American Statistical Association Project to Assess and Monitor the Health of the Federal Statistical Agencies (ASA FedStat Health)

RESOURCES

VALUE AND USES OF FEDERAL STATISTICS

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This resource document makes six general points about the value of federal statistics followed by examples of uses of federal statistics by sector:

- Congress
- Other federal agencies
- State and local governments
- Private and NGO sectors
- Academia
- The media
- The public
- Statistical agencies

See "For Further Reading" *to explore the value and uses of federal statistics in further detail.*
See "Related Efforts" *for links to the work of other organizations on uses of federal statistics.*
Email Steve Pierson *(spierson@amstat.org) with questions, examples, and critiques.*

VALUE OF FEDERAL STATISTICS

Official statistics are the backbone of the nation's data infrastructure–similar to how well-designed and maintained roads, bridges, tracks, and airports are the backbone of our transportation infrastructure. People everywhere rely on data and statistics to go about their everyday lives—deciding what route to take to avoid traffic, where to live to be near good schools, and how much to invest in their goals from education to home ownership. Institutions and organizations, including governments and businesses, rely on statistics to make decisions and evaluate their impacts. Official statistics from the federal government are a critically important resource for policymakers and the public, providing information that meets the highest professional standards of relevance, accuracy, timeliness, credibility, and objectivity. U.S. official statistics date back to the 1790 census of population and also include Treasury Department foreign trade reports, the 1810 census of manufactures, the 1840 census of agriculture, the 1867-68 annual report of the commissioner of education, and the 1886 annual report of the labor commissioner. In general, as policy areas rose to federal attention, statistical offices were established to study them.

Official statistics from the federal government matter immensely for the nation—Many federal and state statutes require federal statistics for allocating billions of dollars and making grants for vital programs for the nation. The Congressional Budget Office (CBO) uses federal statistics as inputs to "score" a bill's likely effects on future budgets, the economy, and the target population. Media reports of federal statistics inform the public and policymakers about the economy (inflation, unemployment); economic well-being (income and poverty); social well-being (public safety, education, health); and many other topics. Businesses, the financial markets, federal, state, and local agencies, nongovernmental organizations (NGOs), and professionals in politics rely on federal statistics

for planning and evaluation. Academic researchers mine federal statistics for important insights. Some industries, such as market research, rely so heavily on federal statistics that they are tracked by the Department of Commerce as part of the "government data-intensive sector (GDIS)." The U.S. census is written into the U.S. Constitution as the basis for reapportioning the U.S. House of Representatives every 10 years. Further, Supreme Court decisions calling for equal-sized legislative districts virtually require census data for redistricting.

People produce federal statistics. Hard-working, dedicated people generate the statistics the nation uses—people in the 13 principal federal statistical agencies, the office of the chief statistician of the United States in the Office of Management and Budget (OMB), and 100 programs with significant statistical activities in other federal agencies. Statistical agency staff produce estimates that are objective, nonpartisan, and for the use and good of all. They follow quality standards that have been developed professionally over years of testing and experience and scrupulously protect confidentiality. Statistical agency staff have been innovation leaders for decades in ways that have improved the statistics they produce *and* contributed to the private and academic sectors–for example, pioneering probability sampling, longitudinal surveys, and computer data processing. Most recently, the principal agencies responded with urgency to the need for new and up-to-date information during the height of the COVID-19 pandemic–for example, launching the Household and Small Business Pulse Surveys within a month of the nationwide shutdown.

The federal statistical system makes outsize contributions to the nation on a modest budget. In fiscal 2023, the 13 principal statistical agencies accounted for $3.6 billion in appropriations—0.2% of the total federal budget of $1.7 trillion. Adding in other programs with $500,000 or more in statistical activities (e.g., surveys funded by NIH) would increase the total federal statistical budget to about $8 billion—0.5% of the total federal budget. The decennial census adds about $1.2 billion each year (spreading out its budget over a 10-year period), for a total annual federal statistical budget of about $9.2 billion—0.6% of the total federal budget.

