

Building Back Our Nation’s Data Infrastructure: Professional associations urge bolstering of federal statistical agencies

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Concern for the integrity of government science and statistics has put a spotlight on the state of the US data infrastructure. The backbone of this data infrastructure—the federal statistical agencies—has not been immune from controversy in recent years despite the necessity for more timely, granular and unimpeachably objective information about employment, economic growth, poverty, educational achievement, crime victimization, agricultural production and energy use. In addition to recent controversies, which include the questioned rationale for the relocation of the USDA Economic Research Service (ERS) and the especially pitched political battles around the 2020 Census, there are long-standing problems—such as insufficient resources and in-house staff for the agencies—that handicap their ability to meet the nation’s information needs.

The American Statistical Association (ASA), Council of Professional Associations on Federal Statistics (COPAFS) and other supporters of federal statistics are recommending specific actions to address both the immediate data integrity issues and the decades-long challenges that have undercut the ability of the principal statistical agencies to carry out their missions to the fullest. The goal is to ensure reliable, objective and timely government statistics for public and policy use in the service of a strong economy, society and democratic polity.

“To advance the COVID-19 pandemic recovery process, we encourage investment in and reinforcement of our US data infrastructure,” said ASA President Robert Santos. “Challenges and threats to reliable and objective government statistics have been manifold in recent years. The Biden-Harris administration and new Congress are in a unique and propitious position to address these challenges promptly. Real-time data can serve to catalyze the nation’s recovery from the profound setbacks experienced during the COVID-19 pandemic and provide long-term dividends, as well.”

The supporting organizations’ documents, available [here](#), cover nine of the primary federal statistical agencies and the federal statistical system as a whole. This release highlights the four agencies that have faced the most acute challenges in recent years, and then reviews important system-wide challenges, opportunities and priorities for the new administration and Congress.

“Federal statistics are fundamental to our nation’s unifying fabric because objective, reliable information forms the basis of discussions and decisions,” said Katherine K. Wallman, former chief statistician of the

United States. “Without accurate, impartial data that we can all trust, our divisions deepen and deliberations flounder. Especially in light of recent challenges, the new administration and Congress should act to shore up these agencies so vital to our governance, commerce and discussions, with these documents as a guide.”

US Census Bureau

For [the US Census Bureau, the supporting organizations urge](#) the following:

- Additional time for the bureau to produce apportionment and redistricting data and data products from the 2020 Census
- Additional protections for the bureau to conduct its mission free from undue political interference
- Nomination of a director with a demonstrated ability in managing large organizations; experience in the collection, analysis and use of statistical data; and a commitment to ensuring the accuracy and reliability of census data

“The 2020 Census was adversely affected by a series of extraordinary and troubling events that have called into question the legitimacy of the decennial data,” said Robert A. Hummer, president of the Population Association of America, whose staff played a lead role for this priorities document. “We urge the new administration to embrace our recommendations not only to strengthen the mission of the Census Bureau and integrity of its products, but also to conclude the 2020 Census in an orderly, reliable fashion and ensure the delivery of accurate decennial census data.”

USDA Economic Research Service

Regarding [the USDA Economic Research Service](#) (ERS)—which was relocated abruptly and without appropriate consideration or congressional and stakeholder support—the supporting organizations recommend steps to address the more than 2,000 person years of experience ERS lost in FY2020 and that only three of 15 ERS branch chiefs were retained. “The result of the relocation was the decapitation of the agency, making it essential for ERS to put in place seasoned leaders who can both anticipate policy issues and direct applied research,” said former ERS Administrator Susan Offutt. “Recruiting young professionals is necessary to rebuild ERS but they must have the guidance of ERS leadership to effectively address the nation’s food and agriculture issues.”

Recognizing another relocation would be counterproductive and unfair to new hires in Kansas City, the document does not recommend moving the ERS back to the Washington, DC, region. Instead, the document states, “The ERS Administrator should have the authority to determine whether future hires are best placed in Washington or Kansas City.”

For the location of new hires, former ERS Administrator Katherine Smith Evans emphasized the importance of the data-user perspective, stating, “ERS stakeholders—importantly including users of its

food consumption; food assistance; environmental; natural resources; and rural development data, research and analysis—should have strong input into the administrator’s location decision framework.”

