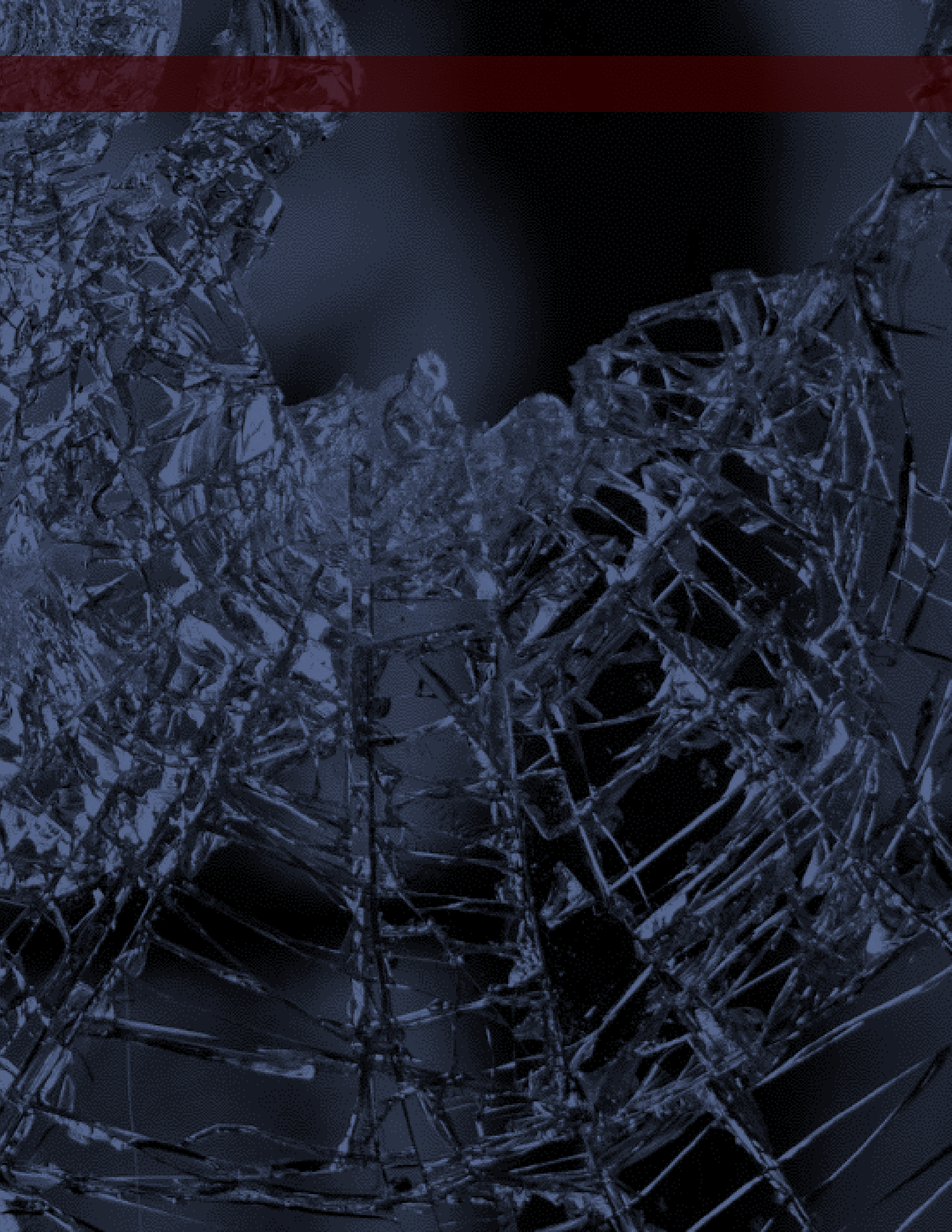




# **Are Declines in U.S. Federal Workforce Capabilities Putting Our Government at Risk of Failing?**

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## Executive Brief

Has the U.S. Federal Government reached a point where critical operations might fail in stressful events that are likely to occur? This was this project's animating question. **Based on the data collected in this study, it appears the answer to these critical questions is yes.**

A weakening in the capacity of the government's workforce and its organizational structures is plainly evident, and so is a perceptible loss of collective resilience to detect and respond to adverse events. To test this conclusion, this study considered workforce trends given several dozen potential scenarios, ranging between those that are virtually certain to occur in the next year to other scenarios that are highly plausible in the near term.

The U.S. Executive Branch has hardly grown in sixty years – there were 1.8 million civilian employees in 1960, and 2.1 million in 2017.<sup>1,2</sup> Yet over the same period the amount of money spent by the federal government has grown fivefold. To be sure, contracts and grants have filled part of the gap, but, still, both the amount and range of work required of the federal workforce has continued to go up, just as the scope and complexity of executive branch functions have also increased.<sup>2</sup> Government contractors, widely used to

plug the holes in our government, can only take up so much of the slack.

While the productivity of the United States and other nations around the world has increased since the 1960s, most of those productivity gains were related to manufacturing. In contrast, most of the roles of the U.S. Federal Government workforce associated with responding to emergent events, disruptions, and crises do not involve manufacturing – rather these roles involve complex sets of activities and discussions with multiple stakeholders. These actions typically span across several departments with the need to coordinate with local and state partners in ways that cannot be easily automated or streamlined in the same way that business pipelines can.

While some may think of digital technologies as solely increasing productivity, private sector firms and large organizations have not observed productivity gains similar to what has occurred in manufacturing resulting in what some have called the “productivity paradox”.<sup>3</sup> Digital technologies provide for improved individual capabilities, however they also add to the expectations of public service – including the expectation of 24/7 availability, an increasing volume of emails read and data sets to analyze, increased interruptions during the day through different modes of communication, and multiple demands for

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<sup>1</sup> “Executive Branch Civilian Employment since 1940,” U.S. Office of Personnel Management, 2014, <https://www.opm.gov/policy-data-oversight/data-analysis-documentation/federal-employment-reports/historical-tables/executive-branch-civilian-employment-since-1940/>

<sup>2</sup> Valdez, Bill, “Theory and Practice in Federal Government Executive Branch Leadership and

Administration,” in *The Handbook of Federal Government Leadership and Administration*, eds. Rosenbloom, Malone and Valdez, New York: Routledge, 2016.

