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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

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Abstract

We assess the professional autonomy of the 13 principal U.S. federal statistical agencies. We define six components or measures of such autonomy and evaluate each of the 13 principal statistical agencies according to each measure. Our assessment yields three main findings: 1. Challenges to the objectivity, credibility, and utility of federal statistics arise largely as a consequence of insufficient autonomy. 2. There is remarkable variation in autonomy protections and a surprising lack of statutory protections for many agencies for many of the proposed measures. 3. Many existing autonomy rules and guidelines are weakened by unclear or unactionable language. We conclude that a lack of professional autonomy unduly exposes the principal federal statistical agencies to efforts to undermine the objectivity of their products and that agencies cannot completely rebuff these efforts. Our main recommendations are to strengthen the role of the OMB Chief Statistician and to legislate new statutory autonomy protections, including explicit authorization for the principal federal statistical agencies that currently have no recognition in statute. We also recommend periodic assessments of the health of the federal statistical system, including not only autonomy protections and resources, but also how well agencies are satisfying data needs for the public good and using best methods to do so.

Keywords: government statistics; official statistics; trust; independence; autonomy; federal statistical agency

I. INTRODUCTION

In this paper, we assess the professional autonomy of the 13 principal U.S. federal statistical agencies, which produce an array of statistics that are critically important for American democracy, society, and economy. Our assessment is comprehensive, relying on a wide variety of publicly available information, such as authorizing legislation, regulations and guidance, memoranda, and published discussions with current and former leaders. It is also nonpartisan to the extent possible, incorporating diverse input from across the federal statistical system. Most notably, we consulted a wide variety of leaders who were appointed and served under different political administrations.

We believe our assessment is timely. Federal statistical agencies have been subjected to increasing challenges over the past decade, undermining their ability to conduct their operations objectively and according to professional standards. The unprecedented threats to the 2020 decennial census are widely known, as further elaborated in Section 2.1. Other examples include the USDA Economic Research Service (ERS) losing two thirds of its staff following a rushed, forced move to Kansas City, the Bureau of Justice Statistics (BJS) falling far behind in its publication release schedule, and the National Center for Education Statistics (NCES) and National Agricultural Statistics Service (NASS) cutting back several programs.

The Census and ERS examples suggest that decisions over what statistics should be collected and through which operations have at times been reduced to partisan talking points for the sole purpose of political gain. Yet protecting the federal statistical system against such partisan intrusions—and many other challenges—is complicated by the critical role of the legislative and executive branches to set priorities for data collection and exercise oversight over statistical agency performance. It is this complication that drives our in-depth look at autonomy protections, which must be strong enough to preserve objectivity without ignoring the necessity for statistical agencies to respond to the changing information needs of the American people through accountability to elected officials. To the best of our knowledge, this is the first comprehensive assessment of publicly available information on statutory autonomy protections safeguarding the federal statistical agencies.

Our assessment focuses on professional autonomy, also referred to as professional independence, which we define as an agency's 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. Professional autonomy is more narrow than autonomy, which Merriam-Webster defines as, "the quality or state of being self-governing." The distinction is important because a statistical agency must be accountable to elected officials and the public as a taxpayer-funded entity and to fulfill its mandate to produce relevant and timely statistical information. Throughout this paper, any reference to a statistical agency's autonomy assumes professional autonomy. We further discuss professional autonomy below and the critical balance of autonomy with accountability.

We present our assessment in four sections. In Section II, we briefly introduce the 13 principal federal statistical agencies and list the challenges they face, some of which are described for the first time in our review. We then review the various justifications and requirements for statistical agencies to have autonomy over their functions. We consider not only the blanket protections provided in statutes and statistical policy guidance from the White House Office of Management and Budget (OMB), but also the individual laws specific to each agency—as well as other types of protections.

In Section III, we propose six measures of autonomy and systematically evaluate each of the 13 principal statistical agencies according to each measure. In Section IV, we use the evaluations from Section III to better understand the challenges listed in Section II. This application yields three major findings:

1. The challenges to the objectivity, credibility, and utility of federal statistics arise largely as a consequence of insufficient autonomy.
2. There is remarkable variation in autonomy protections and a surprising lack of statutory protections for many agencies for many of the proposed measures. Only four statistical agencies have agency-specific autonomy protections. The remaining nine agencies are protected in varying degrees by blanket provisions, memoranda of understanding (MOU's), or other defenses.
3. Many existing autonomy rules and guidelines are weakened by unclear or unactionable language.

We offer several conclusions and recommendations in Section V. Our main conclusion is that a lack of professional autonomy unduly exposes the principal federal statistical agencies to efforts to undermine the objectivity of their products and that agencies cannot completely rebuff these efforts. Policymakers must bolster statutory protections to ensure that data collection and reporting decisions serve legitimate policy goals and are not made for political gain. Our main recommendation is to strengthen the role of the OMB Chief Statistician, a change that can be implemented quickly and would help patch many of the identified autonomy gaps. We also recommend comprehensive legislation addressing all six measures of autonomy, a change that would close the identified autonomy gaps but would require such legislation to officially recognize the principal federal statistical agencies that have no official recognition in statute.

II. BACKGROUND

Widely available, trustworthy, relevant, accurate, and timely government statistics... are essential not only for policy makers and program administrators at all governmental levels, but also for individuals, households, businesses, and other organizations to make informed decisions and for scientists to add to knowledge. Even more broadly, the effective operation of a democratic system of government depends on the unhindered flow of impartial, scientifically based

statistical information to its citizens on a wide range of issues . . . (National Academies of Sciences, Engineering, and Medicine 2021, p. 1).

In the United States, 13 principal statistical agencies provide flagship statistics on the economy, population, environment, health, education, criminal justice, and other topics. A small staff in the U.S. Office of Management and Budget (OMB) under the Chief Statistician of the United States (CSOTUS) works with the Interagency Council on Statistical Policy (ICSP) to establish priorities, secure budgets, and provide coordination for these agencies and the roughly one hundred other statistical units throughout the federal government under the authority of the Paperwork Reduction Act (PRA) of 1995. The Chief Statistician's office also promulgates government-wide standards that foster comparability, utility, and availability of the data. Nevertheless, the U.S. statistical system is highly decentralized. There is considerable variation in data collection and reporting procedures, including whether an agency has authority (autonomy) over changing those procedures. One potential limitation on the Chief Statistician's ability to protect the autonomy of the decentralized statistical agencies is that all the authority exercised by the Chief Statistician is actually given to the Director of OMB, a political appointee, and then delegated through the Administrator of the Office of Information and Regulatory Affairs, another political appointee, and then to the Chief Statistician. OMB statistical standards and policy directives are authorized in the PRA, and revisions to them must go through a process that includes public comment in response to a *Federal Register* notice. Yet, ultimately, the authority of the Chief Statistician and of OMB statistical policy requires that all actors, including political appointees, follow established norms to support statistical policy over and above political considerations.

One might expect that procedures and practices, such as the amount of autonomy, would depend on the size of an agency. Perhaps agencies with more resources at their disposal have more autonomy? As seen in Table 1, the 13 agencies vary considerably in size, whether measured by budget or authorized staff. The largest is the Census Bureau (Census, \$7.5 billion budget, almost seven thousand authorized staff at its decadal peak), and among the smallest are the Bureau of Transportation Statistics (BTS, \$26 million budget, 60 authorized staff) and BJS (\$43 million budget, 49 authorized staff). If autonomy were related to the amount of resources available, Census would have the strongest protections, while BTS and BJS would have the weakest.

But this is not the case. We find that Census, BTS, and BJS (along with the Energy Information Administration, EIA) are the only federal statistical agencies with agency-specific autonomy protections—and among those four, Census has the weakest protection. The remaining nine agencies have relatively little protection, including the agencies that produce the principal economic indicators. As this example shows, anticipating which autonomy protections exist and why is far more complicated than one would expect. In the remainder of this section, we break down the concept of autonomy, after first listing several high profile examples of the challenges statistical agencies face. We argue these challenges are due in large part to insufficient autonomy protections. We revisit these examples after a systematic study of agency autonomy in Section III.

2.1 Recent events highlight threats to the mission of the federal statistical agencies

As noted above, federal statistical agencies experienced a number of challenges and setbacks in the late 2010s, reducing their ability to provide objective, timely, and relevant statistics. Perhaps most publicized are “unprecedented” threats to the 2020 decennial census (Santos 2020; Potok and Thompson 2021; Wines 2022). Other less publicized examples include the ERS losing two thirds of its staff following its controversial relocation to Kansas City, MO, in 2019; the Bureau of Justice Statistics falling far behind in its publication release schedule; and the NCES cutting back several programs due to insufficient resources. The USDA National Agricultural Statistics Service (NASS) abruptly had to cancel its July 2019 survey of Honey Bee Colonies due to budget cuts (National Agricultural Statistics Service 2019); it also abruptly suspended the Agriculture Labor Survey, used by the Department of Labor, to set farm worker minimum wages, in September 2020 (National Agricultural Statistics Service 2020).

Some of these setbacks were ultimately mitigated. For example, the Census Bureau professional staff were able to complete the 2020 census and publish the results on the timetable they felt was necessary for quality review (Bazelon and Wines 2021), ERS is regaining staff, and NASS was able to restore both surveys referenced above (for example, see U.S. Department of Agriculture 2022 and Karst 2020). In addition, several agencies and OMB responded agilely to the need for real-time data on the impacts of the COVID-19 pandemic on households, businesses, and schools (United States Census Bureau 2022, U.S. Bureau of Labor Statistics 2022, and National Center for Education Statistics 2022).

