



# State of U.S. Data Infrastructure

## Assessing the Health of the Federal Statistical Agencies

APDU Webinar, June 29, 2023

*Jonathan Auerbach, GMU*

*Steve Pierson, ASA*





# The Federal Statistical Agencies: The backbone of US Data Infrastructure

*Just as our transportation infrastructure supports the US economy, governance, and society, so too do the federal statistical agencies.*



THIS IS STATISTICS

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Our Nation's Data Infrastructure  
Needs Attention and Investment



"... our nation's data infrastructure is at grave risk."

-Katherine Wallman, Chief Statistician of the United States, 1992-2017

<https://www.amstat.org/policy-and-advocacy/US-Data-Infrastructure>



# State of U.S. Data Infrastructure:

2023-2025

A new effort to assess health of the federal  
statistical agencies

Connie Citro, Nancy Potok, Claire Bowen,  
Jonathan Auerbach, Steve Pierson

Funded by Alfred P. Sloan Foundation

<http://bit.ly/AssessingFedStatHealth>



# Outline

- 1. Describing the Problem**
2. Past Approaches
3. Describing the Vision
4. Preliminary Results
5. APDU Input and Participation
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7. Questions/Discussion

# State of the Data Infrastructure: At great risk

## AMSTATNEWS

The Membership Magazine of the American Statistical Association

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### ASA, COPAFS, Partners Urge Bolstering of Federal Statistical Agencies

1 MARCH 2021 6,858 VIEWS NO COMMENT

Constance Citro, Emerson Elliott, John Gawalt, Felice Levine, Jeri Mulrow, Paul Schroeder, Katherine Wallman, and Steve Pierson

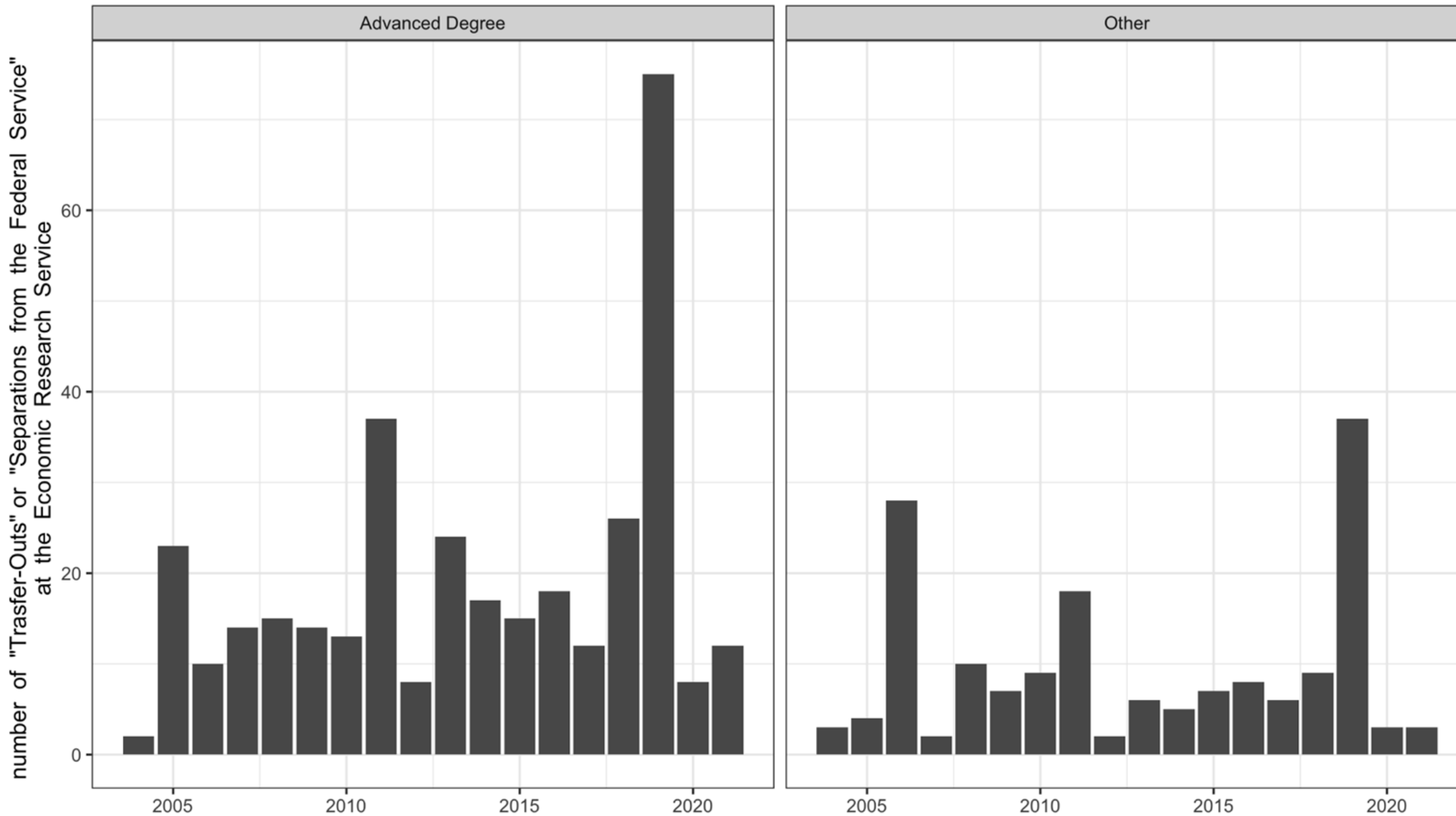
*Even as their importance has increased over the centuries, the agencies producing the data have been neglected, lost important autonomy and statutory protections, and been pushed deeper into the federal bureaucracy.*