<sup>3</sup> “Understanding The Productivity Paradox,” *NPR Special Series: Planet Money*, 2017. <https://www.npr.org/2017/06/02/531173429/understanding-the-productivity-paradox>

attention throughout the course of week or emergency response event. Technologies have created new risks, including cybersecurity and misinformation challenges. Future combinations of automation and artificial intelligence (AI) may displace jobs that had to be done by humans, though for emergency response and other complex actions, research so far shows that the technology lacks maturity.<sup>4</sup>

As researchers our intent is not to make a case for a larger U.S. Federal Government. What we are concerned with are the capabilities of our nation's public service to respond effectively to crises. This may be achieved by addressing concerns unrelated to size, including remedying decreasing morale, addressing the challenges created by increasing politicization on what should be non-partisan activities, and updating legacy processes to be more effective in the digital era. Additional solutions include improving the effectiveness of hiring mechanisms, addressing key vacancies that go unfilled, and remedying the risk of the next generation not finding public service to be an attractive career option.

Several examples underscore just how bad the problem is for the U.S. Federal Government workforce:

- Almost 20 percent of the government's top managers, members of the Senior

Executive Service (SES), departed in the first twelve months of the current administration, and numbers have not fully recovered. In December of 2016 there were 8,281 Senior Executives. 1,506 of those SES members left government during 2017. New additions made up ground, but in December of 2017 a deficit of 377 SES members remained compared to one year prior.<sup>5</sup>

- There are five-fold more Federal workers over 60 than under 30 years old — less than 6 percent of the federal workforce is under 30 years old.<sup>6</sup>
- The last major revision to the civil service rules for recruiting, hiring and retention of the Federal workforce was 40 years ago, a time that predates the Internet. Looking at these staffing dynamics across agencies, the prospects are even bleaker.

A comprehensive analysis of those dynamics, noting trends through time, coupled with workshops and interviews, reveals a set of highly disconcerting trends:

- Increasing work overload, with clear impact on both "readiness" and retaining talent.
- More toxic workplaces were reported especially, but by no means only for women.

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<sup>4</sup> "News Feature: What are the limits of deep learning?" *Proceedings of the National Academy of Sciences of the United States of America*, 2019.

<https://www.pnas.org/content/116/4/1074>

<sup>5</sup> "FedScope: Federal Human Resources Data," *U.S. Office of Personnel Management*, last modified May, 2018, <https://www.fedscope.opm.gov/>. FedScope data exclude Foreign Service Officers, Department of Defense uniformed branches, and Intelligence Community Data. Hence, Foreign Service Officer data

was gathered from the American Foreign Service Association as a supplement.

<sup>6</sup> "Full-Time Permanent Age Distribution," *U.S. Office of Personnel Management*, 2017, <https://www.opm.gov/policy-data-oversight/data-analysis-documentation/federal-employment-reports/reports-publications/full-time-permanent-age-distributions/>.

- Complaint channels or social media are now weaponized to “take out” an employee or group, resulting in a chilling workplace climate and constant anxiety about the potential of false allegations for executives striving to do their best with constrained resources in demanding circumstances.
- Distrust of permanent civil servants by new political appointees, always present but usually fleeting, has become endemic. Having served under the other political party too often is a reason to marginalize non-partisan Senior Executives.
- Lack of rewards for action and innovation, yet clear risk of penalties, leading to “analysis paralysis” lest a decision later be judged wrong or politics misconstrue well-intended actions.
- The increasing polarization of Congress is visible in any number of objective measures, resulting in dysfunctional deliberations and an inability to perform legislative functions.<sup>7,8</sup>
- An increasingly polarized polity, resulting in part from campaign financing changes, have made money more important in our politics.
- An increasing replacement of what was non-partisan Senior Executive roles with political appointees for at least the last half century.<sup>9</sup>
- The ever-present stress of major cyber threats, combined with new hybrid threats including misinformation, disinformation and other concerns, with the potential to disable substantial parts of government and discredit public processes: witness the recent ransomware attack on the City of Atlanta in 2018.

Six critical themes run through our study:

- All three branches of the U.S. Federal Government have failed to keep up with a rapidly changing world, opening enormous vulnerabilities and attack surfaces.
- Many private sector positions are vastly better remunerated and often more stable relative to public service, particularly at the senior most ranks of the civil service.

The study’s findings point toward the more extreme plausible explanations for current trends and their future implications. Perhaps U.S. Federal Government civil servants are the canaries in the mines of the Nation, telling us that the air is growing dangerously foul. Perhaps not just the capacity of the U.S. Federal Government to respond to domestic and foreign crises is at risk, but

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<sup>7</sup> Kuzoian, Alex, “This 60-second animation shows how divided Congress has become over the last 60 years,” *Business Insider*, 2016.  
<https://www.youtube.com/watch?v=tEczkhfLwqM> with original research from Andris et al., 2015 (see full bibliography).

<sup>8</sup> Wolf, Ryan, “Is America More Divided Than Ever?” *The Good Stuff*, 2016,  
[https://www.youtube.com/watch?v=JRa5l\\_LQ32s](https://www.youtube.com/watch?v=JRa5l_LQ32s).

<sup>9</sup> Valdez, Bill, “Theory and Practice in Federal Government Executive Branch Leadership and Administration,” in *The Handbook of Federal Government Leadership and Administration*, eds. Rosenbloom, Malone and Valdez, New York: Routledge, 2016.

also our civic norms and constitutional order.

Over the last several decades there has been no shortage of recommendations about how to reconstitute effective federal government. Given an increasingly strained workforce, this study raises the following points as recommendations:

- Layers of legacy processes, methods of interacting, and outdated technologies make embracing organizational agility — let alone building resilience to unanticipated events — difficult to achieve for the U.S. Federal Government
- Continuous adaptation requires public service to rethink how it organizes its human processes and technologies, asking hard questions about who does what work and how.
- Such adaption includes creating “safe spaces” for those focused on the non-partisan work of public service. Those require the private sector’s explicit recognition that without these spaces, the United States will become increasingly politically polarized<sup>10</sup>, unstable, and unable to operate in either crisis or normal modes
- More specifically, the rapidly changing world requires new ways of organizing who does what work in public service and how to include more bottom-up, “entrepreneurial-on-the-inside” activities that reward employees that help public service adapt to changing demands of citizens and needs of the nation.