Federal statistics are a public good. Just like our national defense and national parks, the public is best served when the federal government collects and disseminates critically needed data. The private sector produces many useful statistics, but businesses do not have an economic incentive to produce comprehensive, long-running, high-quality data for policy and public understanding. In fact, private firms rely on federal statistics–for their own planning uses and when they add value to federal data for resale. Without federal statistical agencies, the private sector would not likely produce high-quality data that:

- Cover the nation's entire population of people or businesses.
- Include nationally important but small sectors, such as science and engineering.
- Are provided consistently over time and with full transparency when needed changes are made.
- Are accompanied by documentation and quality evaluations so that users can determine if the data are fit to use for their purposes.
- Are comparable across states and other geographic units in the United States as well as with other countries.

The federal statistical system needs priority attention, staff resources, and removal of legal barriers to continually modernize to meet the nation's data needs. A key challenge going forward is for the statistical agencies to expand their efforts to integrate surveys, government records, and private sector data, to improve the quality, coverage, timeliness, cost-effectiveness, and relevance of their statistics.

EXAMPLE USES OF FEDERAL STATISTICS BY SECTOR

CONGRESS

Formula fund allocation—Beginning with highway funding in 1916 and accelerating in the 1960s, Congress has allocated funds to states and localities using formulas that typically include federal statistics. Use of data-based formulas saves Congress time that would otherwise be spent voting specific dollar amounts and saves states and

localities time preparing competitive grant proposals. Formula grants account for about one-third of total federal grant programs and about two-thirds of federal grant program spending. Three examples:

- Medicaid: Enacted in 1965; uses per capita personal income estimates from the Bureau of Economic Analysis in its formula for reimbursing a percentage of state Medicaid expenditures; is the largest formula allocation program.
- Title I education funds for disadvantaged children: Enacted in 1965; allocated ~$18 billion in FY 2024 to school districts using the Census Bureau's Small Area Income and Poverty Estimates (SAIPE) program built on American Community Survey (ACS) and administrative records data.
- Child Care and Development Block Grant (discretionary funds): Allocated ~$9 billion in FY 2024 to states based on state shares of children under age five and children receiving free or reduced-price lunches, and state compared to national 3-year per capita income.

Developing and refining legislation–

- Eliminating lead—long known to be harmful, particularly to children—from the environment: Beginning in the 1960s, evidence from the National Health and Nutrition Examination Survey (NHANES) of high blood levels of lead in children undergirded federal policy to eliminate lead from gasoline, food, soft drink cans, paint, and drinking water. (e.g., in the Clean Air and Safe Drinking Water Acts). NHANES, conducted by the National Center for Health Statistics, combines surveys with physical examinations and tests. NHANES results continue to inform ongoing national programs to reduce high blood pressure and cholesterol levels and have many other uses.
- Establishing and modifying the Supplemental Nutrition Assistance Program (SNAP): Since food stamps became nationwide in 1974, Congress has frequently changed eligibility requirements, benefits, and other program features. Microsimulation results on who benefits and loses and the associated costs regularly inform legislative debates. These models (operated by CBO and program agency contractors) use federal surveys and administrative records to mimic current program rules and simulate the effects of proposed alternatives.

Overseeing the constitutionally mandated decennial census–The U.S. Constitution gives Congress the power to direct the census and legislation has built on constitutional provisions:

- Article 1, Section 2, Clause 3: "Representatives ... shall be apportioned among the several States ... according to their respective Numbers, ... The actual Enumeration shall be made within ... every ... ten Years, in such Manner as they [Congress] shall by Law direct."
- P.L. 94-171, enacted in 1975, requires the Census Bureau to provide small area tabulations for use in redistricting no later than 1 year after Census Day.
- Voting Rights Act of 1965, as amended, requires the Census Bureau to provide estimates every five years of limited-English proficiency among people who speak Asian, American Indian and Alaska Native, or Spanish languages for geographic areas that must provide language assistance during voting (based on ACS).

CONGRESSIONAL BUDGET OFFICE (on behalf of Congress)

Analysis and bill scoring

- CBO Publishes New Health Insurance Coverage Projections for 2023 to 2033 (May 24, 2023). This projection model uses data from the Current Population Survey and administrative records.
- The Budgetary and Economic Effects of S. 2488, the Raise the Wage Act of 2023 (December 18, 2023.) This analysis uses data and research findings from a variety of sources.