<https://magazine.amstat.org/blog/2021/03/01/fed-stat-agencies>

# Examples of Recent Challenges and Threats

1. 2020 Census meddling
2. Economic Research Service staffing gutted
3. Bureau of Justice Statistics publication delays
4. National Center for Education Statistics (non-contract) staffing shortage
5. Shrinking budgets (e.g., declining purchasing power)
6. Growing costs (e.g., declining response rates)
7. Changing needs (e.g., more granular or frequent data)

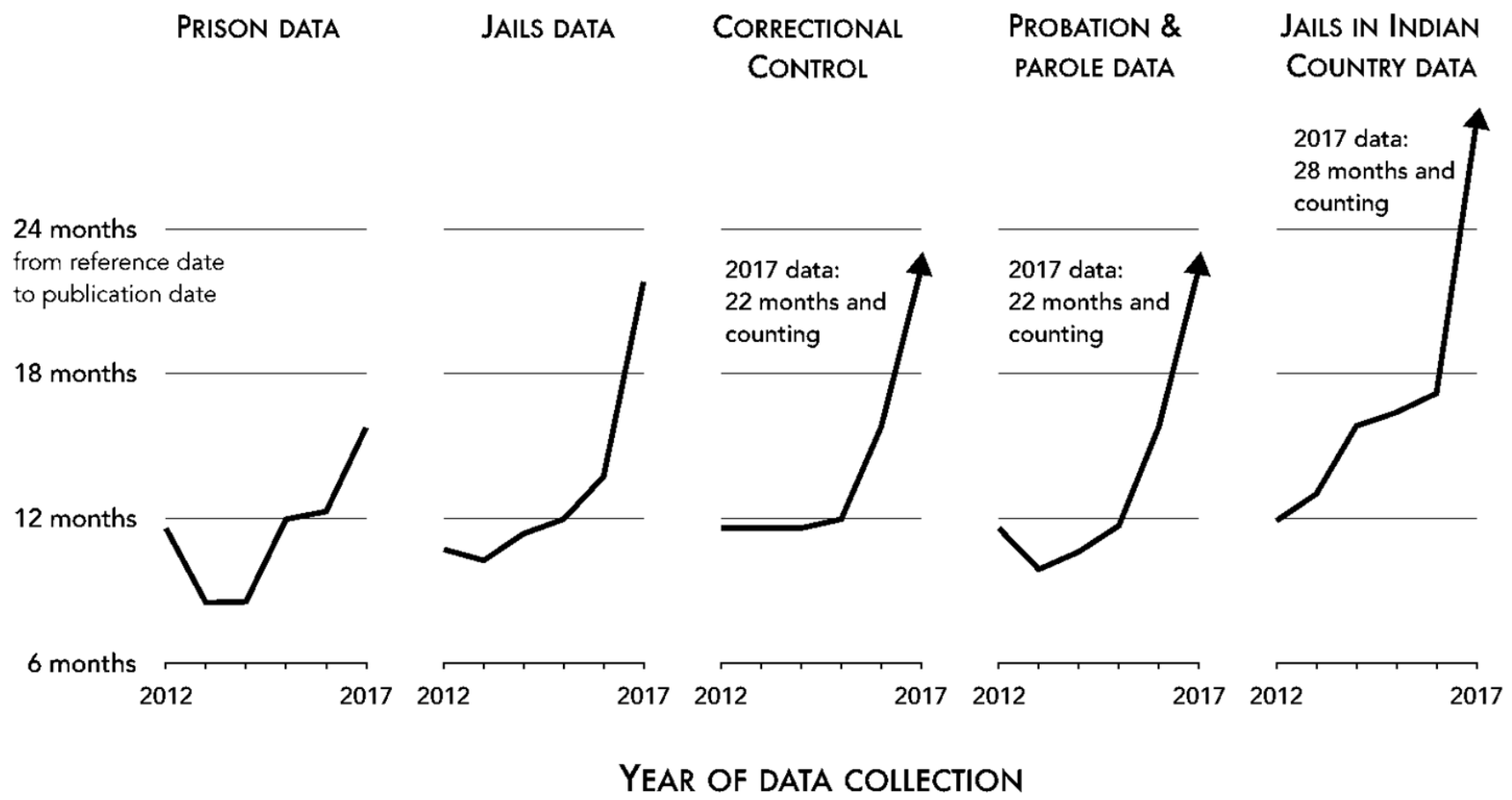
In 2019, the Economic Research Service had 112 transfers or separations, more than 4x the 2009-2018 average