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<sup>10</sup> Bray, David A, “Three Meaningful Strategies for Managing Rapid Change,” *MIT Sloan Management Review*, 2017, <https://sloanreview.mit.edu/article/three-meaningful-strategies-for-managing-rapid-change/>

<sup>11</sup> Wingfield, Nick, Katie Thomas and Reed Abelson, “Amazon, Berkshire Hathaway and JPMorgan Team Up

- If the U.S. private sector were willing to take a leadership role to help improve both local communities and the United States as a whole, in addition to pursuing profits, this too could improve the resilience of the country to future crises — after all, united we stand, divided we fall.<sup>11</sup>
- Lastly: for “We the People” frank conversations with the public, private sector, media, and other social institutions of the United States need to continue, based on understanding the plurality the United States embodies and recognizing the investments needed in new forms of networked governance and collaboration if United States is to remain a pluralistic society not captured by only a few, privileged interests.

Indeed, the ultimate question from this study is one for the American people: what do they want from their government?

Is the current U.S. Federal Government — one that has challenges attracting and retaining talent, demeans non-partisan civil servants, prevents its workforce from making decisions, discourages a culture of learning and adapting, and risks failing when stressed by foreseeable contingencies — good enough for us, good enough to sustain and grow our economy, and good enough for our hopes and aspirations as a people?

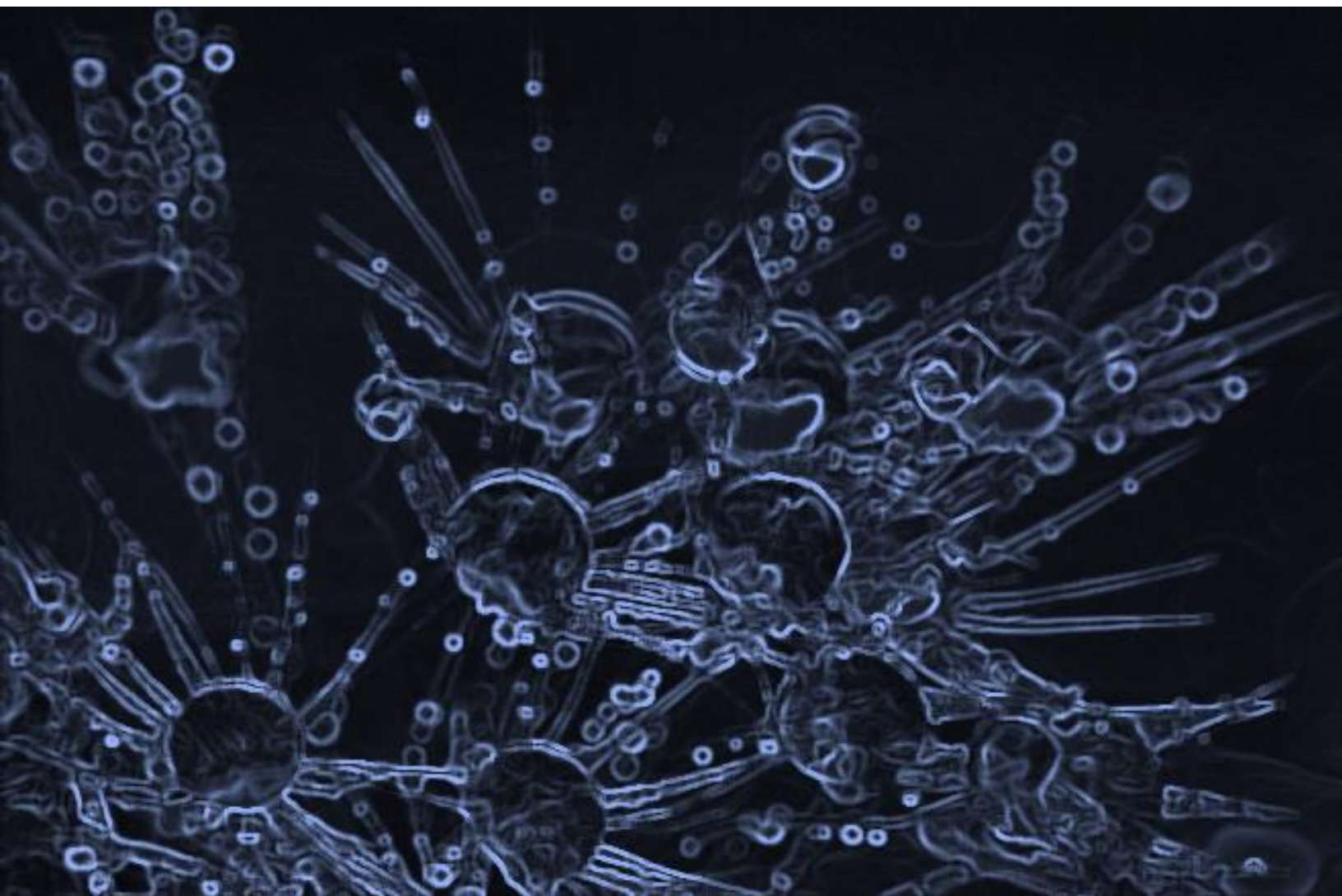
to Try to Disrupt Health Care,” *The New York Times*, 2018, <https://www.nytimes.com/2018/01/30/technology/amazon-berkshire-hathaway-jpmorgan-health-care.html>.





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# Study Findings: An Assessment of Current U.S. Federal Government Capacity

## Section 1: Animating Concern and Methodology

Unexpected large-scale failures classically occur when underlying features of a situation of concern shift without being detected or without their implications being systematically re-evaluated. This project aims to address the possibility that critical assumptions regarding expected capabilities of the U.S. Federal Government may no longer hold as a result of changes in staffing, resources and/or working environments.

