	1.3	4.6	7.0	3.6	3.0	3.0	2.0

NOTE: The last column is a median of the values back to FY 2001.
SOURCE: See Pierson et al. (2024) for FY 2001–FY 2025 data and Supporting Materials: L for further documentation

FIGURE 4. The President's Requested Budget and Enacted Level for the Combined Budget or Non-cyclical Budget Lines, 9 Federal Statistical Agencies, FY 2000–FY 2024
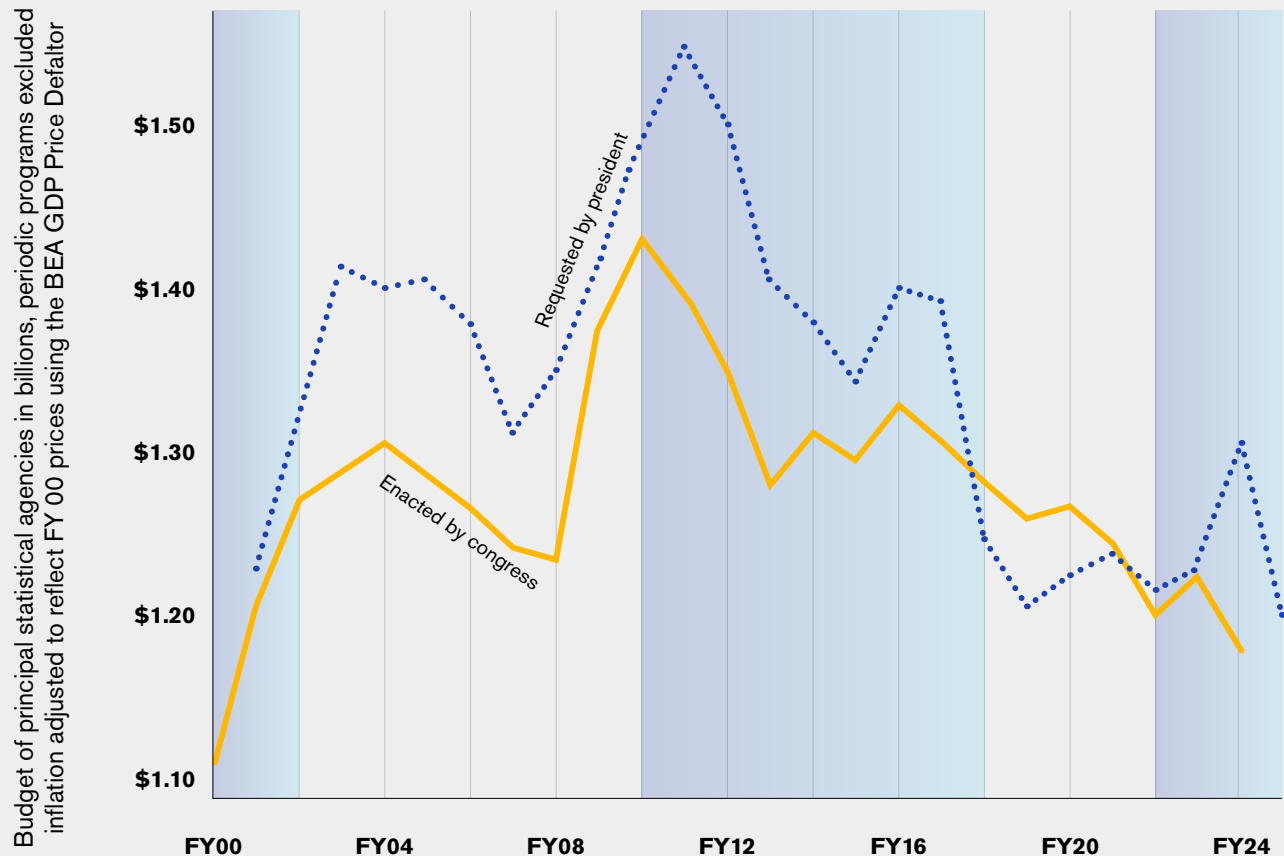
NOTES: BTS, NCSES, ORES, and SOI are omitted because their budgets are not determined through the congressional appropriations process. The Census Bureau budget line for periodic censuses and the NASS line for the Census of Agriculture are both omitted because of their cyclical nature. The shaded regions denote the different presidential administrations that initiated the budget process by releasing the executive budget.
SOURCE: Pierson et al. (2024)

Our analysis could not determine the adequacy of statistical agency budget requests. As we discuss below in the "Adequate Resources" section, adequate budgets would include investments to keep long-running series up to date and budget initiatives to fill important data gaps. Budgets would also identify appropriate and feasible cost-savings.

Other aspects of parent-agency support.
There are several other aspects of parent-agency support: the extent to which it involves the statistical agency meaningfully in parent-agency planning and initiatives, recognizes the statistical agency's accomplishments, includes

it in congressional briefings, and meaningfully utilizes its head in their role as statistical official for the department as required by the Evidence Act. The data we gathered show a mixed picture. Parent agencies, for the most part, recognize the contributions of statistical agencies along with other agencies through departmental awards and the like. Parent agencies are least likely to involve statistical agencies in congressional briefings. In between, parent agencies vary in their involvement of statistical agency heads in department-wide planning. Some statistical agency heads expressed satisfaction with the recognition of their statistical official role.

But it seems that the responsibilities of this role are a work in progress, vis-à-vis other agencies in their department who undertake statistical activities (e.g., surveys) and vis-à-vis the other officials in the Evidence Act (especially the chief data officer and evaluation officer) and others in the agency C-suite such as the chief information officer. Ideally, as required by OMB policy,[8] the statistical official would provide valuable input and review of other statistical activities in the department on the full gamut of data quality attributes (see Box 7 above) and would play a key role with the chief data officer in setting department-wide standards for collection, estimation, dissemination, and other attributes of statistical programs.

FINDING 2: Parent-agency support for their statistical agency (or agencies), including protecting the basic tenets under which statistical agencies must operate, is essential for the agencies' agility and visibility, but it varies widely from strong to weak. The proposed OMB Trust Regulation would strengthen parent-agency support across the board.

Adequate Resources in Terms of Funding and Skilled Staff

Because of the staff- and expertise-intensive nature of a statistical agency's work, coupled with the requirement for it to constantly produce relevant and timely data that meet

TABLE 3. Enacted Budgets for FY 2009–FY 2024 for the 13 Principal Statistical Agencies in Real (Inflation-Adjusted) 2009 Dollars

Agencies (budgets in FY09 $ Millions)	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	% Change since FY09
BEA	86.9	92.3	90.2	87.6	83.9	87.6	87.6	94.7	91.9	85.7	83.4	88.9	87.1	83.8	88.3	82.4	-5.1%
BJS	51.0	59.3	65.8	61.7	62.1	54.0	50.4	50.7	53.3	58.5	58.3	54.2	54.6	48.3	49.3	41.3	-18.9%
BLS	597.2	604.1	590.7	578.8	539.3	543.9	549.0	549.0	539.3	529.8	523.6	527.7	515.8	495.1	505.5	490.8	-17.8%
BTS	27.0	26.7	23.2	24.7	24.3	23.9	23.7	23.4	23.0	22.5	22.1	21.8	20.9	19.5	19.0	18.6	-31.0%
Census Current Surveys	233.6	255.9	250.7	240.8	239.5	251.6	248.2	243.4	239.1	233.7	229.9	230.3	231.7	225.2	239.0	231.0	-1.1%
EIA	111.0	109.7	92.9	99.8	93.0	107.5	106.5	110.0	108.0	108.2	106.4	106.6	101.9	96.9	97.8	94.9	-14.5%
ERS	87.2	89.1	86.8	81.2	73.9	78.8	77.7	77.0	76.9	75.1	73.9	71.3	68.7	65.9	67.1	63.7	-26.9%
NASS Surveys (non-census) line	123.1	131.5	128.3	119.9	110.1	115.6	113.3	113.8	114.4	111.1	110.0	113.4	110.6	107.6	104.7	98.9	-19.7%
NCES	228.6	235.8	230.5	226.6	211.2	215.8	211.2	235.3	228.9	223.8	221.8	221.4	222.2	218.8	222.0	215.5	-5.7%
- Assessment line	130.1	128.6	125.7	123.2	114.9	121.2	117.5	134.3	131.5	129.0	128.6	128.6	132.6	135.1	134.0	130.1	0.0%
- Statistics line	98.5	107.2	104.8	103.4	96.2	94.6	93.7	101.0	97.4	94.8	93.2	92.9	89.6	83.7	88.0	85.4	-13.3%
NCHS	154.4	166.4	162.7	159.7	157.1	141.4	154.2	157.2	154.4	151.0	148.5	134.8	140.9	135.5	135.7	131.8	-14.7%
NCSES	39.0	40.5	40.7	41.1	38.9	43.3	53.1	52.6	52.9	54.0	54.5	54.6	53.6	50.8	64.4	60.7	55.6%
ORES	29.3	29.9	30.3	29.7	27.8	26.8	28.4	25.4	23.2	23.4	30.1	30.3	28.7	29.8	29.6	28.9	-1.4%
SOI				36.8	32.6	34.1	33.5	34.1	30.4	32.1	31.3	30.1	32.1	30.6	30.2	32.8	-10.9%

NOTE: For the Census Bureau and NASS, their cyclical budget lines are excluded.
SOURCE: See Pierson et al. (2024) for this table and underlying documentation

[8] See OMB Memorandum M-19-23 (MEMORANDUM FOR HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES M-19-23 (whitehouse.gov)) and, specifically, the section, Responsibilities of Statistical Officials, that starts on page 30.

quality standards for our dynamic economy, people, and society, a statistical agency having sufficient resources is critical. Whether an agency has sufficient resources can be a subjective judgment and cannot be determined by an examination of their budget or staffing history alone. Productivity gains, for example, help an agency to do more with fewer resources. While productivity measures for statistical agencies are not available, we know from current and former statistical agency leadership that considerable productivity gains have been and continue to be made. We approach the challenge of assessing adequacy by (a) inspecting agency top-line budget and full-time equivalent (FTE) in-house staffing levels, as reported by OMB (2024a) in relation to historical levels and comparing staffing and contracting levels with other statistical agencies and (b) considering innovations, new products, cutbacks, and delayed work (see also our discussion below of data quality and innovation issues).

Budget. Eleven of the 13 principal statistical agencies have lost purchasing power in the last 15 years, and a majority of the agencies have lost more than 14% (see Table 3). To account for inflation to thereby determine real dollars, we use the GDP price deflator. In contrast, federal discretionary, nondefense spending—after accounting for the GDP price deflator—has increased 16% (Pierson et al., 2024—tab 10). In each of the agency profiles (Supporting Materials: I), we show the agency's appropriated (as distinct from proposed) budget in nominal

and real dollars, and where applicable, we describe the consequences of lost purchasing power.

Unfunded mandates further burden a statistical agency, especially the smaller ones. In their FY 2021 Commerce, Justice, Science (CJS) Appropriations Bill, the CJS subcommittee directed BJS to carry out seven projects, followed by one each in FY 2022 and FY 2023. While the FY 2021 mandates accompanied a budget increase from $43 million to $45 million in the BJS appropriations line, the BJS budget has declined 29% in purchasing power from FY 2018 to FY 2024. The 2021 Infrastructure Investment and Jobs Act (IIJA) includes nine mandates for EIA, requiring it to add and enhance data products that must be reported to Congress on the bulk power system, electricity grids, energy use, and energy modeling. IIJA also requires BTS to study federal support for local decision-making. BTS is also required by the 2015 Fixing America's Surface Transportation Act to establish a "port performance statistics program to provide nationally consistent measures of performance" and, by the 2022 Ocean Shipping Reform Act, to "publish statistics relating to the dwell time of equipment used in intermodal transportation at the top 25 ports, including inland ports."