But not all setbacks were reversed, and such setbacks appear to be a recurring problem over the last half a century. Earlier examples of serious threats to statistical agencies include the Nixon administration’s reprisals against Bureau of Labor Statistics (BLS) staff because the president did not like the unemployment figures (Norwood 2016) and the effort under the George W. Bush administration by political appointees in the Justice Department to alter a BJS press release (Clarke 2006).

These attacks are not harmless artifacts of the political process. They degrade the public trust and goodwill that statistical agencies have worked hard to win over decades. Indeed, the National Academies of Sciences, Engineering, and Medicine’s *Principles and Practices for a Federal Statistical Agency* (7th edition; hereafter *Principles and Practices* or *P&P*) notes that people “rely on accurate and trustworthy information to carry out their civic duties” and that “to be useful, information on a nation’s society and economy must be credible and trustworthy” (National Academies of Sciences, Engineering, and Medicine 2021, pp. 2-3). Any impediments to an agency’s ability to produce objective, reliable, and timely data are problematic because of the importance of official statistics to a country’s economy, governance, and society.

2.2 Professional autonomy is key for providing objective statistics

A statistical agency's ability to fulfill its mission depends on many factors, including resources and other support from its home agency. One key factor is the statistical agency's professional autonomy. As mentioned in the introduction, we define professional autonomy 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. The importance of professional autonomy for a federal statistical agency is clearly and widely laid out in guidance from several sources. We review these sources in the next subsection (Subsection 2.3). In this subsection, we discuss the importance of autonomy for ensuring data quality and trust in the data generally—or conversely, how autonomy infringement works to undermine data quality and trust as exemplified in the previous examples (Subsection 2.1).

The reason why autonomy is mission critical for a statistical agency is illustrated in Figure 1. Autonomy supports data quality directly by allowing leaders and staff to adhere to professional standards. It also supports trust in and use of the products of a statistical agency by reducing suspicions that the products have been manipulated for political purposes. Higher trust and better data quality operate in a positive feedback cycle with survey participation. And data quality and trust are necessary for people to use data products. Without autonomy, the positive feedback loop risks running in the other direction, where trust and data quality fall, reducing response rates and data usage.

Statistical agency autonomy can impact more than data quality and trust in the agency's products. It influences which data are produced in the first place. For example, some believe the USDA Secretary removed the head of ERS and then attempted, unsuccessfully, to move the agency under the Chief Economist in the Office of the Secretary, in order to influence ERS to focus more on production agriculture and less on food security, environmental effects on agriculture, and other issues. Insufficient autonomy can also limit the ability of statistical agencies to collaborate with each other and nonstatistical agencies to create combined statistical data, as mandated under the Evidence Act. For example, several statistical products require the combination of tax and Census data. While authorized by law, the process requires the Secretary of Commerce to request data from the Secretary of the Treasury. For non-Commerce Department users, the process requires a change in Treasury regulations. This has slowed down important projects by years. As we move into a more virtually integrated statistical data environment, the statistical agencies need more autonomy to make these data sharing decisions in a timely way.

The ideal amount of autonomy given to a statistical agency is difficult to describe. We will often use the term, professional autonomy, or professional independence, where the added adjective "professional" is important. As discussed further below, a statistical agency cannot (and should not) be completely independent. It must be accountable to elected officials, taxpayers, data users, and other stakeholders. We view the description of conducting statistical activities autonomously in Statistical Policy Directive No. 1 (SPD#1) as synonymous with professional autonomy: "Federal statistical agencies and recognized statistical units must be able to conduct

statistical activities autonomously when determining what information to collect and process, the physical security and information systems security employed to protect confidential data, which methods to apply in their estimation procedures and data analysis, when and how to store and disseminate their statistical products, and which staff to select to join their agencies” (Office of Management and Budget 2014).

We know of no academic work that has systematically evaluated the autonomy of the 13 principal federal statistical agencies, perhaps because of this difficulty in defining autonomy and collecting relevant data.¹ Several works have, however, partially or indirectly addressed autonomy for statistical agencies, and we briefly review those works in the remainder of this subsection. Most notably, *Principles and Practices* makes the case for autonomy for the agencies and enumerates at least four types of autonomy desired to ensure trusted statistics. *P&P* also comprehensively covers relevant legislation, OMB Statistical Policy Directives, and the organization and operation of the federal statistical system, including the role and responsibilities of the CSOTUS, among many other topics. In its agency specific descriptions, *P&P* includes some protections in place for independence but does not seek to be comprehensive.

Published papers and articles on the federal statistical agencies do mention the importance of the professional independence of the agencies, but they have not sought to study it in any systematic way. Recent papers include Wallman (2019), Citro (2020), and Groshen (2021), all three of which guided our study. Similarly, the American Statistical Association’s Count on Stats initiative discusses independence but does not seek to be comprehensive (see the “What the statistical experts say” section of American Statistical Association 2022).

Habermann and Louis (2020) consider how the political process intersects with the importance of institutional independence, centering their discussion around the controversy of adding a citizenship question to the 2020 Census. They also speak of professional independence, which they argue is “a foundation for building public trust and ensures that decisions about statistical matters are free of any real or perceived political interference.” They conclude, “Statistical agencies then, for structural reasons, cannot be independent of the political process,” but that “it is in the best interests of the statistical agencies, their political superiors and the general public for statistical agencies to have the benefit – either by law or regulation – of professional independence.”² Habermann and Palma delve into these issues in an interview (Palma 2022) about the establishment of Mexico’s National Institute of Statistics and Geography (INEGI), a national statistics agency with noteworthy levels of autonomy.

Government documents are also germane. The annual OMB publication *Statistical Programs of the United States Government* (for example, see Office of Management and Budget 2020)

¹The World Bank makes related arguments for the independence of central banks (see Bandaogo 2021) and regularly assesses that independence (see World Bank n.d.-a). It also assesses the “statistical capacity” of countries (World Bank n.d.-b). However, the U.S. and other developed countries are not included in their sample—nor is autonomy assessed directly. The criteria relate to data sources, periodicity, and timeliness.

²As recounted in Goldberg and Moye (1985), the first commissioner of BLS, Carroll Wright, fought hard for independence for the new agency.

provides the “U.S. Congress with a consolidated source for key budgetary and programmatic information about the Federal Statistical System” but does not cover other issues. The Evidence Act (Foundations for Evidence-Based Policymaking Act of 2018, Pub. L. 115-435) stipulates that the OMB Director “shall electronically publish a report on agency performance and compliance with this Act and the amendments made by this Act.” This is relevant because the Evidence Act embraces key aspects of professional autonomy, stipulating that federal statistical agencies 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.”

Our focus on professional autonomy should not be construed to imply its primacy over accountability to elected officials or an agency’s mandate to produce and disseminate relevant and timely statistical information. The documents we cite and others include government, academic, and industry standards to ensure that, when statistical agencies are operating professionally, the statistical agencies are producing data for the public good and central to the healthy function of a democratic political system. Our review only touches the vast guidance that clearly delineates the balance between professional autonomy, relevance, and accountability.

2.3 Underlying many of the challenges federal statistical agencies face is a lack of autonomy

In Section 2.1, we described challenges to the objectivity, credibility, and utility of federal statistics, and in Section 2.2, we reviewed the importance of autonomy for a statistical agency to fulfill its mission. In comparing the two sections, it is clear that lack of autonomy underlies many of the challenges. But without further study, it is unclear what capacities of autonomy are lacking, the degree to which those capacities are responsible for the challenges faced by statistical agencies, and thus how autonomy protections might be implemented so that similar challenges can be avoided in the future. This gap in knowledge motivates our systematic study of autonomy. Before describing our study and interpreting the results, we conclude this section by briefly reviewing legal and other declarations on autonomy. These declarations provide a nuanced picture of autonomy, which informs the study design (autonomy measures) we present in Section III.

The necessity for a government statistical agency’s products to be objective—in reality and perception—is widely stated and stipulated. After reviewing four of the highest profile and most influential declarations for objective products, we address how those sources connect objective and trustworthy government statistics to autonomy either explicitly or implicitly.

Principles and Practices (2021, p. 10) states the following:

To be useful, information on a nation’s society and economy must be credible and trustworthy. The consumers of the information must believe that the information is

objective and *not affected by any political or ideological perspective concerning the phenomena being measured.* [emphasis added]

OMB strongly supported this criterion in 2014 with Statistical Policy Directive No. 1—its third responsibility for a federal statistical agency stipulates: “Conduct objective statistical activities,” adding, “It is paramount that Federal statistical agencies and recognized statistical units produce data that are impartial, clear, and complete and are readily perceived as such by the public.” The Evidence Act, in codifying Statistical Policy Directive No. 1,³ also stipulates, as noted above: “Each statistical agency or unit shall ... conduct objective statistical activities.” The Evidence Act further states that the head of the parent department “shall enable, support, and facilitate statistical agencies or units” in fulfilling the responsibilities laid out by Statistical Policy Directive No. 1 (including conducting objective statistical activities).

In its document, *Fundamental Principles of Official Statistics* (United Nations 2014),⁴ the United Nations states, “the essential trust of the public in the integrity of official statistical systems and confidence in statistics depend to a large extent on respect for the fundamental values and principles that are the basis of any society seeking to understand itself and respect the rights of its members, and in this context . . . professional independence and accountability of statistical agencies are crucial.”