The results of this study sound an alert from the authors, several of whom have held senior positions in the U.S. Federal Government. This study aims to shed light on whether changes in staffing patterns may have taken the U.S. Federal Government to a point where there is risk of a significant failure, especially in a crisis, either modest or major.

It is worth noting the potential importance of the tendency to “normalize” our current circumstances by comparing them with other challenging periods in U.S history. The story goes something like: “This may be extreme, but we’ve seen it before.” Commonly referenced times of challenge to U.S. democratic institutions include, for

example, the building of huge trusts in the 1870s and 1880s, or more recent events such as the Vietnam War protests, the civil rights movement, or Watergate. This tendency to normalize tends to obscure otherwise patently obvious indications that current circumstances may be very *abnormal*, representing cases that are unprecedented historically or constitutionally, or both.

Indeed, a deeply troubling finding of our study is that actions in the last several years appear inconsistent with simple short, medium and longer-term best interests of the United States. These actions, themselves, tend to normalize extreme situations, rogue behavior and may well enlarge vulnerabilities to serious compromise by actual or potential adversaries.

This study was undertaken as a non-partisan assessment of U.S. Federal Government, beginning with the most critical capacity — people — in particular, federal staffing at senior career and political appointee levels in the Executive Branch.<sup>12</sup> These positions are crucial both in setting the direction of government intent, and in executing actions. This study used staffing data from the Office of Personnel Management’s FedScope database<sup>13</sup> along with supplemental staffing data from the American Foreign Service Association (AFSA).<sup>14</sup> Data from the “Best Places to Work in the Federal Government” survey done by the

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<sup>12</sup> Appendix A contains more detail on the study’s methods.

<sup>13</sup> “FedScope: Federal Human Resources Data,” *U.S. Office of Personnel Management*, last modified May, 2018, <https://www.fedscope.opm.gov/>.

<sup>14</sup> Foreign Service Statistics,” *American Foreign Service Association*, “accessed March, 2018, <http://www.afsa.org/foreign-service-statistics>.

Partnership for Public Service offered insight to job satisfaction rates and internal perceptions of organizational quality.<sup>15</sup> In both, the study looked out for patterns, breaks in patterns, and outright anomalies. If some risks have become more visible in recent years, most have developed over time and across administrations of both parties. The assessments are rooted in what data is available.

This study examined three “capacity components” that directly impact the resilience of the Federal Government: staffing, resourcing and working environment. These three capacity components, of course, are strongly inter-related and when combined create an enormous drag on the ability of government to be resilient.

Our research suggested that changes in staffing levels and conditions were important. Indeed, it is possible that, in aggregate, the effects of these diverse shifts and unprecedented staffing conditions across the U.S. Federal Government may now, or in the future, reach a level that upsets typical assumptions about how the United States should be able to act or react in a situation of concern. These concerns about our assumptions about resilience of the U.S. Federal Government may occur if an entity within government:

- Receives a signal but is not empowered to interpret or transmit that information;

- If an action requires approval by multiple levels of management when one or more of those positions are not occupied; and/or
- If a position is occupied by an individual who is unwilling or unable to execute the required action.

The second component of capacity is resources. The study looked at trends by departments and sub-department administrative units. There, the net was wide but concentrated on government elements critical to the security of Americans, broadly defined. That included threats foreign and domestic, by purposive foes, so-called “natural disasters,” or cascading accidents.

The third component of capacity is working environment. Here, data was in short supply, and needed to be created. The first method was interviews conducted with experts on the government, and with officials and former officials. Then, in cooperation with the Senior Executives Association (SEA) three workshops assembled: first, academic and think-tank experts, then former members of the government’s Senior Executive Service (SES), and finally current service SES members. The workshops were followed up with a questionnaire.

A critical part of capacity of the U.S. Federal Government, or indeed, any complex organization, is inherently difficult to capture. Informal networks, inside government and outside, are critical to government function, and this study

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<sup>15</sup> “Best Places to Work in the Federal Government,” *Partnership for Public Service*, last modified January 26, 2017, <http://bestplacetowork.org/BPTW/>.

solicited anecdotal insights to indicate how these networks are shifting with changes in staffing and other dynamics. Indeed, both formal and informal extensions related to government function or capacity seem likely to become more and more important as the federal government becomes less the doer and more the grantor and contractor for matters of public interest.

Here, the most this study could do was bear in mind the importance of these networks and ask how they were affected by identified trends. For instance, reorganizations, however well-intended, usually have the effect of breaking up the informal networks at the edges of formal structure, and so at least cause delay while those networks, informal but critical, are rebuilt.

The next section of this report analyzes the quantitative data about agencies, budgets and staffing, again focusing on what seemed to be the most dangerous trends, discontinuous breaks in trends, or anomalies.

The third section discusses trends of concern, including the more qualitative trends that emerged from our interviews, workshops and questionnaire.