The Evidence Act and related OMB guidance (e.g., memorandum M-19-23) impose several requirements on heads of federal statistical agencies that serve as the parent agency's statistical official—for example, establishing data standards across the parent agency and being a statistics resource for parent-agency units.

9 Specifying "sufficient in-house staff" is challenging because of the unique function of a statistical agency within a parent agency, the relatively small number of principal federal statistical agencies, and the many differences in function, operation, and budget of those agencies. Looking to the private sector also raises comparability issues but may nonetheless be informative. In 2022, the payroll and HR company, Gusto, found a contractor-to-staff ratio of nearly 1:5, an increase from 2017 of 1:10 (Wilke and Bowen, 2022).

NCSES is the only statistical agency for which we could find evidence of receiving funds for its Evidence Act work.

Staffing. To approximate adequate in-house staffing, we consider two ratios: budget-to-FTE (in-house) employees (hereafter, budget-to-staff) and contractor-to-staff. Although the 13 principal federal statistical agencies are very different from one another, this ratio nevertheless provides the best point of comparison because of what the agencies do have in common vis-a-vis other units of a parent agency. For both ratios, larger values mean that agencies rely more on contractors than their own professional staff. Contractors include not only private sector and academic organizations but also other federal agencies (e.g., the Census Bureau conducts surveys for other statistical agencies) and state governments. Contractors provide a wide range of useful services, and indeed agencies could not get along without them, yet it is essential that statistical agencies have sufficient in-house staff.[9] Such staff are needed to oversee an agency's contractors in substantive ways and not just in processing contract paperwork. In-house staff are also needed to enable the agency to take on new projects, keep up to date with new data needs and new methodology, engage in strategic planning and innovation, and otherwise fulfill its mission. Table 4 below shows the ratio of each agency's budget averaged over FY 2021 and FY 2022 to the agency's number of full-time employees averaged over the same years. The median value of this ratio for the 13 agencies is $355,000, or 0.355 in millions of dollars. The last column
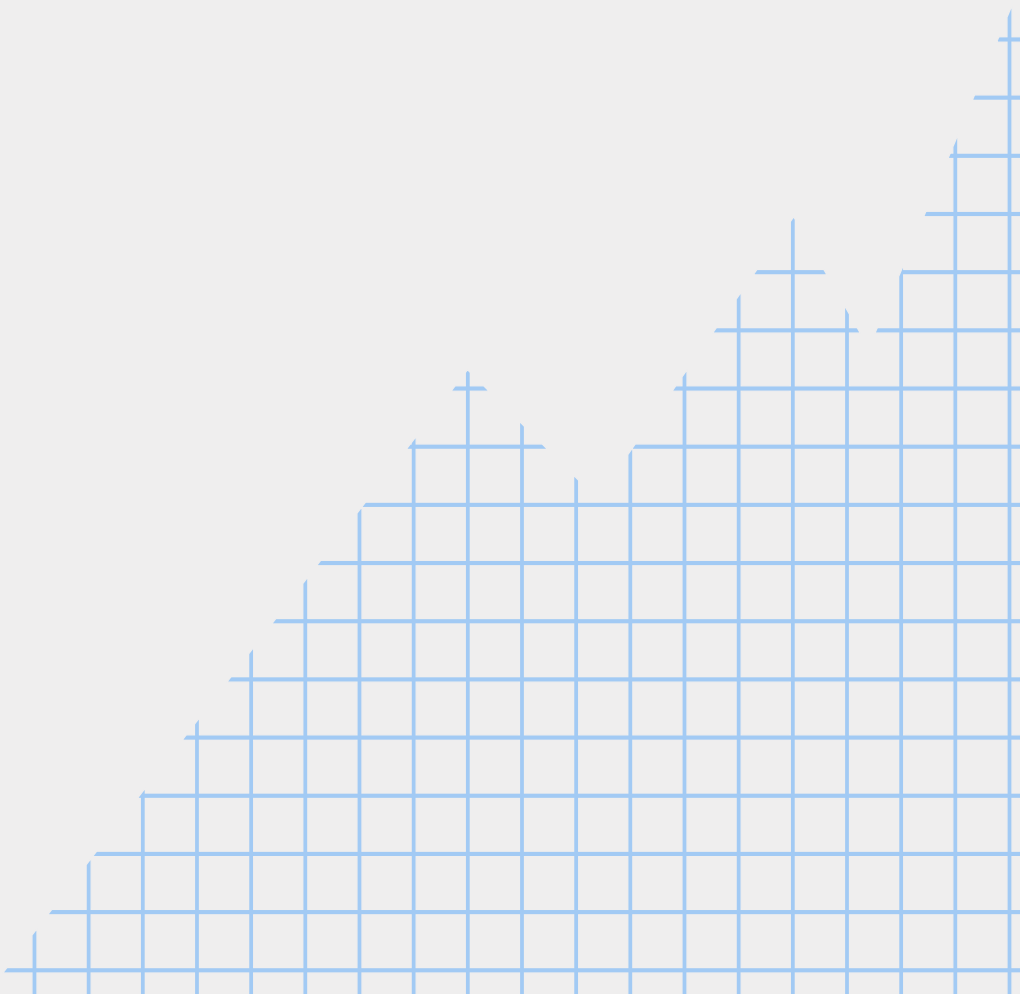
of the table is the same ratio normalized to the median value. BJS, NCES, and NCSES have ratios 3 to 10 times greater than the median, as illustrated in Figure 5. The other 10 are within 60% of the median. Except for the Census Bureau, which had its budget peak in 2020 for the decennial census, the ratios to the median are generally stable back to 2016 (Pierson, 2024).

The BTS budget-to-staff ratio for FY 2021–FY 2022 is 20% lower than the previous two years because of DOT lifting a staffing cap that allowed BTS to increase its staffing level from 59 FTEs in FY 2021 to 77 FTEs in FY 2022. The BJS ratio will also decline when the official OMB FY 2024 figures are released because the DOJ allowed BJS a staffing increase of some 40% for FY 2023.

TABLE 4. Budgets, In-House Staffing Levels, and Budget-to-Staff Ratios, Principal Federal Statistical Agencies, Average of FY 2021–FY 2022

| Agency* | Budget $M | | Staff Size (authorized) | | FY21–FY22 | |
	FY 2021	FY 2022	FY 2021	FY 2022	Budget of Ratio ($M) to Staff**	Budget Normalized to Ratio Median
BEA	108.4	111.7	472	472	0.23	0.66
BJS**†	76.1	72.6	52	52	1.43	4.03
BLS	642.0	659.5	1,890	2,000	0.33	0.94
BTS‡	35	35	59	77	0.51	1.45
Census	1,106.6	1354.0	8,519	7,377	0.15	0.44
EIA	126.8	129.1	357	364	0.35	1.00
ERS	85.5	87.8	249	329	0.30	0.84
NASS	183.9	190.2	843	862	0.22	0.62
NCES†	288.0	304.9	74	84	3.75	10.57
NCHS	175.4	180.5	476	474	0.37	1.06
NCSES	66.7	67.7	51	51	1.32	3.71
ORES	35.7	39.4	67	66	0.56	1.59
SOI	40	40.7	140	136	0.29	0.82
				Median:	0.355	

**†‡ See Supporting Materials: L and Agency Profiles, Supporting Materials: I, for explanations of estimating the total budgets for BJS, BTS, and NCES to allow for more accurate comparison among the 13 agencies.
SOURCE: See Pierson (2024), which compiles information from statistical-programs-20212022.pdf (whitehouse.gov)

FIGURE 5. Budget-to-Staff Ratios, Principal Federal Statistical Agencies, Average of FY 2021–FY 2022

(The dashed line represents the median budget-to-staff value, $0.355 million.)

Budget-to-staff ratio in millions per authorized staff, FY 21-22
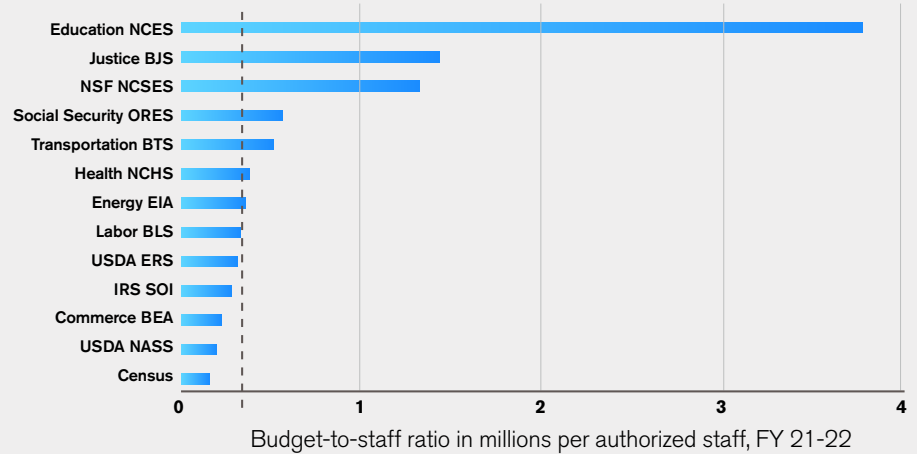
The large budget-to-staff ratios for BJS, NCES, and NCSES are likely because each of the three agencies has their staffing line determined out of a parent agency's staffing line by a parent agency official/office, rather than by the statistical agency out of its own budget line. This arrangement means that, even if one of these agencies were to receive a budget increase, it could not use any of it to make hires but instead would have no option but to contract for needed services. It is not surprising, therefore, that NCES reported a ratio of FTE contractors to FTE employees ranging from 11:1 to 16:1 for FY 2021–FY 2023 and that NCSES reported this ratio in FY 2021 at 13:1, whereas four other agencies reported ratios of 0.50:1 or less. NCES and NCSES both use highly qualified contractors, but there is no obvious reason concerning the nature of their work as to why their ratios should be so much higher than those of other statistical agencies. Instead, this finding underscores that the agencies with exceptionally high ratios of contractors-to-employees are in that position because of actions of their parent agency and not necessarily because this is how they would choose to divide up their work if they had that discretion.

The agencies that have staffing autonomy (i.e., the agencies in Table 4 with a value of less than 1.5 in the final column) seem to have staffing levels commensurate with their budgets. The question becomes whether they have sufficient budget to staff their agencies at a level sufficient to maintain their workloads and responsibilities. BEA and EIA appear to be under significant budget pressure in this regard (see their Agency Profiles). NCSES and NCES are both entities that lack budget or staffing autonomy, based on the two ratios we examine here as well as based on input from former agency leadership. We confirm the conclusions previously found by us and others that their severe staffing constraints inhibit their agility—because they do not have staff capacity to plan for the future (something that contractors can facilitate but not substitute for in-house staff) or initiate new projects to respond to new demands—and hence their ability to produce relevant and timely data (see their respective profiles; see also National Academies, 2022a, for NCES, and GAO, 2023, for NCSES). In the case of NCES, we also document numerous program cuts.