FEDERAL PROGRAM & POLICY AGENCIES

Administering and evaluating programs–Examples are legion:

- Agencies that administer programs such as SNAP use federal statistics and administrative records to assess program take-up and evaluate proposed changes.
- Agencies that administer grants (e.g., Community Development Block Grants) require applicants to document eligibility and need using federal statistics and other information.

STATE AND LOCAL GOVERNMENTS

Administering and evaluating programs–Examples are legion:

- Local transportation agencies pull together federal statistics and other data for traffic analysis zones (small areas built up from blocks) and for decisions for building fire stations, schools, parks and other facilities, for transportation planning and projections, and for emergency planning.
- Public health agencies use federal statistics to calculate death and disease rates for counties and other areas to target public health initiatives and medical resources and to assess risks for people living near environmental hazards.

Formula Fund Allocation

- States provide funds to local governments, including school districts, in a variety of ways, including formulas, many of which use federal population estimates.

Projections

- Schools use federal statistics to inform projections of future enrollment.
- State demographers prepare population projections for state and local use.

ACADEMIA

Research insights—Examples abound:

- Chetty, R., et al. (2014). Is the United States still a land of opportunity? Recent trends in intergenerational mobility. The article uses linked and anonymized tax records from SOI. Main result: Children going to work today have the same chances of earning more than their parents as children born in the 1970s. However, the "birth lottery" (how well off your parents were) matters more because of the increase in inequality.
- Strum R., and Datar, A. (2005). Body mass index in elementary school children, metropolitan area food prices and food outlet density. This study uses NCES Early Childhood Longitudinal Study data merged with metropolitan data on food prices and per capita number of restaurants, grocery stores and convenience stores in the child's home and school zip code. Main result: Lower real prices for vegetables and fruits predicted a significantly lower gain in body mass index (BMI) between kindergarten and third grade.

Teaching—K-12, undergraduate, and graduate educators teach statistics and probability and use federal datasets for real-life examples of economic, demographic, and societal trends and levels.

PRIVATE & NGO SECTORS

Adding value—Companies and NGOs may:

- Facilitate access to federal statistics by clients, members, and stakeholders.
- Benchmark their own data to federal statistics (every public opinion poll has to do this because of low response rates).
- Analyze federal statistics to develop market segmentation and other products.
- Build on federal statistics to project trends and develop estimates for small areas and groups.
- Map and chart federal statistics to facilitate business, local government, and NGO planning.

Planning and evaluation

- Businesses use federal statistics to evaluate labor markets and other features of alternative site locations.
- Wall Street and businesses rely on federal statistics to understand and forecast economic conditions (inflation, unemployment, et al.) that could impact their plans.

MEDIA

Reporting stories–Sample leads from newspaper articles:

- "In Texas and across the country, the 2022 Nation's Report Card or National Assessment of Educational Progress was a call to action." (Dallas Morning News, December 26, 2022)
- "Child poverty in the US jumped and income declined in 2022 as coronavirus pandemic benefits ended." (Associated Press, September 12, 2023)

Illustrating stories–Many stories on social and economic conditions include maps, charts, and tables from federal statistics

Deep data dives–In data columns in major newspapers, reporters skilled in data science explore topics from differences in how people spend their time (from the Bureau of Labor Statistics American Time Use Survey) to differences among cities in housing costs.

THE PUBLIC

- See A Day in the Life with Federal Government Data – Association of Public Data Users.
- According to a NORC AmeriSpeak® survey conducted in June-September 2025, an estimated 23% of U.S. adults report having ever used federal data; 14% have cited facts or figures from a federal statistics report; and 13% have used individual statistics, tables, and/or maps.

FEDERAL STATISTICAL AGENCIES

Collecting data–Many statistical agencies contract with the Census Bureau for data collection.
Producing estimates–Many statistical agencies use other statistical agencies' data as input—for example, BEA's Gross Domestic Product (GDP) estimates combine data from other statistical agencies, other federal agencies, and the private sector (see Figure 1); Census Bureau population estimates serve as control totals for surveys and as denominators (e.g., per capita personal income, vital rates).