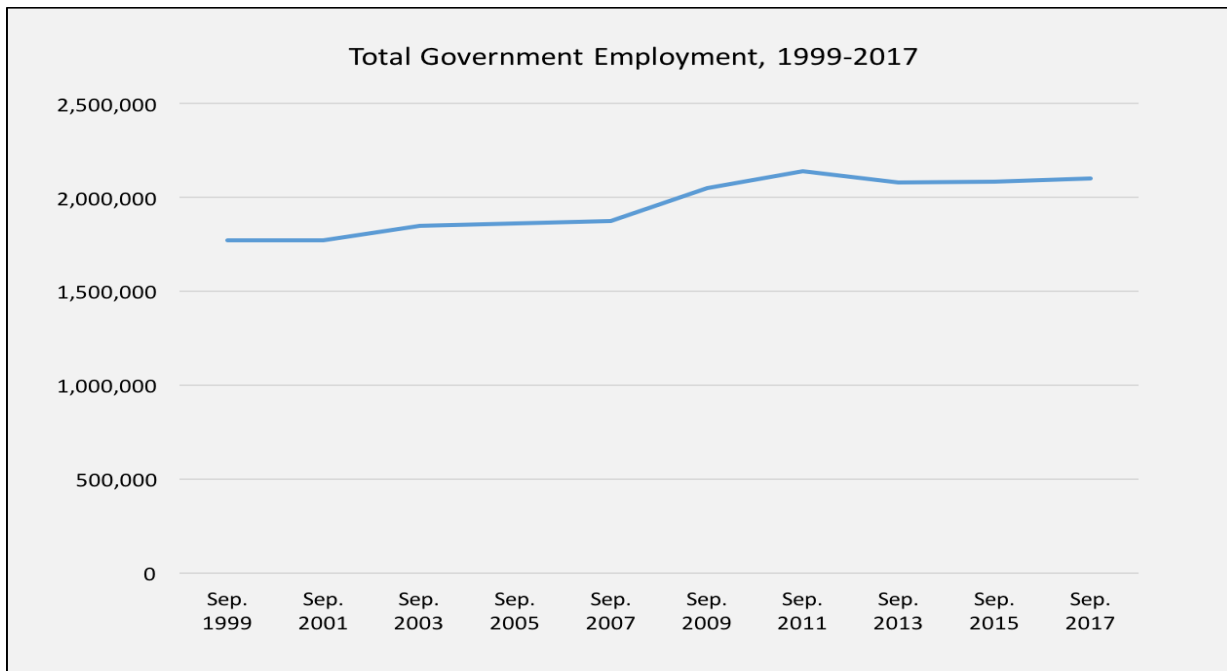
The fourth section lays out the ways in which stress tests might be constructed.

The fifth section considers drivers of change, a collection of possibilities that could, singly or in combination, underlie the patterns the study reports. This discussion of driving factors is not exhaustive but elaborates changes over time that may have worked in combination to distress government capacity.

The sixth section spells out our conclusions and recommendations. Neither conclusions nor recommendations are, or can be, definitive.

As a whole, this study seeks to contribute to a badly needed national conversation about what Americans think their government should have the capacity to do, especially in the face of severe stresses to our nation and collective future.

**Figure 1.** Total Government Employment, 1999–2017



**Figure 1** depicts change in overall number of federal employees between 1999 and 2017. The slope of the line indicates a small increase in staffing over time. Data from FedScope and American Foreign Service Association (AFSA).

**Table 1.** Change in Government Employment by Agency Size, 2013 to 2017

	Sep-13	Sep-14	Sep-15	Sep-16	Sep-17	% Change '13 to '16	% Change '16 to '17
Cabinet Level Agencies	1,903,328	1,883,381	1,909,728	1,935,686	1,929,401	1.7%	-0.3%
Large Independent Agencies (1000 or more employees)	163,497	162,042	161,421	160,647	157,938	-1.7%	-1.7%
Medium Independent Agencies (100-999 employees)	10,640	10,712	10,970	11,184	10,908	5.1%	-2.5%
Small Independent Agencies (less than 100 employees)	1,553	1,550	1,574	1,437	1,378	-7.5%	-4.1%
Agency - All	2,079,018	2,057,685	2,083,693	2,108,954	2,099,625	1.4%	-0.4%

**Table 1** describes percent changes in federal government agencies between 2013 and 2017 based on agency size. Note the comparison between changes between 2013 and 2016 compared to changes between 2016 and 2017. Data from FedScope and American Foreign Service Association (AFSA).

## Section 2: Study Findings

Existing datasets in search of observable U.S. Federal Government staffing patterns were reviewed as part of this study. The data depict trends in over-all federal employment, which has grown slightly since 2001 — see Figure 1 — but broadly hasn't changed much in the last 60 years.

When comparing the last two Administration transitions, far more senior officials departed from government in 2017 than in 2009. Between 2016 and 2017, the Department of State lost 10 percent of GS-15 staff and 13 percent of SES; the Department of Education lost 12 percent of its GS-15 staff and 7 percent of SES; for Department of Labor 6 percent and 7 percent, for Department of Defense 7 percent and 9 percent, and for the Department of Agriculture 3 percent and 12 percent. Another specific indicator of the turmoil was the number of GS-15s who left government *not* through retirement. More than twice as many cabinet-level GS-15s quit in 2017 as in 2009, a comparable point for the previous administration.<sup>16</sup>

Career diplomat roles in the State Department have also been severely affected. In total, there are vacancies in 28 ambassadorial posts customarily filled by the United States. An even greater number of posts have candidates who have been formally nominated but are not yet confirmed nearly two years into the administration.<sup>17</sup>

Certain large USG bureaucracies, such as the Department of Defense, may maintain steady staffing patterns by design. Such

consistency in larger bureaucracies may skew the overall trend, obscuring changes to staffing patterns in smaller federal agencies until a closer look is taken. In fact, existing data indicates that in addition to the expected declines during transitions when many officials leave government, significant and highly noticeable staffing pattern variations exist in both cabinet and non-cabinet level agencies — see Table 1.

Accordingly, the study sorts variations by agency size. Large independent agencies are classified as having 1000 or more employees, medium independent agencies are classified as 100-999 employees, small independent agencies as less than 100 employees. Negative changes in staffing patterns observably and directly correlate with agency size.

Examining Table 1, it is interesting to note that smaller agencies have a higher rate of negative change during the last administrative transition. Cabinet agencies have seen net positive (+1.7 percent) change over time, with only small negative variation (-0.3 percent) during the transition. Contrarily, small independent agencies have not only undergone net negative change over time (-7.5 percent), but also have the highest negative change in the 2017 transition (-4.1 percent).

These analyses beg further investigations that would require finer-grain data to assess how partisan and other ideological

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<sup>16</sup> “FedScope: Federal Human Resources Data,” *U.S. Office of Personnel Management*, last modified May, 2018. <https://www.fedscope.opm.gov/>. Between 2005 and 2017, an average of 733 GS-15s quit each year. In 2009, 687 quit, and in 2017, 1,381 quit.