FINDING 3: The majority of principal federal statistical agencies have lost more than 14% of purchasing power over the past 15 years, despite increasing responsibilities. (For comparison, federal discretionary, nondefense spending, accounting for inflation, has increased 16% over the same period.) Several agencies also have severe constraints on staffing. These resource deficiencies undermine the ability of many agencies to produce relevant and timely data and to innovate effectively.

In Table 5, we summarize our ratings of the resources, professional autonomy, and parent-agency support available to the principal federal statistical agencies (see their profiles in Supporting Materials: I). We used a 5-point rating scale: weak (1), challenging (2), mixed (3), good (4), and strong (5). The resources column shows that most agencies have had to make program cuts or forego data collection updates because of declining purchasing power or lack of staff. For professional autonomy, 12 of the 13 agencies are in the range of weak to mixed, with only EIA having a positive rating. The parent-agency support ratings are more varied and more positive, generally. Five agencies have good or strong ratings while our rating for NCES is weak and for BTS, challenging. See Figure 6 for a visualization of these ratings.

Table 5. Ratings for the Key Supports for the Principal Federal Statistical Agencies

| Agency*	Resources	Staffing (applicable only to BJS, NCES & NCSES)	Professional Autonomy	Parent-Agency Support
BEA	Mixed	—	Challenging	Good
BJS	Weak	Challenging	Mixed	Mixed
BLS	Challenging	—	Mixed	Good
BTS	Challenging	—	Weak	Challenging
Census	Mixed	—	Weak	Good
EIA	Challenging	—	Good	Strong
ERS	Challenging	—	Challenging	Good
NASS	Challenging	—	Challenging	Good
NCES	Challenging	Weak	Weak	Weak
NCHS	Challenging	—	Mixed	Mixed
NCSES	Mixed	Challenging	Mixed	Mixed
ORES		—	Challenging	
SOI	Challenging	—	Challenging	Mixed

NOTE: The budget-to-in-house-staff ratios shown are not measures of whether budgets (and hence in-house) staff are sufficient for a statistical agency's responsibilities. They are simply an indirect measure of whether an agency seems to rely on contractor staff more or less than the median agency.
SOURCE: See Pierson (2024) and Supporting Materials: L for determination of ratios for BJS, BTS, and NCES, for which the congressionally determined budget lines do not include staffing or other budget inputs; see also Table 4 above

FIGURE 6. Agency Support Scores:

This figure contains triangles, one for each principal statistical agency, that visualize Table 5. Each vertex represents one of three factors that determine whether a federal statistical agency can function properly. Factors are scored from 1 to 5, depending on the extent to which agency operations are supported. Small triangles indicate that agency operations are at risk due to a lack of support. Green indicates low risk, yellow moderate risk, and red and orange high risk.
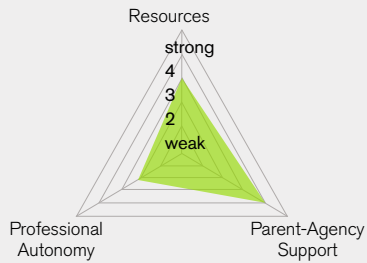

Energy Information Administration
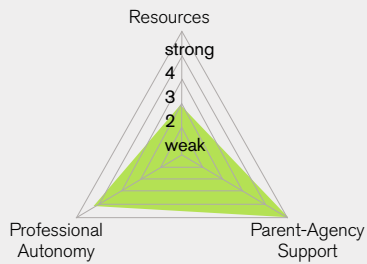
National Center for Science & Engineering Statistics

Bureau of Economic Analysis

Bureau of Labor Statistics
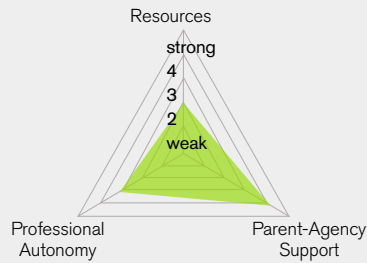
National Center for Health Statistics
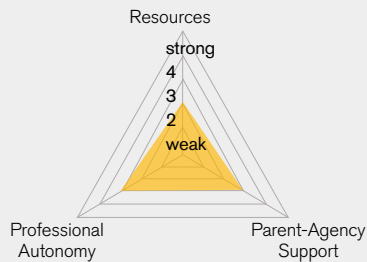
Economic Research Service

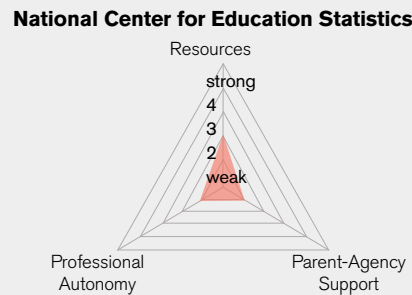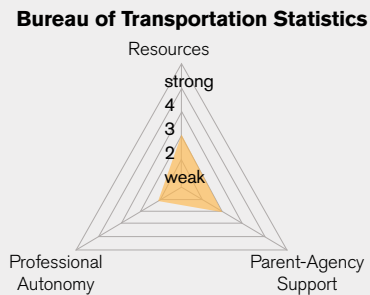

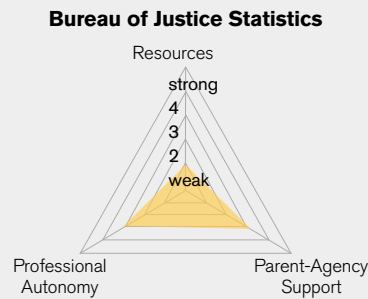National Agricultural Statistics Service

U.S. Census Bureau

Statistics of Income Division

Bureau of Justice Statistics

Bureau of Transportation Statistics

National Center for Education Statistics
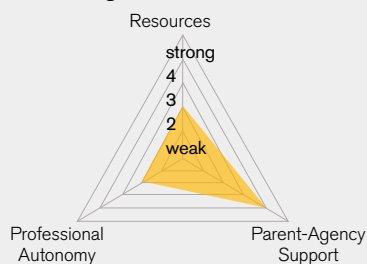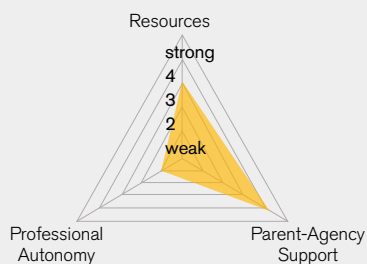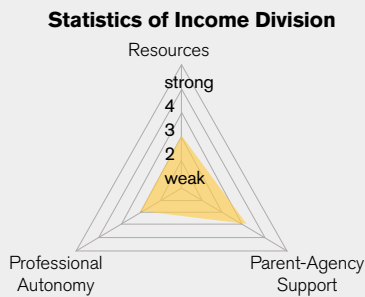
Challenges and Opportunities for Data Quality

To address our assessment's fourth question and aspects of the first question, we focus on challenges and threats the statistical agencies face to fulfill their essential mission: to produce quality data in the broadest sense of the term. We also consider the opportunities to maintain and improve federal statistics.

We highlight five data quality dimensions. These are based on the four Evidence Act responsibilities of a federal statistical agency that relate to dimensions from the Federal Committee on Statistical Methodology (FCSM) Data Quality Framework (see Box 7):

Relevance: Are the data useful for current policy, planning, and research purposes?

Timeliness: Are the data produced soon after they are collected and on a frequency (monthly, annual, etc.) that users require?

Lousy data beget lousy decisions. It is no exaggeration to say that Americans' well-being and the vitality of the U.S. economy rely in no small part on the quality of information provided by our federal statistical system.

ERICA GROSHEN, COMMISSIONER, BUREAU OF LABOR STATISTICS, 2013–2017; SENIOR ECONOMICS ADVISOR, CORNELL UNIVERSITY SCHOOL OF INDUSTRIAL AND LABOR RELATIONS

Accuracy, reliability, and impartiality:
Do the data measure what they purport to measure, are errors in the data (e.g., variability due to sampling or bias due to differences in nonresponse among groups and areas) well contained, and are the methods chosen to produce the data impartial? Together, these three dimensions make up the objectivity domain in the FCSM framework.

Credibility: Are the data adequately explained and documented so that users can be assured that they were collected using sound methods and that the choice of methods was not driven by improper political influence?

Confidentiality: Are the data adequately protected against reasonable disclosure risks in a manner that maximizes data usability and accessibility?

A comprehensive in-depth review of data quality attributes across the principal statistical agencies is beyond our scope, given the volume of federal statistics and statistical programs. In addition, collecting comparable data on quality attributes is difficult because of variation in the completeness and accessibility of documentation among the statistical agencies (see National Academies, 2022b). For example, survey response rates are not uniformly easily accessible across surveys and agencies, which underscores the importance of finalizing the Trust Regulation because of its transparency theme throughout.

For this first-year assessment, we focused on three pressing issues: (1) the challenge of declining survey response rates and the

opportunities to blend survey data with other data to bolster accuracy and relevance; (2) the challenge of keeping long-running data series—particularly those that produce key indicators at frequent intervals—up to date and the opportunities for investment to have large returns for relevance and accuracy; and (3) increasing threats of disclosure leading to reduced data access and noisier data by statistical agencies and the opportunities for a better balance of confidentiality protection and data utility (see Supporting Materials: G for details).

Response rates. Federal statistical agencies historically obtained high response rates for most of their surveys. Yet the past 10 to 25 years
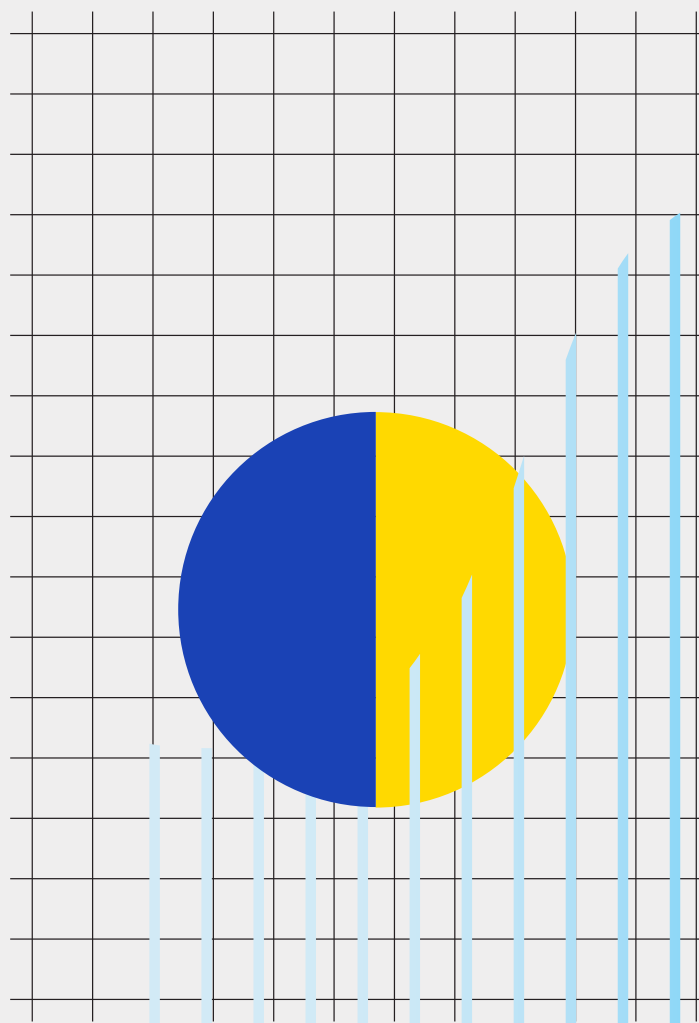
have seen accelerating declines in response rates, which undermine data quality and increase data collection costs. Fewer individuals responding to a survey generally means larger error bars on results, which, if large enough, may result in not being able to break out data by a demographic group or geographic region or not reporting the quantity altogether. To maintain the number of individuals responding, survey administrators execute what is known as nonresponse follow-up, which adds costs and can be expensive when human follow-up is required.