The connection of an agency’s capability to produce objective data to an agency’s professional autonomy is made unequivocally in the fourth of *Principles and Practices*’ five principles, titled, “Independence from Political and Other Undue External Influence” (National Academies, 2021, p. 3):

Federal statistical agencies must be independent from political and other undue external influence in developing, producing, and disseminating statistics. Statistical agencies must be impartial and execute their missions without being subject to pressures to advance any political or personal agenda. They must avoid even the appearance that their collection, analysis, and reporting processes might be manipulated for political or other purposes or that individually identifiable data might be obtainable for nonstatistical purposes. Only in this way can statistical agencies serve as trustworthy sources of objective, relevant, accurate, and timely information. Protection from undue outside influences requires that statistical agencies have *authority to make professional decisions concerning their programs, including authority over the selection and promotion of staff; the processing, secure storage, and maintenance of data; and the timing and content of data releases, accompanying press releases, and documentation.* [emphasis added]

³The report language for the Evidence Act (House Report 115-411) reads, “H.R. 4174 codifies CIPSEA in chapter 35 of title 44, United States Code, with a few enhancements such as clarifying the definition of statistical agencies and units and codifying Statistical Policy Directive Number 1 (SPD#1).”

⁴The UN principles were initially developed and adopted by the Conference of European Statisticians in 1991, subsequently adopted by the UN Statistical Commission in 1994, and endorsed by the UN General Assembly in 2014.

We refer readers to *Principles and Practices* for its elaboration on these authorities.

OMB's Statistical Policy Directive No. 1 has similarly strong language regarding the connection of an agency's autonomy to its ability to produce objective statistical products:

Federal statistical agencies and recognized statistical units must function in an environment that is clearly separate and autonomous from the other administrative, regulatory, law enforcement, or policy-making activities within their respective host agencies. Specifically, Federal statistical agencies and recognized statistical units must be able to conduct statistical activities autonomously when determining *what information to collect and process, the physical security and information systems security employed to protect confidential data, which methods to apply in their estimation procedures and data analysis, when and how to store and disseminate their statistical products, and which staff to select to join their agencies*. In order to maintain credibility with data providers and users as well as the public, Federal statistical agencies and recognized statistical units *must seek to avoid even the appearance* that agency design, collection, processing, editing, compilation, storage, analysis, release, and dissemination processes may be manipulated. [emphasis added]

Language in Statistical Policy Directive No. 1, codified in part in the Evidence Act, that requires statistical agencies to "produce and disseminate relevant and timely statistical information" further buttresses the need for autonomy. Meeting such requirements, as exemplified during the COVID-19 pandemic, relies on an agency's ability to be nimble. An agency's agility can be influenced by its control, or lack thereof, over its budget, staffing levels, systems infrastructure, and contracting. When such control is exercised by the administrative layers higher in the host agency—see text box for explanation of this term—agility can be hampered unintentionally by such a layer's bureaucratic decision making processes, competing interests, and a lack of understanding about the role of a statistical agency. Moreover, when an agency lacks control of these elements in whole or in part, those with control have levers with which to exert political and other undue external influence on an agency's statistical activities.

Host Agency

When referring to a statistical agency's "host agency," we mean any of the administrative layers above the statistical agency. This is particularly important for an agency further down in the host agency's organizational chart. For example, NCES is administratively located in the Institute of Education Sciences (IES), and the National Center for Health Statistics (NCHS) in the Centers for Disease Control and Prevention's (CDC), in the Departments of Education and Health and Human Services, respectively. The leadership of each of those levels understandably may feel a responsibility to exercise oversight of the statistical agency's work, whether or not legislation specifies the responsibility. Such oversight may be especially complicated in the cases of NCES and NCHS because IES and CDC are both scientific agencies that have their own level of autonomy from policy and administrative offices. IES's 2002 authorization complicated the issues further by transferring some of NCES's autonomy over publication and contracting to IES.

The Confidential Information Protection and Statistical Efficiency Act (CIPSEA), which was incorporated into the Evidence Act, supports the case for statistical agency autonomy over data management and protection systems. It specifies that "Data or information acquired by an agency under a pledge of confidentiality for exclusively statistical purposes shall not be disclosed by an agency in identifiable form, for any use other than an exclusively statistical purpose, except with the informed consent of the respondent." The paramount importance of this provision is indicated by the penalties involved for its breach: "Whoever ... willfully discloses the information in any manner to a person or agency not entitled to receive it, shall be guilty of a class E felony and imprisoned for not more than 5 years, or fined not more than \$250,000, or both."

At the same time, the enactment of FITARA (the Federal Information Technology Acquisition Reform Act, Pub. L. 113-291, Title VIII, Subtitle D, 2014) has complicated systems autonomy for statistical agencies because of the law's mandate for host agencies to consolidate systems resources for efficiency and security. Concern over FITARA's implications for statistical agencies led to its partial mitigation via OMB supplemental guidance on *Applying FITARA Common Baseline to Statistical Agencies and Units* (Office of Management and Budget 2016), whereby the "CIO, other agency senior management officials, and statistical component managers together must consider and answer" implementation questions such as the following:

Has the CFO Act agency ensured that the CFO and program leadership working jointly with the CIO have established processes and definitions that achieve program and business objectives and develop sound estimates of the necessary IT resources for implementing statistical agencies' CIPSEA responsibilities, PRA responsibilities, and SPD No. 1's enumerated responsibilities to: (1) produce and disseminate relevant and timely information; (2) conduct credible and accurate statistical activities; (3) conduct objective statistical activities; and (4) protect the trust of information providers by ensuring the confidentiality and exclusively statistical use of their responses?

Despite this and other OMB issuances, as noted by Groshen (2021), “the guidance has not protected statistical agencies adequately.” She elaborated as follows:

They have little recourse to resist continued encroachments on their operational independence under FITARA pressures. This can happen blatantly or with subtlety. An agency that refuses to accede to inappropriate requests from the parent department can be punished with poor service, prevention of needed investments, or higher costs charged to the statistical agency. Even without an inappropriate request, when a statistical agency shares IT and administrative costs, the parent department has the means to siphon off funds from the statistical agency to meet other priorities. Unfortunately, the laudable goal of increasing federal government efficiency in this way poses a clear risk to the political and fiscal independence of statistical agencies. Furthermore, when statistical agencies succeed in preserving independence, it may come at the cost of foregoing efficiencies that could be attained, particularly if they could share services with other statistical agencies.

More generally, lack of autonomy for a statistical agency in one area can also reduce autonomy in other areas. For example, a statistical agency that rejected a host agency request to change its methodology could be subjected to reduced levels or long delays in approvals for hiring, budget, or procurement and thereby coerced into making the desired change. The necessity of capturing these nuances motivates our study, which divides autonomy into six measures.

III. Assessment of Autonomy

3.1 We propose six measures of autonomy

In this subsection, we define six measures of the autonomy of a principal federal statistical agency, gleaned from our review of the literature in Section II.⁵ In the next subsection, we apply them to the federal statistical agencies.

The six measures are:

(1) **Control over data collection and analysis** – For each of their programs, statistical agencies should determine what data collection activities meet the scope and the best ways to obtain, process, and analyze data to fulfill their programs, in accordance with OMB guidelines and seeking expert peer review of their methodologies and processes.

⁵ The ability of an agency to name members of an advisory committee without host-agency approval is also important for autonomy and nimbleness, albeit at a different level than already discussed. For that reason, we address this issue separately in Subsection 4.3.

(2) **Control over data management and protection systems** – Systems to collect, store, process, analyze, protect, and disseminate data are mission-critical for statistical agencies. For example, statistical agencies are required to meet pre-specified deadlines for many of their statistical publications and to maintain the confidentiality of the data they collect. Thus, statistical agencies have historically maintained their own servers and IT systems. Recently, departments have moved to centralize IT functions. In such environments, statistical agencies must have control over carved-out, adequate computing capacity, appropriate IT support, and investments to meet their needs.

(3) **Control over statistical data release and data products** – Statistical agencies need to control the content, timing, and method of release of data products. They should develop their data products and dissemination methods in close consultation with users and technical experts, but away from political influences. Statistical agencies should have final review and approval over the release of their statistical products. This is essential for the perception and reality of objectivity on the part of an agency and the credibility of its data.

(4) **Control over staffing (hiring authority and staffing levels)** – Statistical agencies are required by Statistical Policy Directive No. 1 to maintain sufficient in-house staff with the necessary types of expertise to carry out their mission. Yet Congress or the Administration often imposes full-time equivalent (FTE) staffing limits beyond those imposed by funding levels. In the case of NCES, staffing challenges are compounded by the agency not being able to use program funds for salaries. These limits force agencies to contract for more functions than may be optimal. Statistical agencies also need authority to hire mission-necessary career and Senior Executive Service staff without interference by their departments.⁶

(5) **Control over budget** – Statistical agencies need adequate budget to carry out their missions; there should be no “unfunded mandates.” Budgets should include resources for staff training and development and for continuing research and development for new and ongoing programs to keep concepts, methods, and processes up to date and responsive to data user needs. Statistical agencies would also benefit from the ability—within limits—to move resources among programs, but Congress currently specifies funding for many particular programs (line items).⁷

⁶On October 21, 2020, the Trump Administration issued Executive Order No. 13957 to create Schedule F Civil Service positions government-wide by reclassifying Civil Servants who met such criteria as having “substantial discretion to determine how the agency exercises functions committed to it by law” or “working in the executive secretariat of the agency.” Schedule F positions would not be covered by Civil Service regulations about hiring and firing. The intent was to tie agencies more closely to the administration’s agenda. The executive order was repealed by Executive Order 14003 on January 22, 2021, but, if ever reinstated, would greatly undermine autonomy for statistical agencies among many others. See Rein and Yoder (2020) and Alms (2021).

⁷The National Science Foundation (NSF) is an exception in that its congressional appropriations specify only a few broad categories. Thus, NSF’s statistical agency, the National Center for Science and Engineering Statistics (NCSES), can appeal to the leadership of the directorate in which it is housed for additional budget or reallocated budget for

(6) **Control over contracting, cooperative agreements, and grants** – Statistical agencies need authority to let contracts, cooperative agreements, and grants, and independently exercise professional and technical management and oversight of them.