<sup>17</sup> “Tracker: Current U.S. Ambassador,” *American Foreign Service Association*, accessed November 19<sup>th</sup>, 2018. <http://www.afsa.org/list-ambassadorial-appointments>.



or economic interests correlate with these observable trends. Every federal agency, small or large, has its own core-constituency, which both advocates for and benefits from the agency's viability. To be sure, Congress is part of this process. It is hardly an accident that the Pentagon sub-contracted parts of its F-35 Joint Strike Fighter across forty-six states — a classic example of how larger federal agencies actively build constituencies and maintain reciprocal relationships with their constituents in the legislative branch.<sup>18</sup> In contrast, smaller agencies generate relatively small amounts of contract money and have, again relative to the big departments, a small societal footprint. As a result, supporters or opponents of a specific agency in the legislative branch can and do play an outsized role in shaping those smaller federal agencies.

At the cabinet level, staffing trends during transitions between administrations are expected and relatively predictable. Comparing the most recent transition (2017) with earlier transitions (e.g., 2009) provides glimpses into administrative agendas, priorities and raise a series of puzzles. Over the seventeen-year period assessed in our study, the biggest workforce growth took place in Homeland Security (+26.7 percent), State (+24.0 percent), military-related Departments (+8.8 percent, +11.2 percent, 13.3 percent), Health and Human Services (+34.4 percent) and Veterans Affairs

(+73.9 percent) — logical given the country's focus on foreign wars, terrorism, and health support for aging veteran and non-veteran citizens.

The biggest loser was Treasury (-39.4 percent), due almost entirely to the Internal Revenue Service (IRS). The agency's budget was cut, and the organization shed more than 15,000 employees between 2010 and 2016<sup>17</sup>. That change bad news for recovering money through catching tax fraud and it could represent an imminent risk to U.S. national security if the IRS's ability to monitor international money flows through tax receipts or the IRS incurs a major cyber breach.

The loss observed in the Department of Transportation (-13.9 percent) is mostly the transfer of the Coast Guard to Homeland Security. The other big employment losses are in “domestic” departments, given persistent pressure to cut that spending amidst growing budgets for defense and entitlements. Of those, perhaps the most salient for security is Agriculture (-12.5 percent) to the extent that the cuts might endanger the safety of food and water, especially in an emergency.<sup>19</sup>

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<sup>18</sup> Bender, Jeremy, Armin Rosen and Skye Gould, “This Map Shows Why The F-35 Has Turned Into A Trillion-Dollar Fiasco,” *Business Insider*, 2014, <http://www.businessinsider.com/this-map-explains-the-f-35-fiasco-2014-8>. Every state except for Nebraska,

Wyoming, Alaska and Hawaii have been positively impacted by this single program.

<sup>19</sup> “FedScope: Federal Human Resources Data,” *U.S. Office of Personnel Management*, last modified May, 2018, <https://www.fedscope.opm.gov/>.

**Table 2.** Employment Trends by Cabinet Department, 2000 to 2017

Employment Trends by Cabinet Department, 2000–2017	% Change '00 to '17	Avg. Yearly % Change '00 to '17	% Change '16 to '17	Difference Between Yearly Avg. and '16-'17
Employment as values				
TR-DEPARTMENT OF THE TREASURY	-39.4%	-2.3%	-4.8%	-2.5%
HU-DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT	-23.9%	-1.4%	-2.9%	-1.5%
ED-DEPARTMENT OF EDUCATION	-17.7%	-1.0%	-6.9%	-5.9%
TD-DEPARTMENT OF TRANSPORTATION	-13.9%	-0.8%	-0.8%	0.1%
AG-DEPARTMENT OF AGRICULTURE	-12.5%	-0.7%	-3.3%	-2.6%
IN-DEPARTMENT OF THE INTERIOR	-8.7%	-0.5%	-3.9%	-3.4%
DJ-DEPARTMENT OF JUSTICE	-7.5%	-0.4%	-1.0%	-0.5%
DL-DEPARTMENT OF LABOR	-6.6%	-0.4%	-4.8%	-4.4%
DN-DEPARTMENT OF ENERGY	-6.5%	-0.4%	-2.6%	-2.2%
DD-DEPARTMENT OF DEFENSE	-3.2%	-0.2%	-1.6%	-1.4%
AF-DEPARTMENT OF THE AIR FORCE	8.8%	0.5%	-1.0%	-1.5%
CM-DEPARTMENT OF COMMERCE	10.5%	0.6%	3.6%	3.0%
AR-DEPARTMENT OF THE ARMY	11.2%	0.7%	-1.1%	-1.7%
NV-DEPARTMENT OF THE NAVY	13.3%	0.8%	-0.3%	-1.1%
ST-DEPARTMENT OF STATE	24.0%	1.4%	-3.4%	-4.9%
HS-DEPARTMENT OF HOMELAND SECURITY	26.7%	1.6%	3.5%	2.0%
HE-DEPARTMENT OF HEALTH AND HUMAN SERVICES	34.4%	2.0%	-2.0%	-4.0%
VA-DEPARTMENT OF VETERANS AFFAIRS	73.9%	4.3%	2.2%	-2.1%
Cabinet Level Agencies	21.4%	1.3%	-0.3%	-1.6%

**Table 2** illustrates percent change of total employment in cabinet departments from 2000 to 2017. The figure also details the average yearly percent change for 2000 to 2017, 2016 to 2017, as well as the difference between these two rates.

**Table 3** Negative Changes in Best Places to Work Scores in Large Agencies, 2016 to 2017

Large Agencies (More than 15,000 Full-Time Employees)			
	2016	2017	Change (2016-17)
Department of State	66.8	64	-2.8
Department of Justice	65.7	63.7	-2.0
Department of Veterans Affairs	56.7	56.1	-0.6
Intelligence Community	67	66.6	-0.4
Social Security Administration	63.1	63	-0.1

**Table 3** depicts negative changes in Best Places to Work scores among selected large federal agencies between 2016 and 2017. Scores are based on a 100-point scale determined by a yearly survey about job satisfaction and organizational health conducted by the Partnership for Public Service and the Office of Personnel Management.

In the most recent transition, the data show the expected negative changes across agencies, but the exceptions are intriguing. The Department of Commerce had the highest positive change (+3.6 percent), even higher than the steadily increasing trends in the Department of Homeland Security (+3.5) and Veterans Affairs (+2.2). It is a plausible conjecture that the administration gave its trade agenda priority in an otherwise unwieldy transition.