The documents also urge a recognition and strengthening of ERS’ autonomy within the Research, Education, and Economics (REE) mission area, an acknowledgment of the weaknesses exposed in its relocation and near administrative move out of REE to the USDA Office of the Chief Economist.

Bureau of Justice Statistics

The [Bureau of Justice Statistics](#) (BJS) urgently needs attention to allow the agency to fulfill its mission. Symptoms of an agency in distress include long-standing delays in report and data releases, recent budget reductions for data collection activities and the loss of senior career leadership. Also of concern is the agency’s seeming isolation in recent years from partnering entities (e.g., states and the Office for Victims of Crime), stakeholders and fellow statistical agencies, as well as the growing unmet need for more timely, granular data products disseminated more broadly and efficiently.

“The Bureau of Justice Statistics is constrained and challenged in fulfilling its mission to provide objective statistics on crime and responses to crime across the spectrum of the US justice system,” said former BJS Deputy Director Jeri Mulrow. “Under the right leadership and guidance, BJS could realize its full and extensive potential to provide the nation with the data needed to make sound justice-related policy decisions.”

National Center for Education Statistics

The acute challenges of the [National Center for Education Statistics](#) (NCES) have been in the making for at least a decade and reached a tipping point over the last year with the confluence of two factors. The budget for NCES descriptive statistics—which together with assessment makes up the total NCES budget—has lost 27 percent in purchasing power since fiscal year 2010. NCES staffing has also reached a crisis level with NCES FTEs having dropped over a 15-year period from approximately 125 in staff to 88 in early 2020. While NCES has since staffed up to near its maximum allowed of 95 FTE, it lacks sufficient in-house staff for its work, which includes managing 10 times as many contract staff. As a result, NCES has had to curtail programs at a time when school districts and administrators need reliable national data for dealing with the continued disruptions of the pandemic and the likely long and complex period of getting schools and students back up to speed. The recently proposed School Pulse Survey, mirroring the Census Bureau’s Household Pulse Survey, could fill this need if NCES is provided the funding and staff to carry it out.

“The Biden-Harris administration could take immediate steps to help our schools deal with the pandemic by getting NCES the resources it needs to do a School Pulse Survey,” said Felice Levine, executive director of the American Educational Research Association and chair of the board for the Council of Professional Associations on Federal Statistics.” Our country needs accurate, timely and objective statistics on such information as in-person student attendance rates, absentee rates for in-

person and distance learning, teacher absence-due-to-COVID19-contraction rates, teacher availability and student performance.”

Other Highlights

As described in the [system-wide priorities document](#), agencies face many common challenges and opportunities, as well as unique ones. The opportunities the administration and Congress should prioritize to build back and enhance the nation’s data infrastructure include the following:

- *Enhancing autonomy to ensure reliable, objective data:* The 2020 Census and ERS-relocation controversies—as well as concerns raised about [COVID-19 data](#)—exposed weaknesses in ensuring objective and reliable government statistics. Several of the supporting organizations’ priorities documents recommend a bolstering of federal statistical agency autonomy—including for publications, budget, hiring and IT infrastructure. The BJS and NCES documents urge a restoration of Senate confirmation of their presidentially appointed heads (removed in 2012). Senate confirmation provides an important check on the technical qualifications and integrity of the nominee and affords Congress a route to ensure the agency head’s accountability. It may also provide the confirmed head additional authority to defend the integrity of the agency’s products and thereby elevate the role of statistics in evidence-based policymaking.
- *Giving greater emphasis to “real-time” data:* Federal statistical agencies have largely and traditionally emphasized the production of annual “benchmark” data, with the monthly BLS jobs report and quarterly Bureau of Economic Analysis (BEA) GDP data being two notable exceptions. The COVID-19 pandemic has put a demand on more timely data. Agencies have responded with agility and resolve, illustrating what is possible with more resources. In collaboration with five other federal statistical agencies, the Census Bureau launched the Household Pulse Survey, providing insightful weekly data starting in May about how Americans are faring during the COVID-19 pandemic. One of the collaborating agencies, the National Center for Health Statistics, also began publishing near real-time data on deaths due to the pandemic. In addition, the Bureau of Transportation Statistics (BTS) started providing daily and weekly statistics that serve as an early indicator of how the pandemic affects transportation demand and services. Agencies should be provided the support and resources to further the publishing of more real-time data.
- *Linking data to deepen insights on social conditions:* Federal statistical agencies are working to enhance the relevance of their data by cross-linking them with data from other agencies, work supported and encouraged by the Foundations for Evidence-Based Policymaking Act. For example, BJS, with greater investment, could link criminal justice data with education, health, transportation and economic data to study the drivers of criminal activity and how they can be better mitigated. Similarly, BTS could work with local communities to better understand how people in the community use the transportation network to access employment, healthcare, education, fresh groceries and other essential services and needs, which, in turn, could inform investment decisions for the betterment and strengthening of their communities.