As we noted in Section 2.3, these measures reflect professional autonomy. Federal statistical agencies operate within an ecosystem of congressional and executive branch priority-setting and oversight, within their authorized missions and with input from the host agency and data users. For this reason, it is important to understand the limits of “control” for each measure. For a number of measures, Congress and departments currently exercise what we judge to be excessive control, thereby weakening statistical agencies’ autonomy.

3.2 Assessment of the 13 principal federal statistical agencies using the six measures of autonomy

In this subsection, we compile the protections for the six autonomy measures for the principal federal statistical agencies. The results are summarized in Table 2. We consider both protections broadly covering all the agencies (column 2) and those specific to individual agencies (columns 3 through 6).

We should note that “YES” in column 2 of Table 2 (Statistical Policy Directive No. 1 and its report-language codification by the Evidence Act) should be taken with a grain of salt. In theory, the Evidence Act provides strong legal protections for autonomy measures (1)-(3) and for the hiring component of the staffing measure (4). However, we are unable to rate the protections afforded by the Evidence Act codification of Statistical Policy Directive No. 1 in column two for these measures as “STRONG” or “WEAK” because the Act is only three years old. Insufficient time has passed to see how the Evidence Act’s codification of Statistical Policy Directive No. 1 will be effective in practice. For the other measures, we see no explicit autonomy protections in the Evidence Act or Statistical Policy Directive No. 1. Some of these gaps are filled by individual autonomy protections, evaluated in columns 3 through 6. In the remainder of this section, we discuss the ratings given to each of these protections in detail, starting with BTS.

3.2.1 Statistical Agency-Specific Statutory Protections

The **Bureau of Transportation Statistics (BTS)**--established by the Intermodal Surface Transportation Efficiency Act of 1991-- was afforded the following explicit protections for publications and data collection & analysis in the FAST Act (Fixing America’s Surface Transportation Act, Pub. L. 114-94, 2015):

- The Director shall not be required ... prior to publication, to obtain the approval of any other officer or employee of the United States Government with respect to the

contracts and grants to serve evolving data needs. Staff levels are another story, as they are determined by NSF administration, which has been reluctant to allocate additional in-house staff to NCSES.

substance of any statistical technical reports or press releases lawfully prepared by the Director.

- The Director shall not be required to obtain the approval of any other officer or employee of the Department with respect to the collection or analysis of any information.

The FAST Act also has the following language regarding BTS budget, hiring, contracting, and IT:

- The Department Chief Information Officer shall consult with the Director [of BTS] to ensure decisions related to information technology guarantee the protection of the confidentiality of information provided solely for statistical purposes, in accordance with the Confidential Information Protection and Statistical Efficiency Act of 2002 (44 U.S.C. 3501 note; Public Law 107–347).
- The Director shall have a significant role in the disposition and allocation of the authorized budget of the Bureau, including ... all hiring, grants, cooperative agreements, and contracts awarded by the Bureau to carry out this section.

Our assessment of the statutory protections for BTS autonomy in the six categories is summarized in Table 2. We used “STRONG” for statutory protections that are explicit and clear, in this case, for data collection and analysis and for publication. We assessed the budget, hiring, and contracting protections to be “WEAK” because of the ambiguity of the term “significant role” and our knowledge of BTS’s lack of control over its budget levels and allocations. We judged the information systems statutory language to provide “intermediate” protection because it makes the Department of Transportation chief information officer aware of BTS data protection needs by requiring consultation with the BTS director on systems-related issues. This statutory protection could have easily been judged to be “WEAK,” but the language strikes us as a step above the language for budget, for example. We did not identify any language providing BTS control over its staffing levels and, indeed, are aware of the agency’s urgent need for more staff.

The ***Energy Information Administration (EIA)*** has several autonomy protections in statute from its authorizing legislation (Energy Conservation and Production Act, Pub. L. 94-385, 1976; Department of Energy Organization Act, Pub. L. 95-91, 1977):

- The Administrator shall not be required to obtain the approval of any other officer or employee of the Department in connection with the collection or analysis of any information; nor shall the Administrator be required, prior to publication, to obtain the approval of any other officer or employee of the United States with respect to the substance of any statistical or forecasting technical reports which he has prepared in accordance with law.
- The Secretary shall delegate to the Administrator (which delegation may be on a nonexclusive basis as the Secretary may determine may be necessary to assure the faithful execution of his authorities and responsibilities under law) the functions vested in him by law relating to gathering, analysis, and dissemination of energy information

(as defined in section 11 of the Energy Supply and Environmental Coordination Act of 1974) and the Administrator may act in the name of the Secretary for the purpose of obtaining enforcement of such delegated functions.

- To carry out the functions of the Office, the Director, on behalf of the Administrator, is authorized to appoint and fix the compensation of such professionally qualified employees as he deems necessary, including up to ten of the employees in grade GS-16, GS-17, or GS-18:
 - (a) The Director shall establish and maintain the scientific, engineering, statistical, or other technical capability to perform analysis of energy information. . . .
 - (b) The Director shall establish and maintain the professional and analytic capability to evaluate independently the adequacy and comprehensiveness of the energy information in possession of the Office and other agencies of the Federal Government in relation to the purposes of this Act and for the performance of the analyses described in section 52 of this Act. . . .

As shown in Table 2, based on this language, we assess the EIA autonomy protections for publications, data collection and analysis, hiring, and staffing levels as “STRONG”.

For the **Bureau of Justice Statistics (BJS)**, its 1979 authorizing legislation (Justice System Improvement Act of 1979, Pub. L. 96-157) has only one autonomy stipulation: “The Director shall have final authority for all grants, cooperative agreements, and contracts awarded by the Bureau.”

For the **Census Bureau**, the Permanent Census Act (1902) has weak autonomy protections relating to staffing levels and hiring. The Permanent Census Act calls for chief statisticians at the Census Bureau to be “persons of known and tried experience in statistical work” and further “that there shall be in the Census Office ... such number of clerks , ... , copyists, computers, and skilled laborers , ... , messengers, assistant messengers, watchmen, and charwomen as may be necessary for the proper and prompt performance of duties required by law.” The Act also states that “For the purposes of securing the statistics required by this section, the Director of the Census may appoint special agents when necessary. . . .” But the Act undercuts the autonomy of the Census Bureau by stating:

That all employees of the Census Office, at the date of the passage of this Act, except unskilled laborers, may be appointed by the Director of the Census *with approval of the head of the Department to which said Census Office is attached* [emphasis added] and when so appointed shall be and they are hereby placed, without further examination, under the provisions of the civil service Act approved January sixteenth, eighteen hundred and eighty-three. . . .

Title 13, United States Code (1954), which pertains to the Census Bureau, stipulates throughout that the Secretary of Commerce is the responsible official with authority for censuses and other data collections, including hiring, questionnaire content, and the like. The Secretary may but is not required to delegate these functions to the director of the Census Bureau. The Census

Bureau does have a memorandum of understanding (MOU) with the Department of Commerce respecting the autonomy of Census (and BEA) with regard to controlling release of statistics (see below).

The authorizing legislation of the **Bureau of Labor Statistics (BLS)** (Title 29, United States Code, Chapter 1) gives explicit control of aspects of data analysis and collection to the Secretary of Labor: “The Bureau of Labor Statistics, under the direction of the Secretary of Labor, shall collect, collate, and report at least once each year . . . statistics of the conditions of labor and the products and distribution of the products of the same . . . and said Secretary of Labor may collate, arrange, and publish such statistical information so obtained in such manner as to him may seem wise.” BLS autonomy over data management systems has been a persistent challenge over the past decade but, for now, remains intact, albeit not in statute. As noted in a September 2021 report by the Department of Labor Office of Inspector General, BLS has “been removed from any timeline of planned agency transitions” to the Department of Labor’s IT Shared Services (U.S. Department of Labor Office of Inspector General 2021).

The authorizing legislation for the **National Center for Education Statistics** (Part C of the Education Sciences Reform Act of 2002, Pub. L. 107-279) has language pertaining to aspects of contracting, data collection, and publication:

- In carrying out the duties under this part, the Statistics Commissioner may award grants, enter into contracts and cooperative agreements, and provide technical assistance.
- The Statistics Commissioner may—
 - (A) enter into interagency agreements for the collection of statistics;
 - (B) arrange with any agency, organization, or institution for the collection of statistics; and
 - (C) assign employees of the Statistics Center to any such agency, organization, or institution to assist in such collection.
- The Statistics Center may furnish transcripts or copies of tables and other statistical records and make special statistical compilations and surveys for State and local officials, public and private organizations, and individuals.

This language permits the NCES commissioner to take certain actions; however, it does not protect the autonomy of NCES over contracting, data collection, and publication. This can be most clearly seen by contrasting the strength of the language with the statutory protections for the other agencies. For example, the authorizing legislation for BJS notes the director of BJS “shall have final authority for all grants” while the language above states that the NCES commissioner “may award grants.” For this reason we do not include a column for NCES in Table 2.

Neither the authorizing legislation for the **National Center for Science and Engineering Statistics (NCSES)** (Section 505 of the America COMPETES Reauthorization Act of 2010, Pub. L. 111-358) nor for the **National Center for Health Statistics** (Section 305 of the Health Services Research, Health Statistics, and Medical Libraries Act of 1974, Pub. L. 93-353) includes

autonomy protections. As we will discuss further later, the remaining agencies lack enabling legislation that establishes the agency or stipulates its responsibilities and operations.