Variations in negative trends are also suggestive. Departments of State (-3.4), Education (-6.9), Labor (-4.8) and Interior (-3.9) have the highest negative changes between 2016 and 2017. Based on qualitative and anecdotal assessments, these are also the departments in most turmoil, provoking most public controversy. One specific indicator of the turmoil was the number of GS-15s who left government *not* through retirement. More than twice as many GS-15s departed in 2017 when compared with 2009, a comparable point for the previous administration.<sup>20</sup>

That said, the data is consistent with the administration's broader intention to cut the size of the federal bureaucracy by not staffing, which will, in the long-run, lock these agencies into a trend of ever decreasing operating budgets — a tendency long evident, especially in Republican administrations, but also consistent with the Clinton Administration's efforts to reduce the size of government.

Public perception of federal agencies also plays a role. The State Department and its career civil servants long have been rhetorically painted as liberal in political persuasion at best and working against U.S interests at worst. The Department of Education and the Department of Energy have been targeted for destruction since Reagan, based on arguments couched in free markets, states' rights, and buttressed more recently by heightened rhetoric against public education and zeal for privatizing education. There have been political groups that claim both the Departments of Labor and Interior have been harboring anti-business agendas — Labor because of its specific purpose and Interior because it controls vast swathes of federal land that otherwise could be available for private development.

Looking at the Best Places to Work results for large agencies, the general rankings did not change over the latest transition: DHS remained at the bottom and NASA at the top. Not surprisingly, perhaps, the biggest drops — depicted in Table 3 — over the transition were Departments of State and Justice, both very much in the sights of the new administration.<sup>21</sup> Also not surprisingly, the biggest increases were the military services, very much in the favor of the new administration with budget increases to match. Among mid-size agencies, Education registered a small decline, while all others (save the National Credit Union Administration) registered increases. Among small agencies, notable declines included the Defense Nuclear Facilities Safety Board and the Overseas

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<sup>20</sup> Ibid.

<sup>21</sup> "Best Places to Work in the Federal Government," *Partnership for Public Service*, last modified January 26, 2017, <http://bestplacestowork.org/BPTW/>.

Private Investment Corporation, long a political football.

Another defining change in federal employment over recent decades is the inflated ratio of budget to staff. The Legislative Branch staffing is increasingly overwhelmed. Recent workforce studies of the Legislative Branch suggest that each appropriations staffer in the House is responsible for 52 percent more federal dollars than he or she was just 16 years ago.<sup>22</sup> The workload of Senate appropriations staffers has increased 30 percent during the same period. The same workforce study concludes there are still very real gender discrepancies both in terms of the types of jobs women hold on the committees, and their pay levels relative to men who hold the same titles.<sup>23</sup>

Given these capacity deficiencies, Congress is unable to provide enough oversight of the \$4 trillion they appropriate each fiscal year. Until something changes, it is reasonable to expect the federal government to continue operating by way of short-term funding and omnibus legislation.

Similar dynamics have impacted the Executive Branch. While U.S. Federal Government spending is more than five times what it was in 1960, Executive Branch civilian personnel levels have only

modestly changed over the same period, growing from 1.8 to 2.1 million.<sup>24</sup>

Multiple factors have combined to produce this shift in the ratio of budget dollars per worker.

First, advancements in communications technology have changed the nature of work: In the middle of the 20th century, bidirectional communication interfaces between the public, private sector, and government were primarily in-person or by postal mail. With the advent of the world wide web, mobile phones, and eventually smart phones, the federal workforce is now expected to be "tethered to their devices" 24/7 able to respond to any emergent issue. As is the case in the private sector, such advancements in digital technologies have increased the pace at which individuals and organizations can operate.

To this first point, while some may think of digital technologies as solely increasing productivity, private sector firms and large organizations have not observed productivity gains similar to what has occurred in manufacturing resulting in what some have called the "productivity paradox".<sup>25</sup> Digital technologies provide for improved individual capabilities, however they also add to the expectations of public service – including the expectation of 24/7 availability, an

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<sup>22</sup> Burgat, Casey, Ryan Dukeman, "Human Capital and Institutional Decline in Congressional Appropriations Committees," *R Street*, 2018, <https://www.rstreet.org/2018/12/14/human-capital-and-institutional-decline-in-congressional-appropriations-committees/>.

<sup>23</sup> *Ibid.*

<sup>24</sup> Valdez, Bill, "Theory and Practice in Federal Government Executive Branch Leadership and

Administration," in *The Handbook of Federal Government Leadership and Administration*, eds. Rosenbloom, Malone and Valdez, New York: Routledge, 2016.

<sup>25</sup> "Understanding The Productivity Paradox", *NPR Special Series: Planet Money*, 2017. <https://www.npr.org/2017/06/02/531173429/understanding-the-productivity-paradox>

increasing volume of emails read and data sets to analyze, increased interruptions during the day through different modes of communication, and multiple demands for attention throughout the course of week or emergency response event. Technologies have created new risks, including cybersecurity and misinformation challenges. Future combinations of automation and artificial intelligence (AI) may displace jobs that had to be done by humans, though for emergency response and other complex actions, research so far shows that the technology lacks maturity.<sup>26</sup>

Second, and perhaps more importantly, federal government agencies have come to rely on a large labor force of grant and contract workers to fulfil their missions. In a 2017 paper titled *The True Size of Government*, government affairs scholar Paul Light estimated that the federal workforce includes 3.7 million contract employees and 1.6 million grant employees in addition to the 2 million civil servants employed directly by the government. Not including 492,000 postal workers and 1.3 million active-duty military personnel, Light's analysis places

the true size of government at about 7.3 million workers.<sup>27</sup>

In 2017, the federal government, with an overall operating budget of \$4.0 trillion,<sup>28</sup> spent \$500 billion on contract spending,<sup>29</sup> and \$700 billion on grants and cooperative agreements (including \$441 billion in non-discretionary grants for Health and Human Services programs like Medicaid and Medicare).<sup>30,31</sup>

To this second point, this full picture of government employment places an emphasis on the role of federal employees as managers of a larger enterprise. For contract and grant operations, executive oversight is provided by the supporting federal agency. At an employment ratio of 2.6 grant or contract employees for each federal employee, civil servants are now responsible for the management of a workforce more than twice as large as their own.<sup>21</sup> The rise of contract labor, the stagnant size of the federal workforce, and the growth of the federal budget depicts the federal government's dominant role as a funder, rather than a doer, and characterizes the nature of workload stress for federal employees as they manage

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<sup>26</sup> "News Feature: What are the limits of deep learning?" *Proceedings of the National Academy of Sciences of the United States of America*, 2019.