Figure 7 shows declines in response rate from 85–95% response 25 years ago to 40–70 % response today for three major federal household surveys, which are used to measure unemployment (the Current Population Survey, CPS), poverty and income (the CPS Annual Social and Economic Supplement, CPS ASEC), and consumer expenditures (the Consumer Expenditure Survey, CE). In addition, rates of missing items for people who respond to a survey are rising (see, e.g., National Academies, 2023d, on increasing nonresponse to income items in the CPS ASEC). These patterns of declining response are worldwide and affect surveys on a wide range of topics. Reasons are not clear, although the saturation of the public with surveys is likely a factor. For federal government surveys, increasing distrust in government institutions may also play a role (see Box 10).

FIGURE 7. Response Rates for Three Federal Household Surveys, 1984–2023
CPS, CPS ASEC, & CE Interview – Response Rates
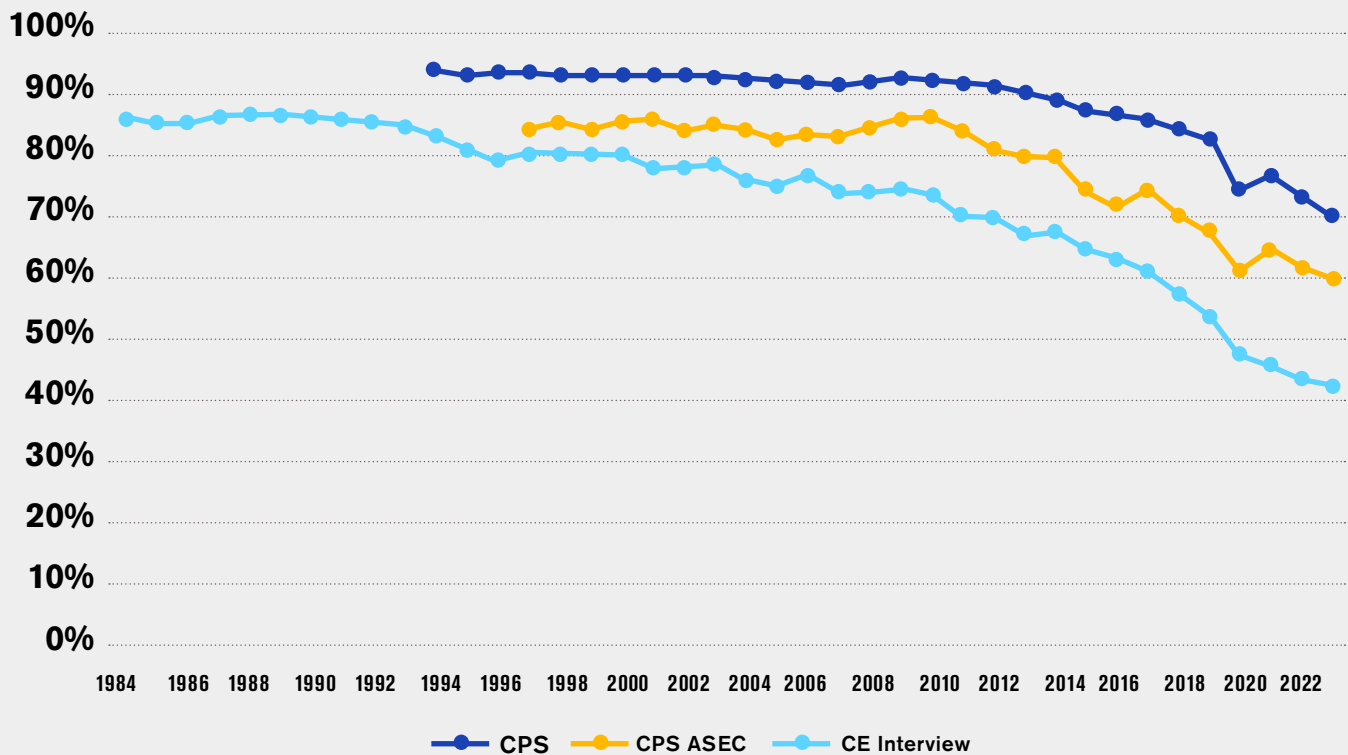
NOTE: See text for the full names of the CPS, CPS ASEC, and CE Interview surveys.
SOURCE: Rates compiled by Katherine Abraham and David Johnson from Census Bureau and BLS staff. (Response rates for the CPS and CE Interview Survey beginning in 2014 are available at Household and establishment survey response rates : U.S. Bureau of Labor Statistics (bls.gov). See also https://www.bls.gov/cps/methods/response_rates.htm for CPS response rate concerns and steps that BLS and the Census Bureau are taking to improve response.)

Public Trust in Government 1958–2023

According to [**Public Trust in Government: 1958-2023 | Pew Research Center:**](#)

> Public trust in the federal government, which has been low for decades, has returned to near record lows following a modest uptick in 2020 and 2021. Currently, fewer than two-in-ten Americans say they trust the government in Washington to do what is right "just about always" (1 percent) or "most of the time" (15 percent). This is among the lowest trust measures in nearly seven decades of polling. Last year, 20 percent said they trusted the government just about always or most of the time....
>
> In 1958, about three-quarters of Americans trusted the federal government to do the right thing almost always or most of the time. Trust in government began eroding during the 1960s, amid the escalation of the Vietnam War, and the decline continued in the 1970s with the Watergate scandal and worsening economic struggles. Confidence in government recovered in the mid-1980s before falling again in the mid-1990s. But as the economy grew in the late 1990s, so too did confidence in government. Public trust reached a three-decade high shortly after the 9/11 terrorist attacks but declined quickly thereafter. Since 2007, the share saying they can trust the government always or most of the time has not surpassed 30 percent.

Yet opportunities abound, with sufficient resources and staff, to use administrative records and other data with survey responses to create "blended data," as recommended in Committee on National Statistics reports (National Academies, 2023b, 2023c, 2024a). Blended data are advantageous in at least three ways. First, such data may be more accurate, relevant, and timely than either source could be alone. One example ([see Supporting Materials: H](#); see also National Academies, 2024b) is the Census Bureau's NEWS (National Experimental Well-being Statistics) program, which is creating higher-quality estimates of household income from a combination of survey and administrative data. Second, increased use of administrative data reduces or even eliminates survey-respondent burden. For instance, NCHS used administrative records to replace surveys in their entirety for nursing homes and other providers of long-term and rehabilitation care, which has

also enabled more frequent and geographically detailed publications in addition to reducing costs. With no comprehensive nationally representative administrative data available, however, NCHS will need to continue to rely on surveys to produce information on adult day care and residential care communities. Third, blended data often leads to new policy-relevant findings.

> *The value to the taxpayer and the public of creating high-quality statistics by blending data from multiple sources is blindingly clear. If the federal statistical system does not act quickly and decisively to create that value, it will be marginalized and its products replaced by lower-quality but cheaper, timelier, and more actionable information. It will take vision, leadership, and determination. But the time to stop talking and start acting is now.*
>
> JULIA LANE, CO-FOUNDER OF THE LEHD PROGRAM OF THE U.S. CENSUS BUREAU, THE STAR METRICS/UMETRICS PROGRAM, THE DEMOCRATIZING DATA PROJECT, THE NORC DATA ENCLAVE, THE COLERIDGE INITIATIVE, AND INITIATOR OF NEW ZEALAND'S INTEGRATED DATA INFRASTRUCTURE AND PATENTSVIEW

FINDING 4: Surveys remain invaluable because some information (e.g., self-reported health or crime victimization) can only be obtained by asking people questions. Yet, declining response and rising costs to address the decline raise significant concerns for their future. As the Committee on National Statistics documents, opportunities exist to combine surveys with administrative records and other sources to improve quality, although there are challenges in properly blending data sources, accounting for the uncertainty in estimates from them, and using them for estimates when that was not their original intent. Statistical agencies will need adequate resources to evaluate and implement, as appropriate, blending approaches for the future and to continue research into ways to improve the cost-effectiveness of surveys.

Updating long-running data series.

Federal statistical agencies excel in producing economic indicators and other data on a frequent, timely basis, month after month, quarter after quarter, year after year. Examples include monthly unemployment and inflation rates, annual poverty and health insurance coverage rates, and many more. The only delays in key economic indicators have occurred when government shutdowns were long enough to prevent the necessary data collection and analysis, as occurred in fall 2013 and winter 2018–2019.

Yet the nation's long-running data series that meet high standards of frequency and timeliness run a risk of becoming outmoded—in content and data collection and estimation

methods—in ways that reduce their relevance, accuracy, and cost-effectiveness. Keeping such series up to date requires sufficient staff and budget resources for continued testing, piloting, and consultation with users. Also required is the ability to run overlapping series (e.g., producing estimates of, say, consumer prices using current and new methods for some months), which are essential for users to assess and deal with the impact of changes. Ideally, resources for testing, piloting, and user dialogue would accompany adequate production budgets year after year so that improvements could occur in frequent, smaller increments rather than big changes at long intervals. Without a steady stream of such resources—ideally, including multiyear funding authority—series can become and stay outmoded for longer periods and change can be more disruptive to users even with overlapping series. We provide three examples below (for details and ideas for improvement for each, see Supporting Materials: G):

✳ Employment data collected in the monthly CPS, which do not routinely measure the gig work sector and have other conceptual and operational flaws;

✳ Consumer expenditure data collected in the CE, which is burdensome for respondents, has other flaws, and for which a redesign has been underway for 15 years; and

✳ Data on the health and nutrition of the population, which are collected in the National Health and Nutrition Examination Survey from small samples at high costs using methods developed decades ago.

FINDING 5: Long-running data series on important social and economic topics, which generally meet high standards of timeliness, are susceptible to becoming outmoded in content, accuracy, and efficiency. Reasons include the costs to run overlapping data series to enable users to changeover from the old to the new, inertia and hesitation to change on the part of agency staff and the user community, and the lack of adequate (ideally multiyear) funding for continuous testing and implementation of improvements.

Balancing data access, usability, and transparency with confidentiality protection. Statistical agencies are bound to protect the information they obtain under a pledge of confidentiality and for statistical purposes by the Confidential Information Protection and Statistical Efficiency Act (CIPSEA, enacted in 2002 and reauthorized and expanded in Title III of the Evidence Act in 2018) and other legislation (e.g., Title 13 for the Census Bureau and Title 26 for SOI). One reason for ensuring confidentiality is that it may encourage more people and organizations (e.g., businesses) to respond and contribute to federal datasets. Applying various confidentiality-preserving methods to publicly released data also helps guard against misuse of individual data for nonstatistical purposes, such as enforcement or program administration. CIPSEA imposes stiff penalties for statistical agency staff should they make individually identifiable information available to the public (up to five years in prison and up to a fine of $250,000).

Statistical agencies also have as their primary mission to provide relevant, accurate data to policymakers and the public. Indeed, the Evidence Act requires statistical agencies, "to the extent practicable," to "expand access to data assets [to] develop evidence while protecting such assets from inappropriate access and use," tasking OMB with issuing appropriate regulations. Confidentiality protection impairs accuracy to a greater or lesser degree and may also make datasets more difficult to use. The challenge is to appropriately balance accuracy, usability, and protection.