3.2.2 Other types of protections

In addition to statutes, there are other types of protections for autonomy. Statistical agencies may have MOUs or other internal documents establishing agreements regarding autonomy provisions with their host department or host independent agency. Such documents are not legally binding but can facilitate constructive engagement and respect for a statistical agency's autonomy, particularly when dealing with new personnel in the host agency. For example, many autonomy protections for the IRS Statistics of Income (SOI) Division rely on documents internal to the IRS, as well as Treasury memoranda or MOUs between the Treasury and IRS. NCSES has memoranda with the National Science Foundation (NSF) designed to protect its autonomy. One memorandum affirms NCSES's status as a federal statistical agency and recognizes the fundamental need to support the quality and objectivity of statistical information that NCSES produces. A second NSF memorandum specifically addresses the clearance, release, and dissemination of NCSES products, and acknowledges NCSES's sole responsibility for the content and quality of its products and a high degree of autonomy in their dissemination.

The US Department of Commerce has a Department Administrative Order (Office of the Secretary, U.S. Department of Commerce 2012) regarding implementation of OMB Statistical Policy Directives Nos. 3 and 4 for both the Bureau of Economic Analysis (BEA) and the US Census Bureau. Its provisions are most relevant to the publication autonomy measure, stating "unless otherwise specified in statute, the statistical agencies are directly and solely responsible for the content, quality, and dissemination of their statistical products;" and "Executive policy officials may review the draft statistical press release of statistical products prior to its release only to ensure that it does not include pronouncements that link policy issues to the statistical products."

Some of these memoranda refer to, and draw significant support from, documents such as OMB Statistical Policy Directives and NAS's *Principles and Practices*. In addition, both the OMB and NAS sources are referenced publicly by agencies. On its website, BEA outlines guidelines and practices to ensure data integrity and quality, including reference to OMB Statistical Policy Directives Nos. 1, 3, and 4 (Bureau of Economic Analysis 2018). ERS references the Statistical Policy Directives on its website (Economic Research Service 2021). In a Departmental Directive, the U.S. Department of Agriculture (2017) notes that "ERS's data collection, research, and dissemination activities are guided by *Principles and Practices for a Federal Statistical Agency*." The document also discusses ERS's practices regarding publications; for example:

- The ERS Administrator shall provide final approval for release of all ERS publications...
- The ERS Publications Control Officer shall be responsible for oversight of the publication process so that ERS complies with all USDA expectations regarding publications. To that end, the Publications Control Officer shall ensure that...

(2) Other USDA agencies have an opportunity to review ERS research report language that is closely related to the work, programs, or policies of the other agency in order to avoid misrepresentation or misunderstandings regarding their programs. . . .

(6) After a manuscript has been cleared for publication, but before it is released, ERS provides embargoed copies of reports to senior officials in relevant USDA agencies for information purposes only, to provide recipients the opportunity to request a briefing on the report's findings;

Beyond the Statistical Policy Directives already mentioned, the CSOTUS in OMB provides considerable protection of agency autonomy, not only through reviewing legislation, budget proposals, regulations, and policies that may affect one or more statistical agencies, but also through queries, requests, and meetings. Through our research, for example, we learned of one agency with an autonomy MOU in place as a result of a query from the office of the CSOTUS. CSOTUS engagement can also occur upon the request of a federal statistical agency. Former leaders we consulted for this project noted the effectiveness of this approach because no department likes to hear concerns expressed by OMB. The CSOTUS is also proactive to make new host-agency officials aware of the protections, needs, and roles of any statistical agency under them and OMB regulations governing their activities. Nevertheless, the effectiveness of CSOTUS is significantly hampered by its small number of staff. The SCOTUS office has a small staff of permanent employees that in recent years has ranged from 4-6 people to cover oversight of 13 principal federal statistical agencies and nearly one hundred statistical offices and their myriad responsibilities that were expanded in the Evidence Act. This small staff also is required to help with other duties of the office regarding analyses of proposed federal regulations. Several decades ago, the staff of the office was closer to 75 people, but the staff complement was successively cut down in various cost-saving initiatives to reduce the size of the White House staff.

The Committee on National Statistics (CNSTAT) at the National Academies of Sciences, Engineering, and Medicine also does outreach to new host-agency officials, which is reinforced with a new edition of *Principles and Practices* every 4 years for release at the beginning of a new administration or second term.

Presidential executive orders, memoranda, and reports are also important elements of the structural framework supporting the autonomy and credibility of federal statistical agencies. For example, in its report *Protecting the Integrity of Government Science*, the Office of Science and Technology (2022) states, "Federal statistical agencies, such as the Census Bureau, must protect against interference in their efforts to create and release data that provide a set of common facts to inform policymakers, researchers, and the public."

The action of a federal statistical agency to engage OMB on autonomy issues is part of a broader theme of the paramount role that senior agency leadership plays in ensuring that the agency's autonomy is respected and that its data are perceived to be objective and accurate. Whether that leadership has statutory, MOU, or CSOTUS-issued protections, using such protections requires action and often persistence by the agency leadership. At least a few of

the former agency leaders authoring this paper described the efforts to ensure objective products as an ongoing discussion and even a constant battle.

While not strictly an autonomy protection, procedures and practices promoting transparency, a necessary condition for the ultimate goal of government statistics to be trusted that autonomy protections are meant to support, are an important complement. Following OMB guidance issued in 2002 pursuant to Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (known as the “Information Quality Act”),⁸ statistical agencies have documented their guidelines and practices to ensure objective, reliable data on web pages with titles such as “Ensuring Data Integrity & Quality at BEA” (Bureau of Economic Analysis 2018), “Information Quality and Transparency” (National Center for Science and Engineering Statistics 2022), and “Bureau of Labor Statistics Data Integrity Guidelines” (U.S. Bureau of Labor Statistics 2016), often referencing *Principles and Practices* (for example, see Bureau of Justice Statistics 2021).

Complete transparency through documentation, webinars, and other means with respect to source data, statistical methods, and assumptions that support reproducibility by outside analysts can be a powerful check on any attempts to politicize or manipulate the numbers. BEA, for example, uses such policies and procedures with respect to transparency; any GDP estimates that cannot be reproduced by the legions of Wall Street and other economists will be fully vetted and, if wrong, corrected. For a further discussion on transparency, see National Academies of Sciences, Engineering, and Medicine (2022).

Other procedures that promote trust and integrity include:

- Publishing and adhering to year-ahead detailed release schedules that prevent attempts to “time” the release of “good” or “bad” news (OMB Statistical Policy Directives Nos. 3 and 4 prescribe this procedure for principal economic indicators and other statistical releases, respectively).
- Strictly limiting pre-release access and review of statistical estimates outside of the statistical unit to avoid actual or perceived manipulation of estimates or the characterization (spin) of the estimates and to prevent pre-release access of market sensitive information (OMB Statistical Policy Directive No. 3 prescribes such procedures for principal economic indicators).

⁸ As directed by Public Law 106-554, OMB issued guidelines directing federal agencies to (A) “Issue their own information quality guidelines ensuring and maximizing the quality, objectivity, utility, and integrity of information, including statistical information, disseminated by the agency...”; (B) “establish administrative mechanisms allowing affected persons to seek and obtain correction of information maintained and disseminated by the agency that does not comply with these OMB guidelines;” and (C) Report to the Director of OMB the number and nature of complaints received by the agency regarding agency compliance with these OMB guidelines concerning the quality, objectivity, utility, and integrity of information and how such complaints were resolved.” (Office of Management and Budget 2022)

- Careful editing, review, and protection of micro data to ensure accuracy and protect confidentiality.⁹
- Strict systems security to ensure that there is no external access, data manipulation or hacking, or disclosure of sensitive data.
- Regular review and vetting by agency advisory committees and other expert panels of new and updated source data and methods.

The procedures discussed here can be a powerful complement to strengthened management controls to foster autonomy. As noted above and in Section 2.2, complete control over budgets and other of the six autonomy measures is difficult, and it is important to understand the limits of “control” for each measure. Where control over these autonomy measures is a problem, many of the procedures outlined above can provide a backstop against manipulation by ensuring that an agency’s estimates have been produced using standard data sources and methods and reasonable assumptions, and that the end results are objective and reproducible.

IV. DISCUSSION

In this section, we use the six autonomy measures defined in the previous section to study the challenges faced by the 13 federal statistical agencies and determine whether additional protections would mitigate those challenges. First, we discuss the wide variation in autonomy protections across the principal federal statistical agencies beyond those provided in the Evidence Act’s reauthorization of CIPSEA and codification of Statistical Policy Directive No. 1. Then, we discuss how many recent notable challenges faced by statistical agencies are rooted in their lack of autonomy and, finally, how autonomy protections are weakened by lack of clarity and enforcement.

4.1 Nine federal statistical agencies lack agency-specific autonomy protections

We have identified only four statistical agencies that have any degree of agency-specific statutory autonomy protection, and no more than three of the autonomy measures are “STRONG” for any one agency. Other agencies have only MOUs and similar informal documents. Perhaps most striking is that these deficiencies leave agencies that produce many principal federal economic indicators vulnerable. As noted earlier, most statistical agencies document their practices to ensure objective, reliable data on their websites. Such descriptions can easily be changed, however. Despite the lack of statutory autonomy protections, we emphasize we identify no currently biased data being produced by the principal federal statistical agencies or imminent threats thereof. But the risk of such a violation of principles is ever present.

⁹An example of purposely misreported and inaccurate data was the London Interbank Offered Rate (LIBOR) scandal of 2012. A number of leading financial institutions colluded in their reporting of data in order to manipulate the LIBOR rate, a benchmark rate often used in financial loans and contracts.

The vital role of federal statistical agency leadership to stand up for the integrity and impartiality of their data is another strong theme emerging from our review, as is the critical role of the CSOTUS. Any protections in place are for naught without an agency head's willingness to use them. We have observed that statistical agency leadership and CSOTUS constantly strive to make up for the lack of statutory autonomy protections to the extent possible. Departmental Offices of Inspectors General and of General Counsel may also be helpful if problematic situations are referred to them. Erica Groshen, Commissioner of BLS from 2013 to 2017, in discussing the statutory and other types of protections discussed above (and illustrated in Figure 1), provided the analogy of the statute being bone and the other protections being muscles enveloping the bone: Strong muscles, fully engaged, compensate for weak bones and, to push the analogy, even the lack of bones.