Source: <https://www.fedscope.opm.gov/>

# Since 2016, annual Bureau of Justice Statistics reports have been delayed by many months

MONTHS ELAPSED BETWEEN REFERENCE DATE AND PUBLICATION, BY DATA SERIES

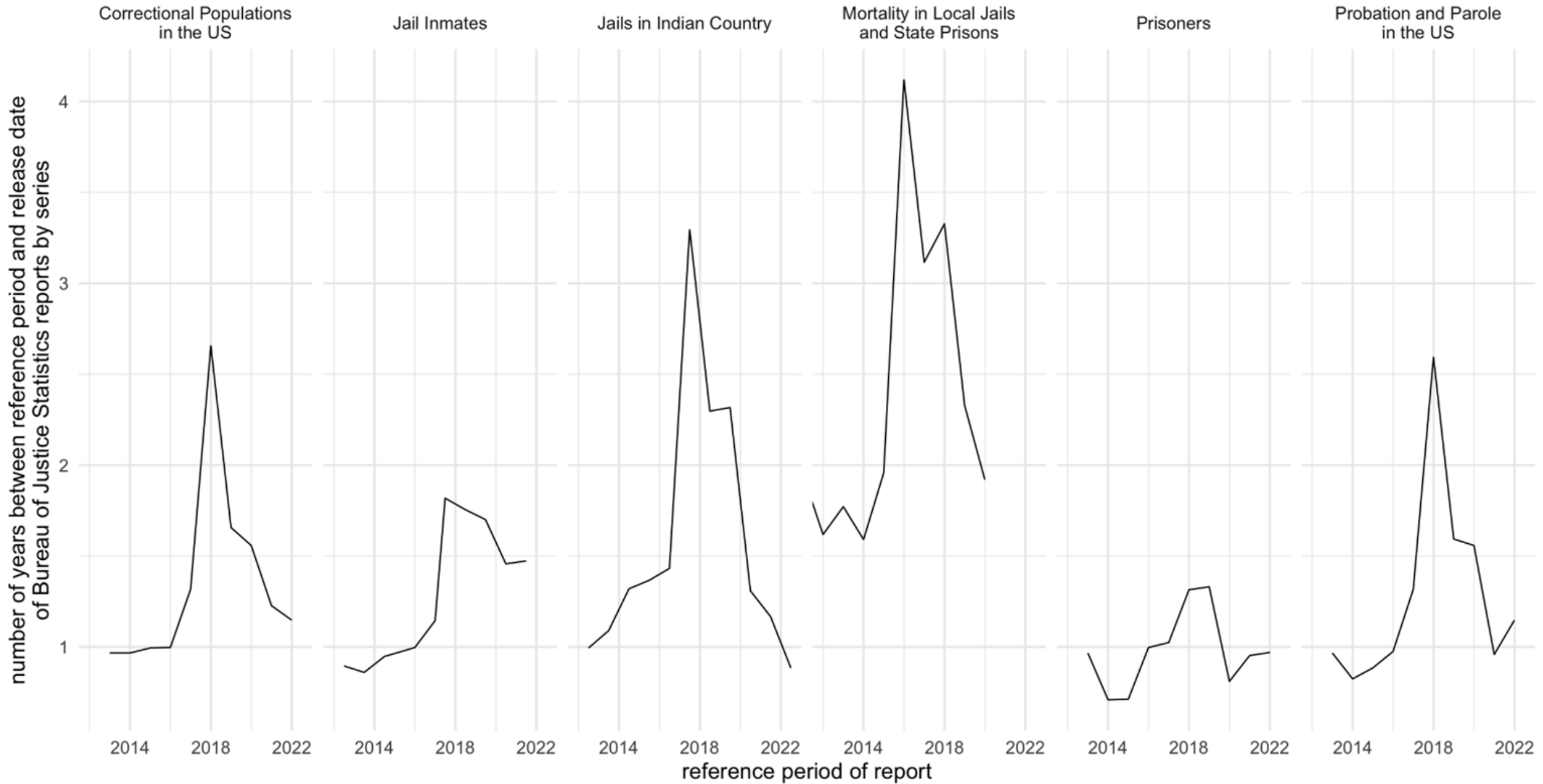


Source: Compiled by the Prison Policy Initiative from the Bureau of Justice Statistics' online list of Publications and Products: Corrections

Source: <https://www.prisonpolicy.org/blog/2019/11/14/criminal-justice-data/> (posted Nov. 2019)