Every federal statistical agency makes information available to the public in the form of tables, charts, and other visualizations. Many agencies also provide public use files of samples of individual micro records. All of these public products are protected against disclosure of individual identities using a variety of methods. Many agencies also provide limited access to confidential data with only personally identifiable information (name, address, and the like) stripped out,
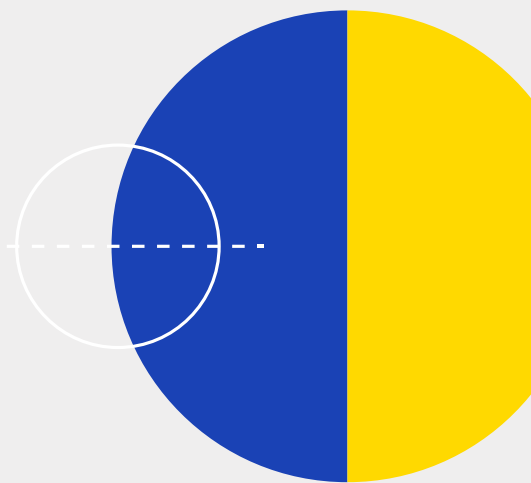
typically through a secure enclave such as one of the 33 Federal Statistical Research Data Centers (FSRDCs) at universities and other organizations around the country. As mandated in the Evidence Act, the chief statistician established a standard application process (SAP) and pilot website, using the FSRDC network, to make it easier for researchers to locate confidential datasets of interest across the statistical agencies and submit their applications. OMB also set standards, as required by the Evidence Act, for the timeliness of agency reviews. The SAP, however, does not yet address the time required for other steps of the process, such as obtaining security clearances for the researchers, nor the added hurdles that confront researchers who apply to use an FSRDC who are not U.S. citizens or who do not live close to an FSRDC and whose application does not qualify for secure remote access.

For public data releases, statistical agencies have long employed "traditional" statistical confidentiality protection methods to guard against someone figuring out the identity of a specific individual, such as eliminating small cells of a table (e.g., if there are fewer than a specified number of people in a cell of age by income by race/ethnicity) and aggregating values (e.g., a table of age in 5-year groups from under age 5 to 85 and over). In recent years, the increased availability of information from social media and the internet as well as increased computational power to web scrape and link data have caused statistical agencies to become more worried that publicly available data products

and statistics could be reengineered to identify specific respondents. To address these concerns, some agencies have turned to newer formal privacy algorithms that inject statistical noise into every data output based on a quantifiable mathematical guarantee. The Census Bureau decided to use an algorithm that satisfied a mathematical concept called differential privacy for the 2020 Census. Its use, however, impaired the accuracy and usability of some of the data, compared with the traditional methods used for 2010 Census data products—the inaccuracies, and user confusion about how to evaluate the data, were particularly pronounced for data for small governmental units and population groups (see National Academies, 2023a, Ch. 11).

Another agency working to update its statistical confidentiality protection methods is SOI, which is supporting efforts to develop "synthetic" files of sensitive administrative taxpayer data with a process to obtain privacy-protected output from the real data. Users would run preliminary analyses on a synthesized public use microdata file, submit their analysis code to a "validation server," which would run the code on the confidential data and then return a privacy-preserved output, such as a set of regression coefficients (see National Academies, 2024a). Should this approach prove feasible, SOI would be able to make data files available that it stopped releasing 10 years ago because of the increased threats to confidentiality.
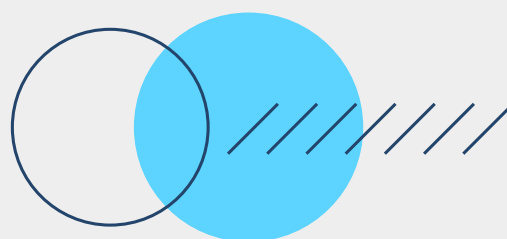
Given the issues with only having two options of public data and access to confidential data in secure enclaves, the Evidence Act requires that OMB set standards for "tiered data access," which is one of the three Evidence Act regulations yet to be finalized. The tiers could include a limited set of public products protected with a mix of methods; synthesized products with a validation server and confidentiality protection applied to specific outputs; and access to confidential data in an FSRDC or similar secure environment. The NSDS is another option. As noted in Box 5b, the NSDS is intended to facilitate capacity to conduct policy research and program evaluation (as stipulated in the Evidence Act) in a secure environment in which data linkages are performed and analytic results (appropriately protected) are returned to users, but neither the original nor linked datasets are stored or shared.

A key takeaway from this review is that the statistical agencies are experiencing heightened tension between their fundamental responsibilities to provide accurate, usable data to the public and to protect the confidentiality of the information they collect from the public. There are tradeoffs and risks in their choice of access and data protection methods. Tiered access may be a solution, but time and costs will exclude many state, local, territory, and tribal governments, nongovernmental organizations (NGOs), and members of the public from using an FSRDC or other secure data enclave, and they may not find it easy to use synthetic files or to access the NSDS, once established. Using quantifiable noise-injection methods in public data files may be more protective than

traditional confidentiality protection methods but at the cost of a greater degree of impaired accuracy of some of the data.

One approach to balancing confidentiality protection versus data access and the usefulness of the data is to legislate that confidentiality protection become a shared user-agency staff responsibility. The Year 2 Report (2022, p. 34) of the Advisory Committee on Data for Evidence Building (mandated by the Evidence Act) endorses the concept of "shared responsibility between the statistical agency and users for protecting and not disclosing or re-identifying data."

An amendment to the Evidence Act could apply the penalties that face agency staff to users who willfully disclose individuals' characteristics through reverse engineering a statistical data set. The Education Sciences Reform Act of 2002 contains such language, which NCES cites in its data use agreements.[10]

FINDING 6: Because of increased threats that traditional publicly available data products could be reverse engineered to identify individual respondents, statistical agencies are experimenting with newer confidentiality protection methods that inject noise into every data output. They are also considering making some data products available only through secure enclaves or through use of "synthesized" data products with subsequent validation. The challenge is how to balance confidentiality protection with the agencies' mission to provide accurate, usable data to users in all sectors—Congress, federal, state, and local governments, businesses, NGOs, academia, the media, and the general public. Solutions may require legislation to make confidentiality protection a shared responsibility of statistical agencies and data users.

Challenges and Opportunities for Innovation

In this section, we examine the fifth question we posed for considering the health of a statistical agency. To carry out their fundamental responsibilities to provide relevant, timely, frequent, granular, accurate, and readily accessible data for the public and policymakers, federal statistical agencies must be agile and constantly innovate. Innovation has been defined as the *practical implementation* of ideas that result in the introduction of new goods or services or improvement in offering goods or services (see Schumpeter, 1934, The Theory of Economic Development). Innovation may, but need not, derive from invention; innovation requires careful testing and piloting that is followed by implementation at scale. Innovation may also be driven by failures of existing methods to adapt to new and evolving conditions, such as societal change that calls for new or changed data.

Chronic neglect of Justice Statistics has meant that statistical collections ranging from prosecutors' filing decisions through jury decisions, judicial sentencing decisions, parole and release decisions, and reentry outcomes have been delayed or discontinued, undermining public confidence that such critical decisions are fairly and appropriately made.

JEFFREY SEDGWICK, DIRECTOR, BUREAU OF JUSTICE STATISTICS, 2006–2008; EXECUTIVE DIRECTOR, JUSTICE INFORMATION RESOURCE NETWORK

We examine five functional domains of innovation for statistical agencies:

✳ Concepts and topics: to keep abreast of social and economic change and new data needs;

✳ Data collection: to collect high-quality data as efficiently as possible with the least burden on people and businesses to respond;

✳ Data processing and estimation: to produce relevant data as efficiently and accurately as possible;

✳ Data dissemination: to ensure that users with all levels of expertise and experience can readily find the data they need; and

✳ Data evaluation and testing: to assess the relevance and accuracy of collected data and experiment with methods to improve and collect new data.

Landmark innovations. Historically and collectively, the principal statistical agencies have a stellar record of innovation in the domains listed above, and many innovations have set standards for private sector and academic data collection and research. Examples (see Supporting Materials: H, Appendix H-1) include:

✳ probability sampling, the basis of the survey industry worldwide;

✳ the first nondefense use of computers for the 1950 census;

✳ small-area estimation for local government statistics (e.g., small-area income and poverty estimates used to allocate billions in Title 1 funding to school districts);

✳ development of the National Income and Product Accounts (NIPAs) (gross domestic product and income, personal consumption expenditures, etc.);

✳ The Nation's Report Card (National Assessment of Educational Progress tests of students on reading, math, and other subjects);

✳ estimates of crimes not reported to law enforcement (National Crime Victimization Survey);

✳ electronic data products for public use (computer summary and public use microdata sample files, online data access platforms);

✳ secure enclaves—FSRDCs—for analyzing confidential data; and

✳ methods for estimating the undercount for population groups in the decennial census.

Innovation during Covid-19. Innovation always requires prioritization, which in turn requires input from stakeholders and data users. During the height of the Covid-19 pandemic, the priority was to obtain and disseminate relevant, accurate data as quickly as possible. Overall, the agencies rose to the challenge with innovations in data collection, processing, and dissemination. Examples include the online Household and Small Business Pulse surveys, put into operation in April 2020 (within a month of the nationwide shutdown) by a coalition of statistical agencies led by the Census Bureau. The Pulse Surveys obtained data released weekly 10–14 days after data collection, on conditions people and businesses encountered during the pandemic. (NCES, due to limited staff and lack of contracting flexibility, was not able to stand up the School Pulse Panel until the 2021–2022 school year. See the NCES profile in Supporting Materials: I.)

Other examples of timely innovation during the pandemic (see Supporting Materials: H; Box H-1) include:

✳ Pandemic-specific questions added to ongoing surveys—e.g., remote work added to the monthly CPS by BLS;

✳ Increased timeliness—e.g., death statistics with Covid-19 coded released daily for states and weekly for demographic groups and counties by NCHS, weekly statistics from credit card data on consumer spending by industry (gas stations, clothing stores, etc.) issued by BEA, and daily travel based on anonymized cell phone data released weekly with a two-week lag by BTS; and

✳ Websites bringing together Covid-19-relevant data and publications reporting on Covid-19-related topics—e.g., in labor, health, and energy.

The agencies also did their best to produce usable data products from ongoing surveys that employed in-person interviewing—which had to be curtailed during the nationwide shutdown—but could not always succeed. The Census Bureau released a limited set of experimental data collected in 2020 from the American Community Survey, and NCHS delayed the release of data from the National Health Interview Survey and shut down the National Health and Nutrition Examination Survey, which uses mobile health examination centers, for 15 months (the centers were repurposed as Covid-19 testing sites). The 2020 Census experienced delays and quality problems, but it is to the credit of the Census Bureau that the census was conducted as well as it was (National Academies, 2023a).