Agencies (budgets in FY09 \$Millions)*	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	% Change since FY09
Bureau of Economic Analysis	87	91.9	90.2	87.6	83.8	87.5	87.4	94.4	91.6	85.3	85.5	89.6	91	4.6%
Bureau of Justice Statistics	51	59.3	58.1	39.2	38.6	41.3	37.2	36.8	40.1	41.3	36.4	35.7	36.6	-28.2%
Bureau of Labor Statistics	597	604	590.8	579	539	543	538	547.3	537.2	527.1	520.4	521	522	-12.5%
Bureau of Transportation Statistics	27	26.7	26.1	23.9	24.3	23.8	23.6	23.4	22.9	22.4	22	21.6	21.1	-21.7%
U.S. Census Bureau	4169	7142	1115	895	786	866	988	1231	1285	2424	3234	6271	898	N/A
Energy Information Administration	111	109.7	93	99.8	92.9	107	108	109.6	107.8	107.7	105.8	105.2	103	-7.1%
Economic Research Service	80	81.1	79.2	73.8	66.7	71.6	70.6	69.8	69.8	68.1	66.9	64	63.3	-20.9%
National Agricultural Statistics Service	152	160.1	151.4	151	155	148	148	143.1	142.9	157.2	139.9	142	142	-6.5%
National Center for Education Statistics	246	244.2	239.2	235	211	215	211	234.5	228	222.7	220.4	218.6	225	-8.6%
National Center for Health Statistics	125	137.4	134.3	132	130	128	127	130.3	127.9	124.9	122.7	120.3	119	-5.0%
Nat'l Center for Science & Engineering Statistics, NSF	39	40.5	40.7	41.1	38.8	43.2	52.9	52.4	52.7	53.7	54.2	53.9		
Office of Research, Evaluation, & Statistics, SSA	27	27.7	28.1	27.6	25.7	24.7	26.3	23.3	21.2	23.3	28.1	28	28.3	4.7%
Statistics of Income Division, IRS	42	42.6	37.9	38.8	32.6	34	33.4	34	30.3	29	30.4	29.8	30.4	-27.6%

Table 1: The budgets of the 13 principal federal statistical agencies in FY09 dollars (adjusted using the GDP deflator). Adjustments have been made for the several agencies that have experienced budget restructuring to make the levels comparable for the years represented. See this [Google spreadsheet](#) for notes.

To act on these priorities, the administration and Congress should address the many factors inhibiting the ability of the agencies to serve the information needs of the nation:

- **Restore lost purchasing power:** Because of budget constraints, many statistical agencies are struggling to continue established programs, let alone respond to new data needs or take advantage of methodological and technological advances that would improve their data and reduce costs and respondent burden. As seen in Table 1, all but three of 12 federal statistical agencies have lost purchasing power since FY09, while four of the agencies lost more than 12 percent in purchasing power (see Figure 1).
- **Address staff shortages:** For at least three agencies, staff size constraints keep them from seizing opportunity, working at full capacity or fulfilling their potential. The National Center for Science and Engineering Statistics (NCSES) has a budget-to-staff ratio of \$1.15 million per FTE, a ratio more than three times the median of the 13 principal federal statistical agencies. For NCES, the ratio is more than 7.5 times the median (see Table 2). These high ratios mean that in-house staff cannot fully monitor the work of contractors, let alone develop important new initiatives. The BTS also faces a serious shortage of FTE staff, hampering its efforts to maintain internal capacity, keep pace with statistical advancements, and innovate to leverage big data.