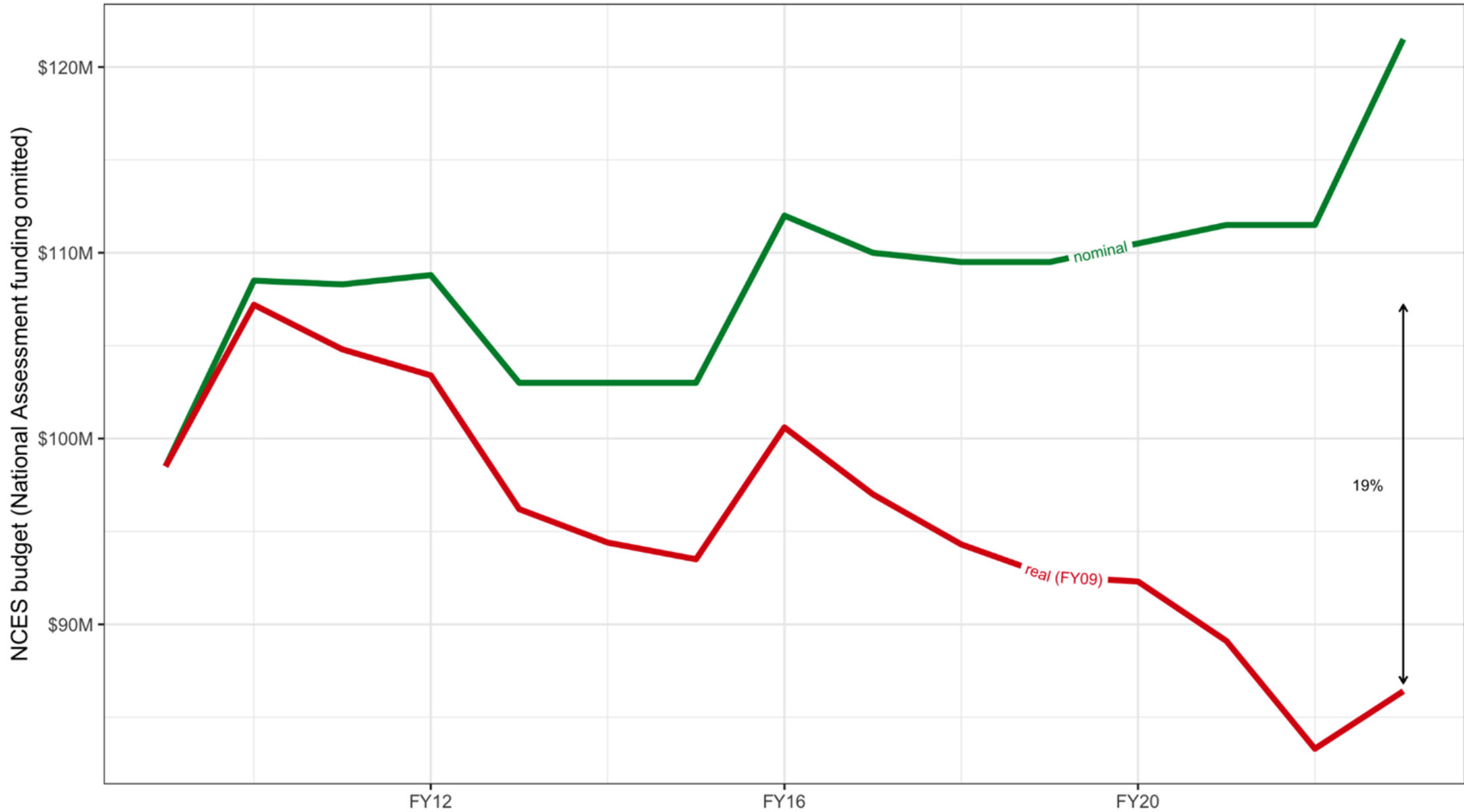


# Between 2016 and 2020, Bureau of Justice Statistics reports were delayed by years



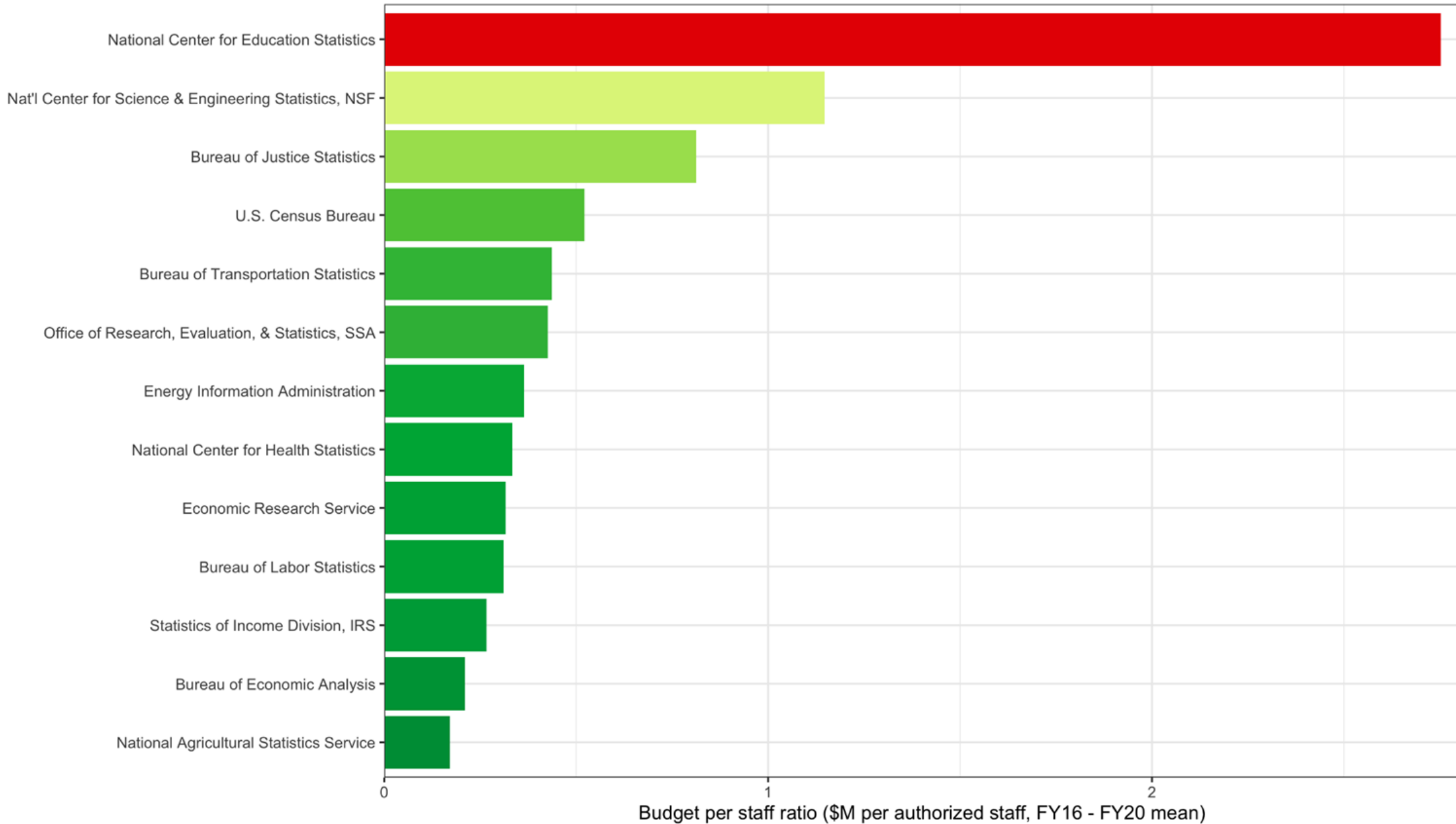
Source: Madison Hardesty, <https://bjs.ojp.gov/library>

# The National Center for Education Statistics budget down 19% since 2010 high after adjusting for inflation



Source: <https://www.amstat.org/docs/default-source/amstat-documents/pol-bolsteringeducationstatistics.pdf>

# The National Center for Education Statistics budget to staff ratio 8x the typical federal statistical agency



Source: <https://www.amstat.org/docs/default-source/amstat-documents/pol-bolsteringeducationstatistics.pdf>

## Bolstering Education Statistics to Serve the Nation

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Keywords: government statistics, official statistics, trust, independence, autonomy, federal statistical agency, education

*The authors report there are no competing interests to declare.*

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### ABSTRACT

Despite providing objective, benchmark statistics on the condition and progress of US education since 1867, the National Center for Education Statistics has been the center of scrutiny over the last dozen years for its lack of resources and agility as well as for its diminished stature and autonomy. Motivated by the COVID-19 pandemic exposure of NCES' bureaucratic hurdles, Congress' interest in reauthorizing the agency and its umbrella organization, and the 2022 National Academies' report, *A Vision and Roadmap for Education Statistics*, we explore legislative changes and attendant administrative actions that would contribute to building the trust of respondents who provide data to NCES and users who depend on the agency's products; our paper offers recommendations to that end.