Recent innovation. Some recent notable innovations by the principal statistical agencies (see Supporting Materials: H, Box H-2; Supporting Materials: I, Agency Profiles for more examples) include:

✳ BEA and NCSES developed data on global value chains—complex supply chains that link multiple countries to produce a good or service;

✳ NCHS linked administrative records datasets (National Death Index, Medicare and Medicaid data, HUD Housing Assistance Program data, VA files) to several surveys to expand the data's analytical value;

✳ BEA revived and is improving a long-discontinued program of household distributions of personal income to show which groups are doing better or worse than overall aggregate estimates;

✳ The Census Bureau developed monthly and weekly estimates for states on business formation;

✳ NCES developed subnational estimates of adult literacy using models with two national assessments of adult literacy;

✳ BJS developed "Just the Stats" for rapid dissemination of key statistics from its datasets;

✳ NASS implemented a web-based tool using NASA data on soil moisture for farmers, researchers, and its own analysts to assess crop conditions.

> *Now more than ever, it is essential to provide policymakers and the public with data that are trusted, timely, nonpartisan, and informative to our ongoing societal debate and hopefully informed action. Our decentralized federal statistical system has been and continues to be the bedrock upon which we measure the health of our nation and its people.*

CHARLES ROTHWELL, DIRECTOR, NATIONAL CENTER FOR HEALTH STATISTICS, 2013–2018

Cultivating innovation. We identified ten attributes of a statistical agency with a culture of innovation: (1) staff have the tools, training, and time they need to innovate, (2) staff are rewarded for innovation, (3) failure is viewed as an opportunity to learn, (4) a well-specified strategic plan spells out goals for innovation, (5) the agency regularly obtains outside reviews of major programs and implements recommendations in a timely manner, (6) experts are invited to work with and present to staff, (7) staff are rotated among assignments, (8) collaboration with other agencies is regularly performed, (9) the agency staff and data users believe the agency is innovative and rewards innovation, and (10) the agency proactively reaches out to diverse user communities to learn where innovations would have most value. We have measures at this point for some but not all of these attributes (see Supporting Materials: H):

✳ Training in cutting edge skills and disciplines, such as data science: A majority of agencies—typically the larger ones—responding to this question indicated organizing staff training on data science or artificial intelligence. Others reported a transition to the programming languages Python, R, or other advanced statistical and data science tools. Four agencies created a data science job category in FY 2021 or FY 2022, and two others have or are creating a chief data science or data and analytics officer. While encouraging, more could be done, particularly for the smaller agencies who may need help from their parent agencies or from statistical-system-wide initiatives. In that regard, the FCSM and the National Institute of Statistical Sciences (NISS) recently collaborated on a series of

webinars about AI, and FCSM, NISS, and the Data Foundation collaborated with CNSTAT on an in-person "AI Day." The webinars and AI Day were designed to highlight the applications and challenges of AI adoption within agencies. [11]

✳ Bringing in "new blood" via fellowships, internships, and other arrangements: Some agencies make good use of various mechanisms to bring in outside people for temporary assignments or to collaborate with outside researchers. While we acknowledge that such arrangements are costly, agencies could do more.

✳ Collaborative projects with other agencies: Some of the useful collaborations reported to us include:

- satellite accounts (to the National Income and Product Accounts) on economic activity in particular sectors, many of which were developed by BEA in collaboration with another agency (e.g., Outdoor Recreation with multiple agencies, Travel and Tourism with the International Trade Administration);

- statistics with race and ethnicity detail (e.g., a joint project of SOI and the Census Bureau to add race detail to a set of tax records); and

- expanded data on the workforce (e.g., NCES and NCSES are sponsoring a new National Training, Education and Workforce Survey, conducted by the Census Bureau).

Not all collaborations work as smoothly or as expeditiously as would be ideal, but having different agencies involved undoubtedly helps ensure important perspectives are heeded.

✳ Staff views on how well innovation is rewarded in their agency: The Federal Employee Viewpoint Survey has asked staff the extent to which they perceive that their agency rewards innovation. For the few agencies for which the data are disaggregated (Census Bureau, BLS, NASS/ERS), it appears that the percentage for statistical agencies is reasonable for production agencies compared to primarily research agencies, such as the Office of Naval Research; moreover, it is trending in a positive direction.

✳ Subsequent assessments: We expect in future reports to include other indicators of a strong culture of innovation, such as agency strategic plans, outside reviews and agency responses to recommendations, and results from a Federal Data User Viewpoint Survey, which is yet to be funded.
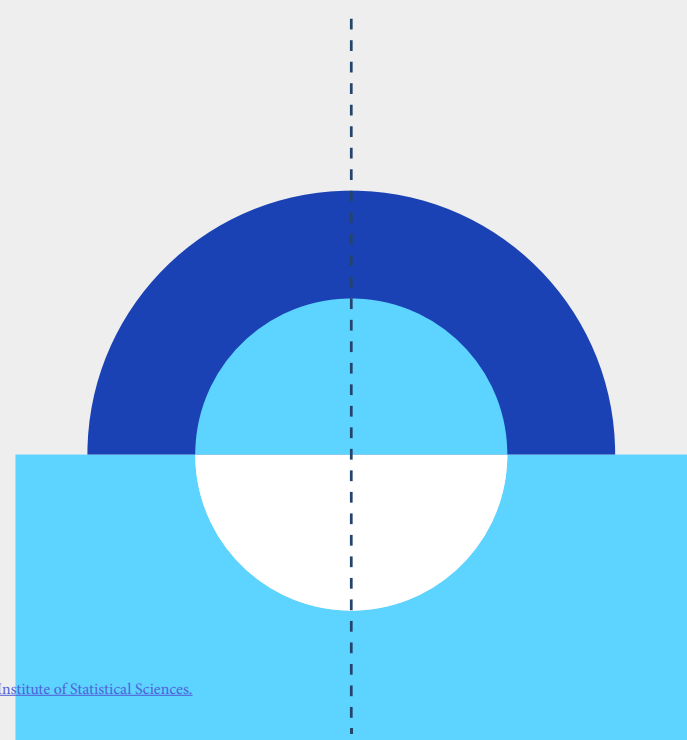
11 See The NISS/FCSM AI in Federal Government Full Series + AI Day CNSTAT at National Academies on May 2, 2024 | National Institute of Statistical Sciences.

Barriers to innovation. Despite finding many instances of important innovations in statistical programs, we identified significant barriers to innovation by the principal federal statistical agencies that limit their current and future efforts to keep their products relevant and timely:

* Inadequate resources for continuous testing and improvement to long-standing series: To change long-standing series, such as the monthly CPS measure of unemployment and the continuous Consumer Expenditure Survey (see Challenges and Opportunities for Data Quality section above), requires extensive testing to determine cost-effective changes that meet stakeholder needs and to ensure the viability of new processing systems before they go live. In turn, resources are required for testing, stakeholder dialogues, and production of estimates from the old and new series for a period of overlap, but such resources have historically been lacking. Agency leadership must also overcome inertia and risk aversion among both data users and agency staff.

* Barriers to data sharing among federal agencies: Title III of the Evidence Act (CIPSEA) requires federal agencies "to the extent practicable, [to] make any data asset maintained by the agency available, upon request, to any statistical agency or unit for purposes of developing evidence." This provision, however, makes an exception for data for which sharing is explicitly

BLS and Census must tackle the declining response rates, the soaring costs of fielding the Current Population Survey, provide an internet response, solve classification issues, and a number of related problems, if we are to serve the nation with robust data on the key dimensions of our labor force, including unemployment and the demographics of the workplace.

WILLIAM BEACH, COMMISSIONER, BUREAU OF LABOR STATISTICS, 2019–2023; SENIOR FELLOW IN ECONOMICS, ECONOMIC POLICY INNOVATION CENTER

foreclosed, and Title 26 of the U.S. Code prohibits sharing of confidential tax return microdata with limited exceptions as discussed further below.[12] Title III of the Evidence Act also explicitly authorizes sharing of confidential business data among BEA, BLS, and the Census Bureau, which is essential to improved statistics about the economy and trends in social mobility, inequality, and economic well-being. Key to such statistics is the use of tax records. At present, selected data from business and personal tax records are available to the Census Bureau for statistical use, but the Census Bureau is not allowed to share this tax information with sister statistical agencies—even simply addresses of businesses (tax records are the source of addresses for non-employer businesses). Congress could address this barrier by amending the Tax Code (Title 26) to permit limited sharing of business and individual tax data among BLS, BEA, the Census Bureau, and other statistical agencies that have a demonstrated need.

12 The Department of Commerce lawyers and the Census Bureau have interpreted Title 13 of the U.S. Code to preclude its making available confidential microdata to sister statistical agencies, unless the people with access to such data have special sworn status as Census Bureau agents. This has limited sharing of data among the agencies. Regulations that the Evidence Act charges OMB to issue on "presumption of access" and confidentiality protection will, hopefully, speak to barriers to data sharing among statistical agencies, as recommended by the Commission on Evidence-Based Policymaking (2017, REC. 2-4). However, legislation would likely be needed to override the statutory provisions of Title 13.

* **Barriers to sharing of state data with federal statistical agencies:** The Evidence Act does not speak to sharing of state data assets with federal statistical agencies so that agencies have to negotiate state-by-state for access and are not always successful (e.g., the Census Bureau has SNAP records for some but not all states for some years). Congress could implement the recommendations of the Commission on Evidence-Based Policymaking (2017, REC. 2-6, REC. 2-7) to require a "presumption of access" for sharing of state administrative records for statistical purposes. Incentives for the states, such as funding for IT enhancements and provisions for federal statistical agencies to provide useful data products to states from statistical programs that use state records, would be helpful.

* **Difficulties in resourcing infrastructure improvements:** Statistical agencies (like other federal agencies) find it hard to obtain adequate resources for computing technology upgrades and modernization (e.g., moving to the cloud), making it harder to innovate and serve the nation's data needs.

* **Insufficient staff in the chief statistician's office:** Sixty years ago, the chief statistician's office had upwards of 40 staff; today, it has 12 staff positions supplemented by staff on short-term details from the statistical agencies. The unit is remarkably productive given its small size, but it lacks capacity to coordinate needed innovation in topic areas (e.g., education, health, labor force, economic well-being) across agencies. In addition, the office needs staff to understand and expedite innovative and experimental statistical methods that could receive expedited approval, such as the Pulse surveys approved during the Covid-19 pandemic.

* **Challenges to innovation and related data collection updates for smaller agencies, especially by staff size:** The 13 principal statistical agencies have budgets that vary for FY 2024 from $1.4 billion to $30 million and budget-to-staff ratios that vary from $300K to $3.5 million (see Tables 3 and 4). The smaller agencies by staff size and, to a lesser degree, by budget are constrained in what they can dedicate for staff training, outside expertise and perspectives, and other activities essential to innovation.
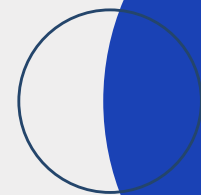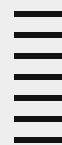
FINDING 7: The principal federal statistical agencies have a rich history of meeting the nation's data needs through innovation—in concepts, collection, processing and estimation, dissemination, and evaluation (e.g., the first nondefense use of computers for the 1950 Census). Overall, they rose to the occasion when the Covid-19 pandemic called for new data delivered promptly. They continue to innovate but not at the level needed, and external and internal barriers, if not addressed, will leave them behind at a time when the demands for more timely, accurate, and granular data are growing every day.[13]

Engagement with Data Users and Stakeholders

This section addresses question 6—that is, the extent to which an agency's users consider the agency to be responsive to user needs and transparent about its data products and decisions that affect users. As noted earlier, we did not conduct a survey of users during year one to assess this specific issue. We did, however, ascertain how agencies are identifying who makes up their population of users, which is necessary for them to obtain a broad range of feedback to fulfill their role as data stewards for the public good. Moreover, Title II of the Evidence Act (see Supporting Materials: D) requires that all federal agencies engage with the users of their data assets and datasets to gain insights into the specific questions, challenges,

and contexts that users face. Agencies can then take action to ensure that their data products align more effectively with the practical needs of users. They can also expand collaborations with diverse stakeholders, including researchers from institutions that have not historically been high-volume users of federal data, such as smaller and minority-serving institutions.