These findings beg the question of whether stronger statutory autonomy protections, and associated practices that support autonomy and integrity, for the federal statistical agencies, could have prevented the situations described in the background section above. To investigate this question, we revisit some of the challenges facing federal statistical agencies, described in Section 2.1. We find that in each case, the federal statistical agency in question had a "WEAK" or no autonomy protection rating in the relevant category of Table 2. We use these ratings to facilitate our discussion of how stronger autonomy protections would have been helpful.

4.2 Lack of agency-specific autonomy protections underlies many of the challenges statistical agencies face

Decennial Census In 2019 and 2020, many Census stakeholders were concerned¹⁰ by the Trump Administration's three additional political appointments made at the Census Bureau leading up to and during the data collection for the 2020 Census. (Recall we found the Census Bureau rated WEAK according to Autonomy Measure 4: Staffing.) Hiring and staffing-level autonomy likely would have provided leverage to address the situation for a director concerned about such appointments.¹¹ There were also concerns about the Trump Administration's efforts to have the Census Bureau follow the statutory dates for releasing the apportionment and redistricting data from the 2020 Census, despite the many pandemic-related and other uncontrollable delays and hurdles in the data collection. Ultimately, the professional staff of the US Census Bureau were able to withstand those pressures, but they likely would have been aided in their efforts by statutory protections giving the agency control over data collection and analysis and over publications. These attempts and others are listed in a memo from the acting director that was released recently (Wines 2022). Note also that during much of this time, the post of CSOTUS was vacant, potentially heightening vulnerability.

¹⁰See for example, statements from the Board of Directors for the American Statistical Association (2020) and those referenced therein.

¹¹The Presidential Appointment Efficiency and Streamlining Act of 2011, Pub. L. 112-166, provided that the Census Bureau director would have a 5-year term and could be reappointed once, for terms beginning in years 2 and 7 of a decade. This provision helps protect the director except that the President may remove the director. The President is required to provide reasons for removal to the Congress at least 60 days before removal.

In the case of the Trump Administration's efforts to add a citizenship question to the 2020 Census, the situation is more complicated, in part because of the administration's and Congress' legitimate roles in determining the questions to be asked in the decennial census. As mentioned earlier and as Nancy Potok, CSOTUS from 2017 to 2020, noted publicly at the time and again recently (Potok et al. 2022), the power to ensure the quality of federal questionnaires, as required by the Paperwork Reduction Act (PRA), ultimately lies with the OMB director and other positions above the CSOTUS. Further, Title 13 specifies the Secretary of Commerce rather than the Director of the US Census Bureau for its various authorities. (Recall we found the Census Bureau has no individual autonomy protections according to Autonomy Measure 1: Data Collection and Analysis.) Although amending Title 13 so that the Census Bureau has statutory autonomy protections might strengthen the Census Bureau's position—i.e., in the case of a decision about obtaining citizenship information through the census or other means—it is not clear to what extent the situation would have been resolved sooner. Congress and the Administration would need to reconsider whether they indeed want the Census Bureau Director empowered with such say over the decennial census rather than the Secretary of Commerce. Similarly, Congress and the Administration would need to reconsider the role and power of the CSOTUS in the PRA. We note that the U.S. House of Representatives passed the Ensure a Fair and Accurate Census Act on September 15, 2022. The Act, which faces an uncertain future in the Senate, contains several enhanced autonomy protections for the Census Bureau, including protection of the independence of the director and deputy director (Wang 2022).

NCES Program Cuts Were NCES to have statutory autonomy protections, such as control over both staffing and contracting, the agency might have been able to avert some of its program cuts. While stagnant budgets for the statistics line contributed to the cuts, lack of staff was also a major contributing factor. The NCES staffing level is controlled by the IES director such that even if NCES gets a budget increase, it cannot increase its staff size. IES control over NCES staffing is such that IES can eliminate any NCES position except that of the commissioner, which is established in statute. To compensate for limited staffing, NCES contracts work to other agencies and outside entities. As a result, it has the largest budget to staff ratio for the 13 principal statistical agencies by far, roughly nine times the median (Woodworth et al. 2021). With autonomy over its staffing level, NCES could have devoted more of its resources to staff hires than external contractors, in which case the agency would have had sufficient staff to maintain some of the pared-back or terminated programs. With support in a Covid-19 government relief package,

Staffing and contracting constraints also impaired the ability of NCES to be as nimble as other agencies in providing more timely and frequent data to monitor the dramatic and dynamic effects of the pandemic. The US Census Bureau, for example, in collaboration with several other agencies, launched the Household Pulse Survey (HPS) in May of 2020, an impressive feat that required the ability to shift resources and the support of the other agencies involved and OMB. NCES on the other hand, while providing questions to the HPS, had little flexibility to shift resources to analyzing the responses to the education questions on the HPS let alone launch its own products to inform policymakers, administrators, teachers, and parents of the dramatic

effects of the pandemic on teaching. (Recall we found that NCES has no individual autonomy protections according to Autonomy Measure 4: Staffing, Autonomy Measure 5: Budget, or Autonomy Measure 6: Contracting, while the Census Bureau has some individual autonomy protections according to Autonomy Measure 4: Staffing.) The Commissioner at the time, Lynn Woodworth, cited many factors, including the low number of FTE staff and the bureaucracy involved with altering contracts in place. NCES was ultimately able to establish a school-level pulse collection, but not until well into 2021.

BJS Publication Delays While unlikely to have been prevented by statutory autonomy protections, the delays in BJS publications may be related to the manner of appointment of the head of the agency, another issue discussed in *Principles and Practices*. In 2012, Senate confirmation for the head of BJS (and NCES) was removed while keeping the Presidential appointment. While beyond the scope of this paper, the nature of the agency head appointment, and changes to it, may be part of another category of measures to assess when looking at the broader health of federal statistical agencies and appropriate Congressional oversight of this important role (see Section V). (We also note that we found that BJS has no individual autonomy protections according to Autonomy Measure 3: Publication.)

BLS and BJS For the more historical examples of BLS and BJS cited in the introduction—the Nixon administration’s reprisals against the BLS staff and the efforts in the 2000s by political appointees in the Justice Department to alter a Bureau of Justice Statistics press release – it seems likely that each agency, had they had statutory autonomy for publications would have been helped in navigating the pressures they experienced. (Recall we found that BLS and BJS have no individual autonomy protections according to Autonomy Measure 4: Staffing.)

ERS Relocation USDA’s announcement of the relocation of the ERS in 2018 to a location to be determined was marked by its abruptness, speed, and lack of consultation with Congress and stakeholders. The announcement was preceded by the transfer of the administrator at the time to another USDA agency, thereby removing the important frontline protection of agency leadership discussed above. As USDA did not follow its own departmental regulation, Organization Planning, Review, and Approval (DR-1010, U.S. Department of Agriculture 2018), for the relocation, which includes a provision for Congressional approval, the action epitomizes the ineffectiveness of internal agency agreements when officials in charge seem not to be acting in good faith for the mission of a statistical agency. It is not clear that any autonomy protections in statute for ERS would have prevented the ERS relocation. A CSOTUS with more power to review proposed actions by departments that could affect statistical agency independence and performance, however, may have been able to lessen the impacts to ERS’s workforce. (Recall we found that ERS has no individual autonomy protections. Further, as discussed in Section 5, it also lacks enabling legislation.)

4.3 Existing autonomy guidelines are weakened by unclear or unactionable language, as well as other factors

An open question is the extent to which the Evidence Act's codification of Statistical Policy Directive No. 1 provides protection of the first four autonomy measures discussed herein. The Act has not yet been tested in court, so we leave it to legal experts to comment on the force of report language of one chamber of Congress saying an OMB policy directive is codified. We also know of little experience thus far of statistical agencies testing its strength with host agencies. But the experience we do have suggests additional protections are still necessary. For example, Lynn Woodworth, former Commissioner of NCES, attempted to be the decision maker for his agency by citing the following language from Statistical Policy Directive No. 1 to his host agency: "Thus, when a statute authorizes an external agency to make determinations that this Directive assigns as the proper responsibility of a Federal statistical agency, the authorized agency should delegate those determinations to the Federal statistical agency." The request was denied with the rationale amounting to the language saying "should," not "shall". Further, Katherine Smith Evans, former ERS administrator, commented in private correspondence in 2021, "the directive lacks specificity for how to realize the autonomies discussed and a statistical policy directive can be reversed by an administration without congressional input."

The Evidence Act has also presented challenges for a statistical agency's autonomy and operations through its creation of a chief data officer (CDO), an evaluation officer, and a statistical official, which is the head of a principal statistical agency when the host agency includes such an official. The Evidence Act clearly delegates the CDO's responsibilities to the Statistical Officer when it comes to managing and handling statistical data (see section 3520 of the Evidence Act). However, implementation of this delegation varies considerably by agency, adding to the uneven exercise of autonomy for the statistical agencies.

Besides the fact that stronger autonomy protections may not have prevented or alleviated some of the situations discussed here, there is also the point that statutory protections rely on the agency leadership or CSOTUS to employ them. In short, as former CSOTUS Hermann Habermann noted to us, such autonomy statutory protections are a necessary but not sufficient condition to ensure objective, professional operations of a statistical agency. The vital role of the statistical agency leadership in autonomy protection has already been cited, but that also has its practical limits with agency heads referring to going to the inspector general or otherwise taking on an administration as "going nuke" or "napalming."¹² In short, improper political influence could still be possible with full statutory protections for the six autonomy measures we describe along with enhanced other types of protections. This reality does not, however, undermine the case to be made for putting the autonomy protections in statute and enhancing the other types of protections. In addition, it would be prudent to put in place transparency measures to ensure that improper political or other interference is made public. This suggestion echoes a point made by Habermann and Louis (2020):

¹²Confidential communications.