FIGURE 1. Data Providers for Aggregate Components of Annual Personal Income Estimates (number of uses/unique products)

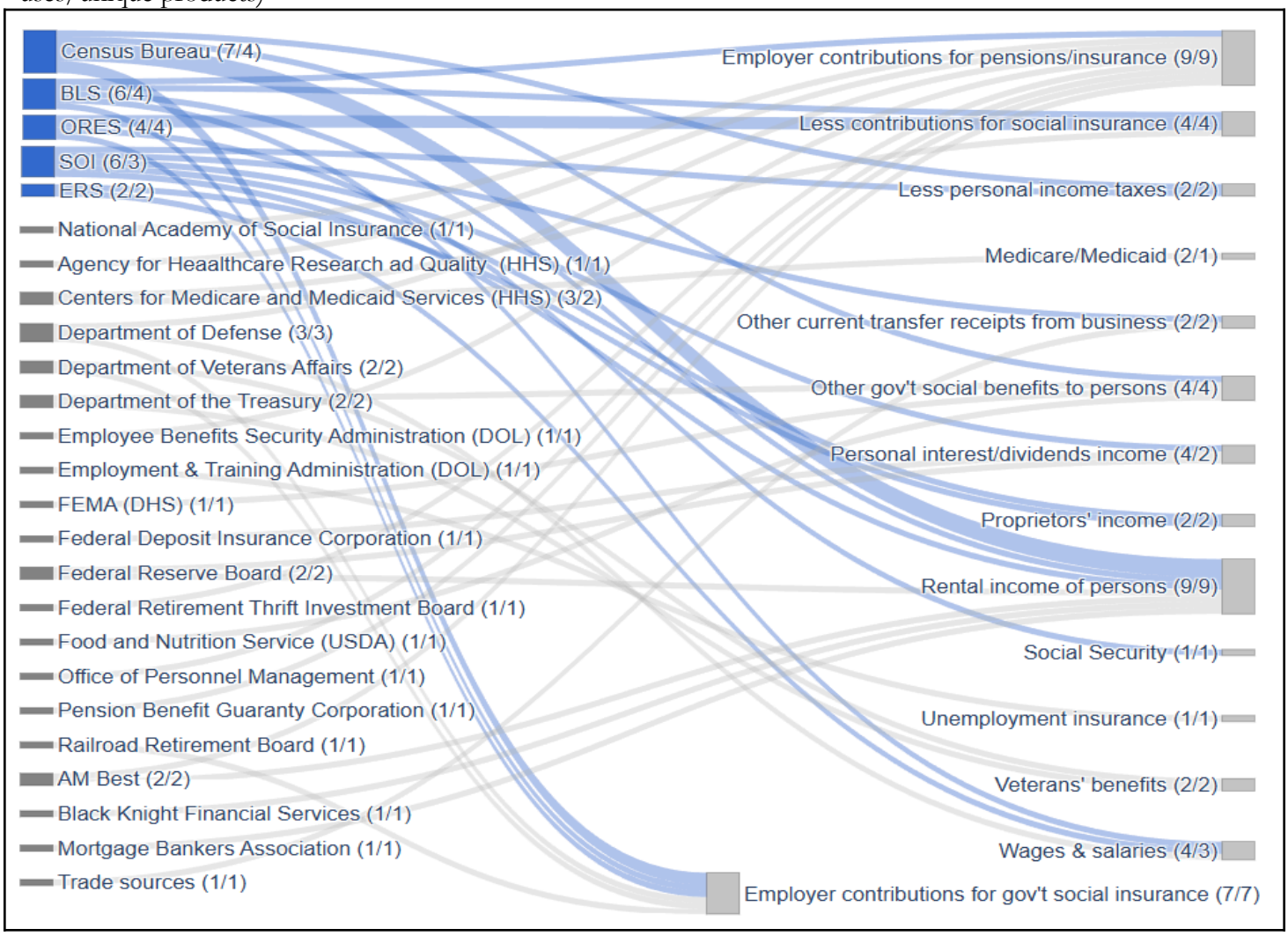

Figure 1 visualizes the dependence of BEA's estimates of Personal Income (PI, about 74% of GDP) on a wide variety of data sources, including 17 datasets from 5 federal statistical agencies, 21 datasets from 15 non-statistical federal agencies, and 6 datasets from 5 nonfederal businesses and organizations. PI estimates are a principal federal economic indicator (PFEI), issued monthly, widely cited in the business and general press, and, expressed in per capita terms, used to measure the household sector's economic well-being and as the basis for the federal medical assistance percentage (FMAP) to determine reimbursements to states for Medicaid expenditures.

FOR FURTHER READING

General:

Citro, C.F. (2016). The US federal statistical system's past, present, and future. *Annual Review of Statistics and Its Application 3*(1), pp. 347-373. https://doi.org/10.1146/annurev-statistics-041715-033405

National Academies of Sciences, Engineering, and Medicine (2025). *Principles and Practices for a Federal Statistical Agency*, 8th edition, Appendixes A, B. https://doi.org/10.17226/27934

Pierson et al. (2025). The Nation's Data at Risk: 2025 Report. American Statistical Association. The Nation's Data at Risk - 2025 Report

Budgets and staffing:

U.S. Office of Management and Budget (2024). Statistical Programs of the United States Government, Fiscal Years 2021/2022. statistical-programs-20212022.pdf (whitehouse.gov) [NOTE: This is the most recent edition of an annual report.; up-to-date staffing information is not readily available.]

American Statistical Association, Science Policy and Advocacy, Federal Budget Information (includes statistical agency budgets back to FY 2003). Policy & Advocacy

Uses:

National Academies of Sciences, Engineering, and Medicine (2020). *2020 Census Data Products: Data Needs and Privacy Considerations: Proceedings of a Workshop.* https://doi.org/10.17226/25978

National Academies of Sciences, Engineering, and Medicine (2023). *2020 Census Products: Demographic and Housing Characteristics File: Proceedings of a Workshop*. https://doi.org/10.17226/26727