We asked the principal statistical agencies how they identify and interact with the user community. Most of the agencies have annual meetings with data user groups, and many also have Federal Advisory Committees established under the Federal Advisory Committee Act (FACA) that meet once or twice a year and provide opportunities for technical and user input. Three areas that merit further exploration are:

1. The extent to which the statistical agencies adopt feasible recommendations or suggestions from their user groups.

2. How much autonomy the statistical agencies have to establish and select the members of their advisory committees. Some committees are established by the agency to which the statistical agency reports with members selected by that agency or the secretary of the department.

3. The extent to which the statistical agencies engage with users interactively and proactively in making decisions about data products and changes to data programs. Proactive, transparent communication is particularly important when user needs are in conflict.

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13 The Committee on National Statistics added a fifth principle to the 7th edition of Principles and Practices for a Federal Statistical Agency (National Academies, 2021, p. 4): "Continual Improvement and Innovation—Federal statistical agencies must continually seek to improve and innovate their processes, methods, and statistical products to better measure an ever-changing world."

We also reviewed agency data on usage of their data products. Most of the agencies, to some degree, can identify how many visitors they get to their websites and how often public use datasets are downloaded. See Table 6.1 for total downloads and Table 6.2 for total web page views (in millions) for 2020-2022 for agencies that provided us with data. Interpreting the data is a challenge. For example, the Census Bureau does not have information on downloads in 2020–2022 from data.census.gov, which is their site for users to obtain census, ACS, and other tables, which many users presumably download in Excel or other formats. One can see the effect of the 2020 Census on the Census Bureau page view totals for 2020 and perhaps of Covid-19 on the download and page view totals for NCHS in 2020. BJS attributed its spikes in both downloads and page views in 2020 to searches about the Black Lives Matter protests. The SOI spike in downloads in 2022 has no explanation. It would be desirable to have comparison statistics for other public-facing agencies, such as the National Oceanic and Atmospheric Administration (NOAA).

Table 6.1 Downloads in Millions Reported by Selected Statistical Agencies, 2020-2022

Agencies/Downloads	2020	2021	2022
BEA	6.3	5.2	5.6
BJS	1.1	0.4	0.3
BLS	15.1	11.6	23.1
Census	7.6	6.6	6.7
NCHS	4.0	2.1	1.7
NCSES	0.1	0.2	0.3
SOI	26.8	29.4	148.7

Table 6.2 Page Views in Millions Reported by Selected Statistical Agencies, 2020-2022

Agencies/Page Views	2020	2021	2022
BEA	17.6	14.2	22.7
BJS	9.3	4.1	5.2
BLS	138.3	147.1	170.5
Census	456.8	209.3	167.3
NCHS	105.9	56.5	41.4
NCSES	2.2	2.4	2.4
SOI	2.1	1.7	1.3

SOURCE (Tables 6.1, 6.2): Agency responses to project questionnaire—see Supporting Materials: J

Only four agencies, ERS, NASS, NCES, and NCSES, could specifically identify how their data were being used in research for evidence-building, such as who was using the data, which institutions they were from, and what topics were being researched. These four agencies participated in an innovative pilot project to use AI tools to search published scientific articles to identify their datasets in the research papers (Potok et al., 2024). That information was then put into accessible interactive dashboards (ERS, NASS, NCES, and NCSES). While important and helpful for the agencies, this project does not cover other categories of data users, such as other federal agencies, Congress, state and local governments, NGOs, and the media.

FINDING 8: Proactive data-user engagement, including involving users up front when major changes are needed to data programs, and knowledge of users and uses are important to enable the statistical agencies to assess the relevance, responsiveness to users, transparency, and accessibility of their data. Yet these areas do not appear to get the priority they need for the agencies to fulfill their role as data stewards for the public good. (Title II of the Evidence Act and the proposed Trust Regulation emphasize user engagement.) Resources for user engagement, documentation, and research and development to continually improve statistical agency data programs are often not explicitly included in agency funding requests. Resources for these activities and those needed to collect, process, and disseminate data can be in competition, and the competition is increased when overall funding is not sufficient to meet core needs.

FINDING 9: Agencies are not uniformly adopting available tools to expand their ability to identify users in a more granular manner (a stipulation in the proposed Trust Regulation, 1321.5(b)). Using tools, such as AI searches for the use of agency datasets, would enable the agencies to better target outreach to a broader community of users and proactively engage with underserved communities of practice that may include researchers from smaller institutions and minority-serving institutions.

RECOMMENDATIONS

We make recommendations to bolster the ability of the principal statistical agencies—individually and as a system—to provide new and improved statistics for the needs of today and tomorrow (that is, to meet their mandated responsibility to provide relevant, accurate, and timely data.). This ability requires an agency to be trustworthy, accountable, agile, and to work collaboratively and often with the other agencies. Given the multiple actors in our federal government, our recommendations are directed to the U.S. Congress, the parent agencies of federal statistical agencies, the statistical agencies themselves, and the chief statistician's office in OMB.

CONGRESS

The Foundations for Evidence-Based Policymaking Act of 2018 and the CHIPS and Science Act of 2022 took steps to enable the statistical agencies to play an enhanced role in evidence-building and to acquire and provide access to a range of data sources necessary to meet the data needs of the 21st century (see "Context" above). The Evidence Act also charged the chief statistician's office to issue regulations to flesh out the act's provisions for the statistical agencies. Important as this legislation and the forthcoming regulations are, Congress needs to take additional steps to build on this foundation.

→ **Recommendation 1:** Agency and professional autonomy authorization. To put all principal statistical agencies on a common, secure footing, Congress should:

✳ explicitly accord all principal statistical agencies the 10 professional-autonomy components discussed in "How We Assessed" above, including for data collection and analysis, IT systems, publications, hiring, budget, contracts including cooperative agreements and grants, staffing level, branding, and direct interactions with government officials, including Congress, on statistical activities;

✳ explicitly authorize in legislation those agencies that lack authorization (BEA, ERS, NASS, ORES, SOI); and

✳ when it is useful for statistical agencies to share services with parent agencies (e.g., IT, HR), stipulate that the sharing must enable the statistical agency to fulfill its responsibilities.

For the three agencies that lack staffing level autonomy, BJS, NCES, and NCSES, Congress could use the model of other federal statistical agencies and combine programmatic and staffing budget lines for each and authorize the use of the new line for salaries and expenses.

→ **Recommendation 2:** Data sharing authorization. To enable all statistical agencies to reduce respondent burden and inefficiencies and add useful content through data sharing, Congress should:

✳ extend the limited data sharing authority for BLS, BEA, and the Census Bureau in the Evidence Act to all principal statistical agencies;

✳ amend the Tax Code to explicitly allow sharing of business and individual tax information as needed by each agency;

✳ require statistical agencies to share data with other statistical agencies by default;

✳ require the chief statistician to develop a standard data sharing agreement template to be used by all statistical agencies for interagency sharing agreements with the default presumption that no or only limited legal review is needed by the parent agency; and

✳ require the states to share data for programs to which the federal government contributes (e.g., Supplemental Nutrition Assistance Program [SNAP]) with all statistical agencies that need the data through a standard data sharing agreement.

→ **Recommendation 3:** Budget levels commensurate with responsibilities. To enable statistical agencies to regularly update, improve, and supplement long-running data series, Congress should provide adequate funds for testing, piloting, and implementation of improvements in addition to the regular funding and, if not already the case, authorize multiyear spending authority to support updating and innovation. Budget levels should also support the ever-changing needs and requirements of statistical agencies' IT and data infrastructure responsibilities to align with security requirements and data user needs.

→ **Recommendation 4:** User access balanced with confidentiality protection. To help statistical agencies and data users build a shared culture of responsible data access and confidentiality protection, Congress should enact legislation that extends existing penalties for statistical agency staff to anyone who willfully misuses federal statistics collected under a pledge of confidentiality to identify an individual or business. Such legislation would help statistical agencies and data users strike a reasonable balance of access and protection and should cover staff of other federal agencies, contractors, and members of the public.

→ Recommendation 5: Monitoring and oversight. To ensure informed oversight, Congress should require relevant congressional members and staff to meet at least annually with statistical agency leadership as (a) stakeholders and representatives of the public to provide input on the "what" an agency produces; (b) as authorizers and funders to help ensure agencies have the necessary professional autonomy and resources to meet current and future data needs for the public good; and (c) to monitor that statistical and other agencies are working expeditiously and cooperatively to execute data sharing agreements for evidence-building and other statistical uses (as provided in the Evidence Act). Such regular contact would also be an opportunity for statistical agencies to hear and discuss firsthand the data needs of Congress.

PARENT AGENCIES

Statistical agencies in the decentralized U.S. statistical system are housed within cabinet departments and independent agencies, most often reporting to a subunit in the department (the entire structure, as noted earlier, is the "parent agency"). This placement enables them to be responsive to parent agency data needs but can put them at risk if their unique responsibilities are not understood or supported by their parent agency.

The draft Trust Regulation from OMB, issued for public comment on August 18, 2023, fleshes out the general statement in the Evidence Act about the responsibilities of parent agencies vis-à-vis their statistical agencies. The draft regulation, for example, states that principal statistical agencies should be clearly identified on and have control over their websites, which is not now uniformly the case. It also states that statistical agency budgets should be clearly delineated for OMB for consideration in developing the president's budget request.

We recommend that parent agencies, as stewards of statistical agencies and to fulfill the requirements of the Evidence Act, should proactively support their agencies above and beyond implementing the Trust Regulation's provisions expeditiously once it is adopted, such as with the following:

→ Recommendation 6: Proactively protect and promote professional autonomy. Parent agencies should regularly examine their procedures and policies for protecting statistical agencies' autonomy over their methods and operations for producing data, such as having an MOU between the parent and statistical agency, regularly revisiting and updating it as appropriate, and making sure that current and incoming leadership are aware of it.

→ Recommendation 7: Provide shared services as expeditiously as possible. Parent agencies should work with their HR offices to facilitate and speed the hiring process for statistical agency staff (nearly all the statistical agencies rely on their parent agency for HR services and face competition for skilled personnel). When services such as IT are shared, parent agencies should take steps to ensure that the statistical agency can meet deadlines, protect confidentiality, and innovate.

→ **Recommendation 8:** Provide adequate budget and staffing. Parent agencies should support their statistical agencies in obtaining sufficient resources for continuous improvement of long-standing data series and other initiatives and provide adequate support for IT modernization. Parent agencies of BJS, NCES, and NCSES should look at other staffing models to enable their statistical agencies to determine their staffing levels to best fulfill their responsibilities to produce trusted, quality data (at present, these agencies cannot use additional budget resources for in-house staff).