There is no easy solution to the struggle between statisticians asserting professional independence and politicians who see their authority as having primacy. But, transparency of the decision process and publicizing the views of professional statisticians are important safeguards.

Because autonomy protections in statute alone may not be sufficient to protect against undue political interference, it is important to consider ways in which the non-statutory types of protections discussed in Section III could be strengthened. Indeed, Habermann, Wallman, and Potok (2022a) discuss the need to strengthen the CSOTUS position in a recent article, emphasizing the importance of the CSOTUS having a seat at the table where OMB decisions are made. They discuss options in that publication and have suggested a discussion of such issues to the director of OMB (Habermann, Wallman, and Potok 2022b). Separately, in noting her experience as CSOTUS with the citizenship question deliberations and lack of authority for the CSOTUS, Potok strongly recommended strengthening the authority of the chief statistician (Potok et al. 2022). Based on the results of our analysis, we conclude the CSOTUS position should be strengthened. In the interests of space, we refer readers to the strong cases made in the references cited in this paragraph for elaboration on the rationale and details.

In considering the importance of autonomy protections in statute or lack thereof, context such as the nature of the host agency and the profile of a statistical agency's products may be useful. For example, it seems especially important that statistical agencies that produce principal federal economic indicators (i.e., BEA, BLS, Census, NASS, and EIA) and other agencies whose products influence economic markets have strong autonomy protections to avoid improper outside influence upon them. Similarly, statistical agencies in host agencies that have regulatory, enforcement, or compliance functions would benefit from autonomy protection over their data management and protection systems. As the IRS Statistics of Income Division argued for example in 2009, any perception that SOI data were accessible by IRS tax compliance could undermine trust in SOI's capability to protect respondents' privacy (for example, see Pierson 2010).

Being hosted in a scientifically oriented agency with analytic and computing needs congruent with the statistical agency may lessen the need for more autonomy protections relative to control over IT resources. For example, Charles Rothwell, NCHS Director from 2013 through 2018, expressed no concern over CDC absorption of his agency's data management and protection systems, citing CDC's acceptance and support of NCHS data privacy requirements and its ability to acquire system resources beyond the capabilities of NCHS. He also noted that the move actually benefited NCHS because it freed up funding for other uses during periods of critical budget shortfalls.

The size of an agency is also a consideration for implementing autonomy protections. BTS, for example, with an FTE staff size of approximately 60, lacks the capacity to have in-house contracting expertise, a prerequisite for full contracting autonomy.

We return here to another autonomy protection mentioned by footnote in Section III but not included as one of the six measures—namely, an agency’s ability to name members to its advisory committee without the approval of the host agency or even to stand up an advisory committee of its own. This action is important for the same two reasons the budget and contracting measures were included above. Specifically, an agency’s lack of control over this process provides a lever to the host agency to exert improper influence on an agency’s statistical activities. Host-agency approval can also significantly delay appointments to the advisory committee. Such delays have been known to prevent a committee from meeting for months or years at a time. Implementation of this autonomy protection should include requirements to ensure a balanced perspective on the advisory committee. As noted in *Principles and Practices*, advisory committees are an important tool for an agency to obtain the views of outside data users and data providers. The perspective of a critic may be especially important for a statistical agency. A possible requirement here is approval of the Chief Statistician’s office, though that office has limited staff and is already significantly taxed.

Another autonomy protection that should be explored could be called “brand” autonomy and is motivated by “perceived if not actual meddling with” the CDC data, which along with highly publicized attacks on the data, undermined “public trust in treatments and vaccines.”¹³ (American Economic Association 2021, p. 2) With NCHS being a small center within the much-better known CDC, its products are often referred to as CDC statistics. Indeed, anyone going to the NCHS website, where COVID data are featured at the top of the home page, would likely conclude that CDC and NCHS are one. Without brand autonomy, NCHS potentially suffers in three ways. First, the credibility and trustworthiness of NCHS products could be clouded by CDC data quality issues or political pressure on CDC. One of us (Pierson) experienced this as recently as April 2022 with a congressional staffer while advocating for NCHS. Second, NCHS may suffer from lack of name recognition when asking potential respondents to participate in a survey or during congressional budget deliberations. Third, respondents may be reluctant to participate in NCHS surveys because of the CDC connection. Indeed, in September 2022, a lead NCHS researcher attributed association with the CDC as a reason for decreased response rate in the case of its National Health and Nutrition Examination Survey (NHANES). We acknowledge the CDC connection may have helped response rates for NHANES and other NCHS surveys in years past.¹⁴ NCES also has brand autonomy issues with the branding efforts of its umbrella organization, the Institute of Education Sciences (IES). NCES no longer has its own logo and “IES” is prominently displayed on all NCES webpages.

The NCHS and NCES branding problems could be addressed by clearly distinguishing their data products from those of their umbrella organization and by bolstering education efforts around

¹³ The Trump Administration reportedly interfered with CDC’s communication of information on the risks and spread of COVID by bypassing agency review procedures, editing CDC communications, limiting CDC briefings, changing testing procedures, taking over CDC collections of COVID data reported by hospitals, and ordering professional staff to destroy any email evidence of White House interference (for example, see Armour 2020; Banco 2021; Gumbrecht and Small 2021).

¹⁴ This was relayed in a presentation at the Council of Professional Associations on Federal Statistics September 2022 quarterly meeting (COPAFS 2022).

the professional autonomy (independence) of the federal statistical system and what that independence means. The editors of Bloomberg News recently recommended a prominent CDC product be made part of the federal statistical system to “guard against political meddling” stating such “a designation should guarantee its independence and protect it from further interference.” (The Editors | Bloomberg 2022) Without taking a position on the specific recommendation, we note both the recognition of and confidence in the independence of the federal statistical agencies, even if that is not as strong as the Bloomberg editors believe. However, while making NCHS responsible for the product would likely better protect it from improper meddling, it would likely fall short of achieving public trust without also strengthening NCHS brand autonomy.

V. CONCLUSION

In this paper, we assess the autonomy of the 13 principal U.S. federal statistical agencies. We propose six measures that capture the nuance of autonomy. We then use the measures to evaluate the type and degree of autonomy protection in place for each agency. Our assessment yields three main findings:

1. Challenges to the objectivity, credibility, and utility of federal statistics arise largely as a consequence of insufficient autonomy.
2. There is remarkable variation in autonomy protections and a surprising lack of statutory protections for many agencies for many of the proposed measures. Only four statistical agencies have agency-specific autonomy protections. The remaining nine agencies are protected in varying degrees by blanket provisions, memoranda of understanding (MOU's), or other defenses.
3. Many existing autonomy rules and guidelines are weakened by unclear or unactionable language.

We emphasize that many of the authors, though seasoned professionals with considerable experience working in the federal statistical system, found the general lack of statutory protection surprising. From our review, it is clear that federal statistical agencies are unduly exposed to efforts to undermine the objectivity of their product, and this exposure is much greater than currently appreciated. Immediate action is necessary. Policymakers must bolster statutory protections to ensure that data collection and reporting operations are chosen to achieve legitimate policy goals and not for political gain.

A call for immediate action from the authors of this paper is not surprising. Many of us, if not all, are long-time advocates of strengthening federal statistical agencies. We are united by our belief that reliable, trusted federal statistics are essential for supporting informed public and private decisions and ensuring a vibrant democratic and equitable future. But strengthening autonomy protections is the purview of Congress, the Administration, and the cognizant parent departments and agencies. We are deeply concerned that some of these decision makers may have too little information to act on or too little incentive to strengthen these protections.

We believe the findings of this assessment provide the additional information and urgency necessary for immediate action. To encourage immediate action, we end this section by translating our findings into explicit recommendations. In particular, the first two recommendations call for strengthening the role of the Chief Statistician of the United States (CSOTUS) within the Office of Management and Budget (OMB), including but not exclusive to adding staff to carry out the position's current responsibilities. This change could be implemented relatively quickly, and it would help patch the gaps in autonomy that we identify in our assessment. The last recommendation seeks agency-specific legislation, a longer term but necessary solution.

Our first recommendation is similar to two (of three) priorities for the Biden-Harris Administration proposed by the American Economic Association (AEA) Economic Statistics Committee (2021):

1. *The Executive Branch, with legislative support from Congress, must act to prevent politicization of federal statistics. This is essential in strengthening the public trust that will be needed to help halt or reverse alarming reductions in survey participation and restore confidence in the accuracy of federal statistics...*
 - a. *Congress collaborating with the White House Office of Management (OMB) must enact legislation that puts into law what is now a collection of OMB Statistical Directives, and the recommendations embodied in "Principles and Practices for a Federal Statistical Agency," issued by the U.S. National Academies of Science[s]...*
2. *The White House/Office of Management and Budget must elevate the role and stature of the Chief Statistician of the United States, to empower him or her to lead and champion a strong federal statistical system.*

As the AEA Committee noted, these directives and practices had been followed for decades, but were always vulnerable to Presidential elimination. The Foundations for Evidence-Based Policymaking Act of 2018 took an important step forward by codifying some core components of OMB Statistical Policy Directive No. 1. However, the complete set of principles and practices is not laid out in the Act or elsewhere in law. One particularly significant omission is the principle of autonomy and independence from political or other undue political independence, including necessary authority to protect independence.