# Outline

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# Threats to Federal Statistics not particularly new

- 1972 — Nixon administration canceled press conferences held by the Bureau of Labor Statistics after Bureau provided a conflicting interpretation of the unemployment rate.
- 1995 — Speaker of the U.S. House of Representatives threatened to withhold funding from the U.S. Bureau of Labor Statistics if it did not lower its estimate of the inflation rate
- 2006 — George W. Bush administration removed the director of the U.S. Bureau of Justice Statistics after he refused to downplay data on racial profiling at traffic stops

# ASA has long investigated federal statistics

- 1937 — ASA - Social Science Research Council Committee on Government Statistics and Information Service
- 1973 — ASA - Federal Statistics Users' Conference Committee on the Integrity of Federal Statistics
- 2021 — ASA Task Force on 2020 Census Quality Indicators

## But these investigations have been reactive ...

- 1937 — following Roosevelt centralization of coordination functions
- 1973 — following interference in the reporting of economic indicators
- 2021 — following interference in the decennial census

Reactive recommendations often politicized since some stand to gain and others lose.



# ... and key recommendations were never implemented

For example:

## 1. Recommendations to increase visibility

- Executive Office of Statistical Policy (see Bonnen TAS 1981)
- Council of Statistical Advisers (see Fienberg TAS 1983)

## 1. Recommendations for regular reporting

- Review of methods/operations (see Rathbun, Wallis, et al. TAS 1972) — led to CNSTAT
- Monitoring by professional associations (see Joint Ad Hoc Committee on Government Statistics, TAS 1976 Recommendation 6)

RECOMMENDATION 6. (RECOMMENDATIONS TO SPONSORING ASSOCIATIONS)

*The Committee recommends that the sponsoring associations reexamine and improve their procedures for monitoring developments in the Federal statistical system, and undertake measures to bring to the attention of the Congress, the Executive Branch, and the public matters which affect the quality of the statistical product.*

In addition to recommendations to the professional societies implicit in the preceding recommendations, we note that the associations have a stake not only in the data relating to the special subject matter interests of their members, but also in the whole field of statistical policy and practices as they relate to Federal, State and local governments. Moreover, their members possess the expertise to analyze the data and to provide continuing evaluations. The professional associations should be leaders in calling for periodic outside professional review of key statistical

series, such as the reviews of the employment and unemployment statistics by the Gordon Committee, price statistics by the Stigler Committee, and inventory statistics by the National Bureau of Economic Research. Such reviews should be addressed especially to the concepts underlying the statistics and the adjustments needed to deal with changed situations. Truth in labelling is as important in statistics as in retailing.

There is a need for more initiative on the part of the professional associations to inform their members concerning legislative and administrative developments which affect statistical programs.

The associations have tended to be reticent about taking public positions regarding actions pending in the Congress. There is some fear that such actions might be viewed as lobbying and thus jeopardize their tax-exempt status. There is no law requiring tax-exempt organizations to be oblivious to issues being considered by the Congress. Moreover, members, in their individual capacities, are free to contact their senators and representatives in the Congress and to bring to their attention the significance of pending actions. Association newsletters and other communications should regularly supply news of pending actions and suggest that members convey their views pro or contra to their representatives in the Congress. If there are doubts, it would be appropriate to seek legal guidance on what actions may be taken in the light of tax legislation.

Source: The American Statistician, Vol. 30, No. 4, 1976

# New data sources afford new opportunities for proactive monitoring and increased visibility

- A growing volume of publicly available administrative data offers an unprecedented opportunity to report on the federal statistical system.
- If we can all agree on how to best monitor the federal statistical system, we can better identify threats and challenges (before they become excessively politicized) and raise their visibility among policymakers and the public.

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# Addressing U.S. Data Infrastructure: 2024 onwards

## Reactive Monitoring

- Challenging to reverse threats underway
- Reaction may be perceived as partisan

## Proactive Monitoring

- Identify/shine light on needs, weaknesses, and vulnerabilities
- Address before problems arise

State of the  
Data  
Infrastructure:  
Can it be  
assessed  
quantitatively?