→ **Recommendation 9:** Interact and support their statistical agencies. Parent agency leadership should regularly meet with statistical agency leadership to learn what their statistical agency does, what it needs to fulfill its responsibilities, and how its functions are unique within the parent agency. The statistical official, chief data officer, chief information officer, and chief evaluation officer should have procedures to ensure productive working relationships. Parent agencies should help their statistical agency, particularly if it is under-resourced and/or several layers down in the organizational chart, communicate to Congress, OMB, and other parent-agency offices the value of the statistical agency's work to the parent agency's mission and more broadly. Also, if not already the practice, parent agencies should develop ways to acknowledge the statistical agency's accomplishments and work with the media to cite statistical agencies appropriately.
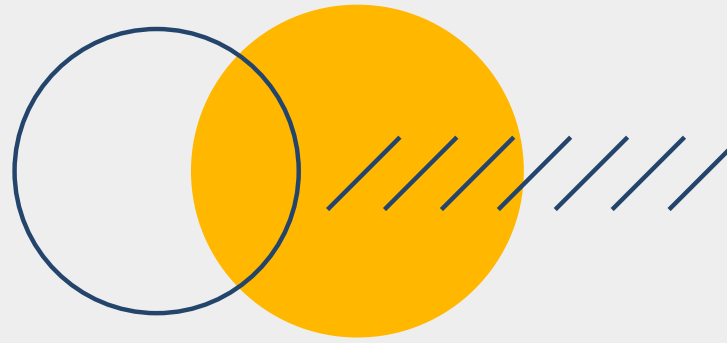
STATISTICAL AGENCIES

The Evidence Act, the draft Trust Regulation, and the Committee on National Statistics' Principles and Practices for a Federal Statistical Agency (7th edition, 2021) provide guidance on what the principal statistical agencies should do to meet their responsibilities to provide relevant, timely, accurate, and objective data for public use. We offer several additional recommendations:

→ **Recommendation 10:** Relate to parent agencies and Congress. Statistical agencies should demonstrate agility and flexibility to meet parent agency and congressional needs while maintaining integrity and objectivity in methodology and operations. To the extent possible, statistical agencies should help their parent agencies and Congress, as well as the public, understand their critical work providing data to inform policymaking, decision-making, and evidence-building.

→ **Recommendation 11:** Relate to stakeholders and data users. Statistical agencies should proactively and interactively reach out to stakeholders and data users, using not only one-way methods (e.g., webinars) but also two-way, interactive dialogue and feedback to help establish priorities, understand user requirements, and work with users when changes in data series are needed. They should ensure that stakeholder outreach covers as much of the political and policy spectrum as possible. To incentivize states to provide administrative data to the agencies for statistical purposes, the agencies should provide data products enhanced with state data back to the states for statistical use with appropriate protection.

Credible, timely, and accurate data are vital to support scientific research and policy decisions that can improve the lives of all Americans. Investing in our statistical agencies to address their many unmet needs will pay dividends for generations to come.

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→ **Recommendation 12:** Increase transparency and accessibility. Statistical agencies should provide comprehensive and accessible documentation of content, technical features, and methodological decisions for data programs and maintain a searchable archive of past decisions. When data user needs are in conflict, or when major changes are needed in data series, statistical agencies should proactively reach out to affected users and be as transparent as possible about the rationale for the ultimate decision. Statistical agencies should also agree collectively across the statistical system on minimum data quality indicators (e.g., response rates for current and historical iterations of

surveys) to provide on their websites for surveys and other statistical programs and provide additional indicators as feasible.

OMB/CHIEF STATISTICIAN'S OFFICE

The Evidence Act requires the director of OMB, delegating such responsibilities to the chief statistician, to issue regulations for statistical agencies and parent agencies to flesh out portions of the Act. Required regulations cover statistical agency and parent agency responsibilities (the draft Trust Regulation responds to this requirement); provisions for agencies to provide "data assets" to statistical agencies for purposes of developing evidence; and procedures and standards for statistical agencies to determine the accessibility of data assets provided to them by other federal agencies consistent with their sensitivity. OMB's finalization of the Evidence Act regulations would partially address some of the recommendations above but none completely. We recommend that the leadership of OMB prioritize the following actions in concert with the chief statistician:

→ **Recommendation 13:** OMB leadership should finalize as soon as possible its regulation on the fundamental responsibilities of statistical agencies and parent agencies ("Trust Regulation") as required by the Evidence Act. This regulation is essential to clarify parent-agency support for all statistical agencies, which, in turn, is essential to enable the statistical agencies to do their job and have credibility with the public. The chief statistician's office should also move expeditiously to craft and issue the regulations on data access and confidentiality required by the Evidence Act. These regulations

are a critical foundation for data sharing between agencies and increasing access to data for evidence-building.

→ **Recommendation 14:** The chief statistician's office and the Interagency Council on Statistical Policy should develop a strategic plan and vision for the federal statistical system—for example, to operate like a single virtual statistical agency in which the agencies seamlessly interact; to collaboratively work to reduce duplication in data series, fill gaps, and document and explain differences in similar data series; and to identify needed improvements in operations and methods—and take actions to implement the plan. The vision should include a broad view of how federal statistics fit within and contribute value to a modern, changing federal data ecosystem. The strategic plan should include maximizing the effectiveness, efficiency, and visibility of the statistical agencies, individually and collectively—for example, through such mechanisms as using the expedited OMB approval process for innovations, upgrading IT infrastructure, working to make a National Secure Data Service a reality for data linkage for evidence-building, and providing staff training opportunities in new methods for the principal statistical agencies across the board.

→ **Recommendation 15:** OMB leadership should provide the chief statistician's office with sufficient resources to effectively carry out its statutory duties and other responsibilities. In particular, staff are needed so that the office can not only fulfill such work responsibilities as updating statistical policy standards, issuing guidance, and approving survey questionnaires but also can provide substantive leadership

to the federal statistical system, engaging in strategic planning for the system, seeking out and expediting the approval of statistical agency innovations in data collection and methodologies, engaging internationally with other statistical agencies and bodies, and facilitating interagency collaboration to enable the system to meet current and future data needs for the public good. In particular, the office of the chief statistician, with full support from OMB leadership, should:

* Monitor, clarify, and promote the statistical official role vis-à-vis parent agency leadership and the roles of chief data and evaluation officers to ensure that statistical activities in agencies are being conducted in accordance with the intent of the Evidence Act and OMB guidance.

* Develop and implement standard identification for the principal federal statistical agencies' websites to increase their visibility individually and collectively as part of the federal statistical system—as illustration: "We [e.g., BLS] are a principal federal statistical agency—see statspolicy. gov and [agency page with information on quality standards, data accessibility, confidentiality protection, etc.]."

* Actively identify and promote mechanisms for upgrading IT infrastructure (such as shared resources and the Technology Modernization Fund), as well as providing staff training opportunities in new methods for the principal statistical agencies regardless of budget or staff size, building on successful past models such as the Joint Program in Survey Methodology.

* Consider annual workshops of principal statistical agency leadership and other organizations, such as ASA and CNSTAT, to discuss system-wide issues, such as barriers to innovation and means to address them.

We found that the "Blue Book " compiled annually by the chief statistician's office (see, e.g., OMB, 2024a) contains excellent material on the budgets and some accomplishments of the federal statistical agencies and units. However, much information that helps assess the state of the system is not included. We recognize that it would take additional resources to produce but would like to see an expansion of the detail provided in the annual Blue Book to include, for example, total FTE contractors, preferably broken down by major function (e.g., field staff, other data collection, IT); other budget information for BJS and NCES (approximate amount for salaries from parent agency accounts for each and set-aside amount for BJS); and more of the information provided by the agencies that would promote transparency and inform better understanding of the agencies' operations, challenges, and opportunities. A regular report, included in or complementing the report on the highlights and achievements of the statistical officials introduced in March 2024 (OMB, 2024b), would illuminate the ways in which the statistical system is meeting current challenges and seizing opportunities to provide needed data for the future. This report would include progress against objectives laid out in the recommended strategic plan for the federal statistical system.

YEAR 2 PLANS AND CONSIDERATIONS

We will build on this assessment annually. Among the many directions we are considering for our second year is to go into further depth with the principal federal statistical agencies and to include the other 16 statistical entities that make up the ICSP. For the former, an important perspective for whether an agency's data fulfill the Evidence Act requirements—to produce trusted, quality statistics—is that of the agency's current and potential data users, which could be probed through surveys, interviews, or focus groups.

It could also be fruitful to go into more depth on the topics we covered in this first-year report. For example, for resources, we focused on top-line budget and staffing levels as basic needs of the agencies, without probing the diversity, skill sets, and experience of the workforce or the role of the Office of Personnel Management. We could examine the support provided to state, local, and tribal governments by the federal governments for their vital role in providing data to the federal statistical agencies on topics such as employment, births and deaths, and education. We could also analyze the connections of such factors as budgets and staffing levels with innovation and modernization advances or position in a parent agency's organizational chart. Learning about the extent to which statistical agencies understand how their data are used and data users are engaged is also critical. We also want to hear the perspectives of parent agencies because full implementation of the Evidence Act (and Trust Regulation) may require changes in the relationship between the statistical agencies and their parent agencies. Similarly, we might probe further into how OMB could strengthen existing mechanisms, such as the President's Management Council, to ensure that statistical data and the agencies producing such data are being supported in their efforts to innovate, improve access, and share data.[14]

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14 The National Academy of Public Administration (NAPA) recommended such an approach (2020, p. 17).

For the other members of the ICSP, an important step would be understanding how they are similar and different from the principal federal statistical agencies. It could also be useful to consider the broader federal statistical system, which includes nearly a hundred offices, and the role and capacity of the chief statistician's office and its integration with the broader federal data ecosystem. Two reviewers urged a review of the overall system that includes its operations and efficiency as a whole.

The work, practices, and perspectives of the international official statistics community are also important. The United States collaborates extensively with this community and has adopted many of their principles and practices. In a year 2 report, we seek to review and incorporate how other countries support and monitor the health of their statistical data infrastructure. Recently, for example, Lievesley (2024) conducted an Independent Review of the UK Statistics Authority, another decentralized system, examining four categories—governance, accountability, efficacy and efficiency—and making 19 recommendations. Also in 2024, a commission of Germany's Federal Statistical Office issued a report on the future of its system, tackling many of the same challenges we see in the U.S. system. For example, a sentence from their title page summary reads, "It is definitely possible to increase the effectiveness and efficiency of high-quality official statistics, reduce the response burden and safeguard data protection requirements—however, only if the legal framework is modernised, if public statics are prioritised and if adequate resources are provided."

In addition, one of our reviewers suggests that, beyond our recommendation on strengthening professional autonomy, the United States should consider a formalized management system based on a quality code and a planning process that gives society and interest groups a higher profile.[15] We would also like to examine more closely Mexico's National Institute of Statistics and Geography (INEGI), which has a high level of professional autonomy, and Statistics Canada, which saw a professional autonomy boost with 2017 legislation (Palma, 2022; Government of Canada, 2017). We also learned from former chief statistician of Canada Anil Arora that Statistics Canada has an internal cost-recovery program to promote cooperation and collaboration that did $170M in cost recovery survey work across the Canadian government in 2023.[16] Relatedly, another reviewer urged a consideration in our second-year report of other mechanisms for addressing budget constraints.

Finally, we would like to build our engagement beyond the hundred-plus individuals and experts who have supported and contributed to this effort. We would especially like to broaden and deepen the academic study of the federal statistical system and include the expertise and experience of social scientists beyond federal statistical agencies and their core disciplines. The directions we pursue will depend on funding and on feedback from readers of this report.

Year 2 plans are further elaborated in the [Supporting Materials Section K](#).

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15 Walter Radermacher, private communication, 2024.
16 Anil Arora, private communication, 2024.

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