Agency	Budget (\$M)					Staff Size					FY16-FY17		FY19-FY20	
	FY16	FY17	FY18	FY19	FY20	FY16	FY17	FY18	FY19	FY20	Ratio of Budget (FY16) to Staff	Ratio normalized to ratio median	Ratio of Budget (FY19) to Staff	Ratio normalized to ratio median
Bureau of Economic Analysis	305.1	333.8	331.0	330.0	308.0	499	488	480	480	500	0.23	0.62	0.21	0.60
Bureau of Justice Statistics	41.0	45.5	48.0	43.0	43.0	57	56	55	55	49	0.77	2.24	0.83	2.34
Bureau of Labor Statistics	609.0	609.0	612.0	615.0	628.0	2,036	2,035	1,965	1,980	1,980	0.30	0.88	0.31	0.89
Bureau of Transportation Statistics	26.0	26.0	26.0	26.0	26.0	66	68	52	55	60	0.39	1.14	0.45	1.28
Energy Information Administration	122.0	122.0	125.0	125.0	126.8	326	341	317	368	357	0.37	1.07	0.35	0.98
Economic Research Service	85.4	86.8	86.8	86.8	84.8	346	348	312	321	358	0.25	0.73	0.36	1.02
National Agricultural Statistics Service	166.4	171.2	171.7	174.5	180.3	1,038	1,037	1,033	1,033	1,033	0.16	0.48	0.17	0.49
National Center for Education Statistics	261.0	258.5	258.5	260.5	263.5	93	95	100	100	105	2.76	8.00	2.56	7.25
National Center for Health Statistics	160.4	160.4	160.4	160.4	160.4	508	508	443	484	470	0.32	0.93	0.34	0.95
Nat'l Center for Science & Engineering Statistics, NSF	58.3	59.7	62.4	64.0	65.0	50	52	56	56	56	1.16	3.30	1.15	3.27
Office of Research, Evaluation, & Statistics, SSA	25.9	24.0	27.0	35.4	36.0	67	64	63	79	79	0.38	1.12	0.45	1.28
Statistics of Income Division, IRS	37.8	34.3	33.7	35.9	35.9	117	140	136	135	139	0.28	0.82	0.26	0.74

Table 2: Budget to staff ratio for principal federal statistical agencies. See also <https://docs.google.com/spreadsheets/d/1Byy5Mc2Z8W4kwP4YCi5S-D8oOscjplCRaJRnAeR3IU/edit#gid=0>.

- Strengthen capacity for system-wide coordination:** Recognizing the strengths and weaknesses of the United States' decentralized statistical system, the supporting organizations recommend enhancing system-wide coordination and collaboration, including elevating the position of the chief statistician of the US within the White House Office of Management and Budget, providing the chief statistician more staff and asking agencies to coordinate and integrate statistical programs across agencies.