National Research Council (2009). *Vital Statistics: Summary of a Workshop.* https://doi.org/10.17226/12714

National Research Council (2013). *Benefits, Burdens, and Prospects of the American Community Survey: Summary of a Workshop.* https://doi.org/10.17226/18259

U.S. Department of Commerce (2014). Fostering Innovation, Creating Jobs, Driving Better Decisions: The Value of Government Data. Office of the Chief Economist, Economics and Statistics Administration. Washington, DC. https://www.commerce.gov/sites/default/files/migrated/reports/revisedfosteringinnovationcreatingjobsdrivingbetterdecisions-thevalueofgovernmentdata.pdf; updated in Revenue of Industries Heavily Reliant on U.S. Government Data | U.S. Department of Commerce (2024, December).

Villa Ross, C. (2023). Uses of Decennial Census Programs Data in Federal Funds Distribution: Fiscal Year 2021. Working paper. U.S. Census Bureau. https://www.census.gov/library/working-papers/2023/dec/census-data-federal-funds.html

ADDITIONAL RESOURCES

America's Essential Data:

America's Essential Data , founded in 2018, is a collaborative effort dedicated to documenting the value that data produced by the federal government provides for American lives and livelihoods. At America's Essential Data, see particularly "Use Cases."

Association of Public Data Users:

The Association of Public Data Users (APDU), founded in 1975, is a national network that links users, producers, and disseminators of government statistical data who share a concern about the collection, dissemination, preservation, and interpretation of public data. At Association of Public Data Users – A voice for public data, see particularly "APDU in Action" and "Publications and Announcements."

Data Foundation:

The Data Foundation, founded in 2016, is a non-profit, non-partisan organization that conducts research, facilitates collaborative thought leadership, and advocates for practical policies for the creation and use of accessible, trustworthy data and evidence. At Home | Data Foundation, see particularly "Initiatives, #MyDataStory: How Government Data Powers American Success."