Autonomy  
Protections

Resources

Innovation

Host agency  
support

Workforce

Data Usage

# Potential indicators

1. Resources (e.g., budget levels, staffing, contracting)
2. Professional autonomy (e.g., safeguards against political meddling)
3. Innovation/modernization capabilities (e.g., new products and data sources, pilot projects)
4. Workforce (e.g., employee satisfaction, professional development, recruitment and retention, diversity)
5. Host agency support (e.g., budget requests)
6. Data use and user engagement (e.g., downloads and citations)

# Data collection and analysis

## 1. Examples of collection

- Agency questionnaire, data user survey
- Publicly available data: budgets, publication schedules, OPM employee satisfaction, etc.

## 2. Analysis plans

- Conduct qualitative/quantitative analyses to ensure data and expert accounts agree.

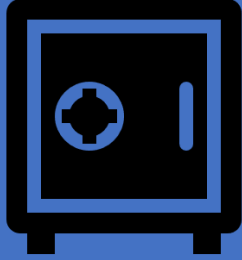


# Next steps

1. Continuing data collection and analysis
2. Receiving input and critique on work
3. November 6 workshop at GMU Arlington Campus
4. Review of results and report drafts
5. Report in 2024 Q1, annually thereafter
6. Publish related work and findings

# Outline

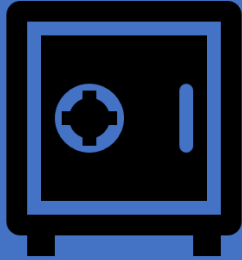
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# Pilot project: Autonomy Protections

## Control over

- Data Collection and Analysis
- Publication/Dissemination
- IT systems
- Budget (once appropriated/authorized)
- Hiring and staffing levels
- Contracting, grants, cooperative agreements
- Agency branding



# How Are Autonomy Protections Ensured?

Memoranda of understanding, internal agreements

Persuasiveness/diplomacy/influence of agency leaders

Chief Statistician of the US and staff

Reference to OMB Statistical Policy Directives,  
Presidential EO/Memoranda on science integrity, P&P...

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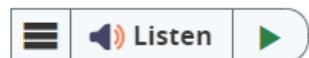
Views

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CrossRef citations to date

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Altmetric



Research Article

# What Protects the Autonomy of the Federal Statistical Agencies? An Assessment of the Procedures in Place to Protect the Independence and Objectivity of Official U.S. Statistics

Constance F. Citro, Jonathan Auerbach , Katherine Smith Evans, Erica L. Groshen, J. Steven Landefeld, Jeri Mulrow, Thomas Petska, Steve Pierson , Nancy Potok, Charles J. Rothwell, John Thompson, James L. Woodworth & Edward Wu [...show less](#)

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# Inventory of Autonomy Protection: Lessons

- Objectivity of US Federal Statistics not in question — rather the capacity for bad actors to circumvent existing protections
- Autonomy protections in statute uneven
- Strength of Evidence Act codification of SPD 1 not known or tested
- Federal statistical agencies would benefit from explicit and specific protections for seven autonomy criteria

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# Survey of Data Use and/or Data Users

Examining the use of federal statistics is important for monitoring whether federal statistics are objective, timely, and relevant. Two options we are exploring:

1. Survey federal statistical agencies about the behaviors of data users
2. Survey data users directly to determine their needs
  - Do data users consider federal statistics to be objective, timely, and relevant?



# Further APDU Input and Participation

1. Provide your ideas and feedback
2. Spread the word
3. Sign up to follow progress, attend workshop, submit a paper

<http://bit.ly/AssessingFedStatHealth>



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# Conclusion

- Proposal: proactive monitoring of federal statistical agencies
- Success hinges on engagement of and participation of federal statistical community
- Publish report in 2024 Q1 and annually thereafter
- Promote academic study of federal statistical agencies



# Assessing the Health of the Federal Statistical Agencies

## Questions/Discussion

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<http://bit.ly/AssessingFedStatHealth>