Therefore, based on our review of autonomy and recent threats to autonomy, we agree with the AEA Economic Statistics Committee recommendations, including the recommendation to elevate the role and stature of the CSOTUS, and make recommendations on codifying a complete set of autonomy protections as follows:

Recommendation 1. We recommend that a strengthened OMB Chief Statistician establish a blue-ribbon panel to review existing protections, procedures, and recourse or enforcement options to guard the professional independence or autonomy of federal statistical agencies. This group would be tasked with proposing an integrated,

coherent set of protection measures, including existing, enhanced, and new protections, that could be encoded in a new statistical law.

Our assessment also indicates it is crucial to periodically review and share information about autonomy protections, and their role in shaping the challenges agencies face. Identifying gaps or deficiencies will help build a case for strengthened protection. In addition to mitigating improper outside influence, strengthened autonomy protections could also facilitate faster and smoother resolution of autonomy disagreements between statistical agencies and their host agencies, which we find are exacerbated by unclear and unactionable language.

Autonomy of course is only one category of challenges the agencies face. The review in Recommendation 1 therefore could be broadened to study the extent to which statistical agencies have the resources to fulfill their missions effectively and efficiently. Such a broadened assessment of resources and autonomy for statistical agencies would address a wide range of issues beyond those covered in our paper. For example, it might examine the adequacy of host-agency support, budget, and staffing (both numbers and skill sets), the ability to communicate directly to Congress, whether the agency has an advisory committee, the number of bureaucratic layers between the statistical agency and the host agency head, or the transparency of the statistics production process and of host-agency decisions made regarding the statistical agency. It could also examine whether and how well statistical agencies are using their resources and professional autonomy to meet the data needs of the nation in terms of content, geographic and demographic detail, frequency, timeliness, and accuracy, and whether agencies are using best methods for collecting, processing, documenting, analyzing, and disseminating their data. The study would be particularly helpful if it were updated periodically.

We argue this assessment would be similar in scope to the civil engineers' quadrennial assessment of the nation's transportation infrastructure spotlighting the needs of roads, bridges, and other physical infrastructure (American Society of Civil Engineers 2022). We are particularly fond of this analogy, as it highlights the crucial function of federal statistical agencies as the backbone of the US data infrastructure. Indeed, federal statistical agencies are charged with providing objective, accurate, and relevant information to support our nation's governance, economy, and society. In this way, the recommended assessments of federal statistical agencies would be valuable for identifying weaknesses or vulnerabilities in the US data infrastructure to be addressed before they become critical. But in order to act appropriately on the assessment results, the CSOTUS would need to be elevated within OMB. It would need additional staffing for tracking and responding to the findings and recommendations from periodic assessments. In addition, the identification and justification of categories of assessment, the criteria for each, and the development of guidance to rate each agency for each measure would require the input of experts on the statistical system and the individual agencies.

Recommendation 2. We recommend that a strengthened OMB Chief Statistician commission independent and periodic assessments of the health of the federal statistical system. Such assessments should include a broader examination of

statistical agency resources and autonomy and a companion assessment of how well agencies are satisfying relevant data needs for the public good and using best methods to do so.

Our final recommendation is to protect the principal federal statistical agencies through agency-specific legislation. However, this recommendation is complicated by the fact that—while many of the principal federal statistical agencies do not have agency-specific autonomy protections in statute—several agencies (SOI, NASS, BEA, ORES, and ERS) lack even basic enabling legislation that establishes the agency or stipulates its responsibilities and operations. Indeed, the predecessor of SOI was created in response to the Revenue Act of 1916, which simply requires the publication of statistics related to the operation of the income tax law. NASS was created in response to various statutes requiring the Secretary of Agriculture to collect and publish statistics, according to its webpage Regulations Guiding NASS (National Agricultural Statistics Service 2021), even though the collection of statistics is an original responsibility in the 1862 founding legislation for the USDA (National Agricultural Library n.d.). Only specific data from four BEA programs—the national, regional, industry, and international accounts—have statutory authority or authorization (Bureau of Economic Analysis 2020). The websites for ORES and ERS do not list statutory authorization for the agency or their collections, and we cannot identify any. Lack of enabling legislation is a vulnerability because an agency could be dismantled and required data collection and publication programs continued in some fashion in a department but without adequate protections for objectivity. It follows that autonomy requires this basic protection, which we recommend additionally address each measure of autonomy mentioned in Section 3.

Recommendation 3. We recommend that legislation be enacted that (1) formally establishes principal federal statistical agency status for agencies currently lacking enabling legislation and (2) provides specific autonomy protections that address each measure of autonomy for all 13 principal federal statistical agencies, making it clear the protections supersede existing statutory precedent.

We believe these recommendations are a crucial first step for bolstering the professional autonomy of the federal statistical agencies—ensuring that federal statistical agencies achieve the correct balance between professional independence and accountability that originally motivated our assessment. We end our paper by asking whether this is in fact the correct balance, rephrasing a question raised by Habermann and Louis (2020) in their paper, “Can the fundamental principles of official statistics and the political process co-exist?” In other words, in making the case for greater federal statistical agency professional independence through stronger autonomy protections to ensure objective, reliable, and timely government statistics—are we confident the pendulum will not swing too far in the opposite direction? That is, are we respecting the political process that holds agencies accountable? A related question is whether legislating statutory protections for six measures of professional autonomy—or even the four mentioned in SPD#1 and the Evidence Act, as noted in Table 2—respects the rights and obligations of the host agencies.

We believe so. The Administration and Congress have many points of leverage, including review of data collection requests, budget approvals, oversight hearings, legislation, official and non-official communications, executive orders, appointments, regulations, policy directives, and public discourse. For the interests of policymakers and other data users to be represented in every part of the decision making process, federal statistical agencies must have advisory committees and other outreach channels for users to effectively communicate their needs to the agency, the broader Administration, and Congress. Our recommendations are aimed largely at reducing the asymmetry in leverage that allows political officials to circumvent the interests of data users (including policymakers) for political gain. We are confident that, should respect for the political process by statistical agencies or accountability start to wane, there are ample avenues for the Administration and Congress to take action. But at present, we believe the far greater risk is the increasing and hard-to-reverse erosion of trust in the objectivity of the federal statistical system. In an era of sustained and unchallenged political attacks, that trust needs the support of clear, consistent, and effective autonomy protections for statistical agencies.

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FIGURE 1. The positive-feedback cycle linking professional autonomy and data usage

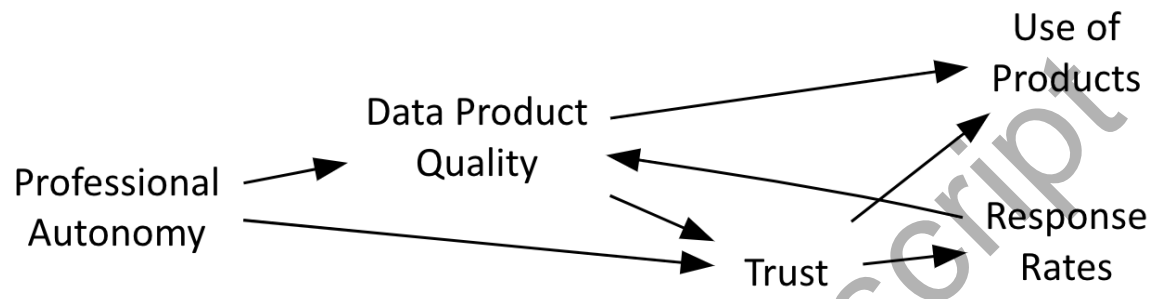


TABLE 1. Budget and Authorized Staff Levels, Principal Federal Statistical Agencies, FY2019-2020.

Agency	Budget \$M		Staff Size (authorized)	
	FY19	FY20	FY19	FY20
Bureau of Economic Analysis, Department of Commerce	\$101	\$108	489	501
Bureau of Justice Statistics, Department of Justice	43	43	55	49
Bureau of Labor Statistics, Department of Labor	615	628	1,989	1,989
Bureau of Transportation Statistics, Department of Transportation	26	26	55	60
U.S. Census Bureau, Department of Commerce	3,821	7,558	6,858	6,328
Energy Information Administration, Department of Energy	125	127	368	357
Economic Research Service, Department of Agriculture	87	85	321	158
National Agricultural Statistics Service, Department of Agriculture	175	180	1,033	1,033
National Center for Education Statistics, Department of Education	261	264	95	95
National Center for Health Statistics, Department of Health and Human Services	160	160	484	470
National Center for Science & Engineering Statistics, National Science Foundation	64	65	56	56
Office of Research, Evaluation, & Statistics, Social Security Administration	35	39	79	79
Statistics of Income Division, IRS, Department of the Treasury	36	35	135	139

Source: see Office of Management and Budget (2020) and Pierson (2021) for staff, and multiple sources for budgets. Note: See National Academies of Sciences, Engineering, and Medicine (2021, Appendix B), for a fuller picture of the complexity of the federal statistical system, which includes not only the principal agencies, the chief statistician's office, and the ICSP, but also recognized statistical units, other statistical programs, and statistical officials in every cabinet department.

TABLE 2. Autonomy Protections for Federal Statistical Agencies.

Autonomy Measure	Statistical Policy Directive No. 1/ Evidence Act Protections for All Agencies	Additional Statutory Protections for Specific Agencies			
		BTS	EIA	BJS	Census
(1) Data Collection & Analysis	YES	STRONG	STRONG		
(2) Systems	YES	INTER-MEDIATE			
(3) Publication	YES	STRONG	STRONG		
(4) Staffing	YES (HIRING); NO (STAFFING LEVELS)	WEAK (HIRING)	STRONG		WEAK
(5) Budget	NO	WEAK			
(6) Contracting	NO	WEAK		STRONG	

Note: See text for discussion of additional statutory protections for specific agencies. Empty cells represent measures for which we could find no specific protections.