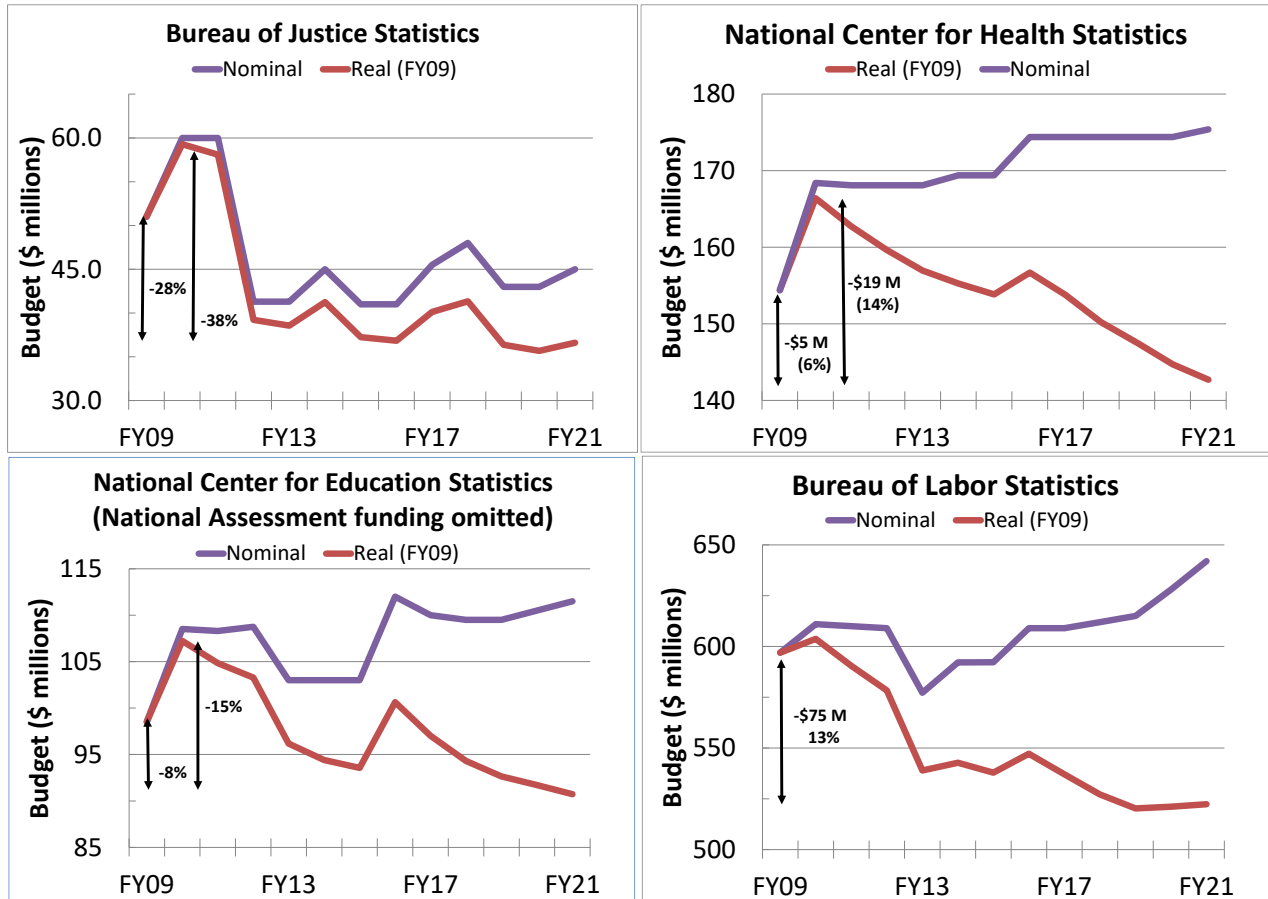


Figure 1: The budget in nominal and real dollars for three statistical agencies and the descriptive statistics line of the National Center for Education Statistics.

Summary

Federal statistics have undergirded our democracy, society and economy since the nation's founding. Even as their importance has increased over the centuries—especially recently with the focus on evidence-based policymaking—the agencies producing the data have been neglected, lost important autonomy and statutory protections and been pushed deeper into the federal bureaucracy—all this with 21st century opportunities and challenges needing urgent attention. Declining survey response rates are an existential threat to high-quality government statistics occurring among demands for more timely and local data. Offsetting the threats are the promising opportunities possible through incorporation of

data from administrative records and non-federal sources, as well as newly available and powerful data processing that permits data linkages. Through the writing of these documents, the supporting organizations submit their priorities for early attention by the new administration and the Congress to address the challenges and opportunities.

About the documents

The documents available to date, with more expected, are linked at <https://www.amstat.org/ASA/Science-Policy-and-Advocacy/home.aspx#resources> and include the following:

- [Principal Statistical Agencies, system-wide priorities](#)
- [Bureau of Economic Analysis](#)
- [Bureau of Justice Statistics](#)
- [Bureau of Transportation Statistics](#)
- [Economic Research Service](#)
- [National Agricultural Statistics Service](#)
- [National Center for Education Statistics](#)
- [National Center for Health Statistics](#)
- [National Center for Science and Engineering Statistics](#)
- [US Census Bureau](#)

The American Statistical Association and Council of Professional Associations on Federal Statistics are the lead organizations on the project but other organizations contributed, including the Population Association of America, Consortium of Social Science Associations and American Educational Research Association. Prominent former leaders in the federal statistical community led the writing for some documents, including former ERS Administrators Katherine Smith Evans and Susan Offutt for that agency's priorities and former NCSES Director John Gawalt for the agency-wide priorities (with input from Constance Citro, Emerson Elliott, Brian Harris-Kojetin and Katherine Wallman.) Elliott and Wallman were also instrumental in the writing of the NCES priorities. Along with Mulrow, former BJS Directors James Lynch, William Sabol, and Jeffrey Sedgwick consulted in the writing of the BJS document. Mulrow also contributed to the NCSES priorities. Former National Agricultural Statistics Service (NASS) Administrator Cynthia Clark and Deputy Administrator Carol House assisted with the NASS document. Former BEA Administrator Steve Landefeld and former National Center for Health Statistics (NCHS) Director Charles Rothwell informed content for the BEA and NCHS documents, respectively.

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