<https://www.pnas.org/content/116/4/1074>

<sup>27</sup> Light, Paul C. "The True Size of Government: Tracking Washington's Blended Workforce, 1984-2015." *The Volcker Alliance*. 2017.

<https://www.volckeralliance.org/publications/true-size-government>.

<sup>28</sup> "The Federal Budget in 2017: An Infographic," *Congressional Budget Office*, 2017, <https://www.cbo.gov/publication/53624>.

<sup>29</sup> "DataLab: Contract Explorer," *USpending.gov* – Bureau of Fiscal Service, U.S. Department of Treasury,

2017, [https://datalab.usaspending.gov/contract-explorer.html?search=Contract spending in Fiscal Year 2017](https://datalab.usaspending.gov/contract-explorer.html?search=Contract%20spending%20in%20Fiscal%20Year%202017).

<sup>30</sup> "2017 Year in Review: Federal Grant Highlights," *Health and Human Services, U.S. Office of Management and Budget – Grants.gov*, 2017, <https://blog.grants.gov/2018/01/02/2017-year-in-review-federal-grant-highlights/>.

<sup>31</sup> "2017 TAGGS Annual Report," *Health and Human Services – Tracking Accountability in Government Grant Spending*, 2017, <https://taggs.hhs.gov/2017AnnualReport/>.



large-scale missions across public and private boundaries.

The balance of internal and external labor also underscores the need for a modernized federal workforce, where institutional and technological arrangements are intentionally designed for the managerial tasks at hand. The lack of appropriate staffing in Congress highlights the systemic nature of the workforce problem: How can an understaffed Legislative Branch take decisive action to address the concerns of an understaffed Executive Branch?

As researchers our intent is not to make a case for a larger U.S. Federal Government. What we are concerned with are the capabilities of our nation's public service to respond effectively to crises. This may be achieved by addressing concerns unrelated to size, including remedying decreasing morale, addressing the challenges created by increasing politicization on what should be non-partisan activities, and updating legacy processes to be more effective in the digital era. Additional solutions include improving the effectiveness of hiring mechanisms, addressing key vacancies that go unfilled, and remedying the risk of the next generation not finding public service to be an attractive career option.

Moreover, while the productivity of the United States and other nations around the world has increased since the 1960s, most of those productivity gains were related to manufacturing. In contrast, most of the roles of the U.S. Federal Government workforce associated with responding to emergent events, disruptions, and crises do not involve manufacturing — rather these roles

involve complex sets of activities and discussions with multiple stakeholders. These actions typically span across several departments with the need to coordinate with local and state partners in ways that cannot be easily automated or streamlined in the same way that business pipelines can.

Taken together, these questions raise questions about whether the workforce we have is prepared to respond effectively to major crises or a set of smaller multi-state crises?

### Section 3: Trends of Concern

The study data was supplemented with a series of workshops that convened current and former members of the Senior Executive Service (SES), followed by an optional, anonymous questionnaire. What emerged from this work was a clear set of highly disconcerting trends, several with long histories, specifically:

- Increasing work overload and a lack of enough time or necessary resources to address even ordinary duties and particularly to work through hard or new problems. There was clear recognition of the potential detrimental impacts to “readiness” as well as to retaining talent and attractive workplaces.
- More toxic workplaces, with an emphasis on recent and in some cases extreme collateral damage done by allegations of inappropriate sexual behavior — sometimes accurate but sometimes not and yet difficult to defend. The “weaponization” of complaint channels was cited as a specific tactic with potentially very serious consequences for the ability of individuals to take stands or make decisions.
- Evidence that non-partisan Senior Executives are marginalized or are reluctant to contribute during times of crisis unless given clear roles, responsibilities and authorities by political leadership, which includes dynamics that either remove autonomy of decision from non-partisan Senior

Executives or make them reluctant to take timely decisions.

- Lack of rewards for action, yet plenty of penalties, motivating members of the workforce to opt for “analysis paralysis” lest they make a decision that is later judged wrong and be penalized for it.
- The bureaucracy is fatally risk adverse and as a result chooses inaction to action during critical times.

Together, these trends defined a set of major patterns that highlight the potential for serious but not readily discerned dysfunction in the overall federal workforce, particularly the senior workforce. The conversations included several highly disturbing anecdotes — for instance, stories of both men and women crying in Pentagon hallways, language of “bleeding talent,” “experience is suspect,” and “one decision your political superior disagrees with and your career is over.” Many of our participants, especially women, described the working environment of some parts of the U.S. Federal Government as newly and extraordinarily toxic.

The basis for work overload is plain: inflation-adjusted spending by the U.S. Federal Government is more than five times what it was in 1960, executive branch responsibilities have grown increasingly broad and complex, and civilian personnel has hardly changed, growing from 1.8 to 2.1 million.<sup>32</sup>

The civil service lost 400,000 employees between 1992 and 1999.<sup>33</sup> With no intake,

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<sup>32</sup> Valdez, Bill, “Theory and Practice in Federal Government Executive Branch Leadership and Administration,” in *The Handbook of Federal Government Leadership and Administration*, eds.

Rosenbloom, Malone and Valdez, New York: Routledge, 2016.

<sup>33</sup> “Executive Branch Civilian Employment Since 1940,” *U.S. Office of Personnel Management*, 2014,

the age distribution of the service skewed. Only 6 percent of federal government employees are under age 30 and there are twice as many over age 60.<sup>34</sup> It takes more than twice as long for the government to hire someone as for private industry.<sup>35</sup> And salaries have hardly kept pace: the maximum salary for a chief information officer is \$189,600 — a fraction of what they could earn in the private sector.<sup>36</sup>

One working group looked at success cases abroad when the United States took a whole of government approach. Success depended on people talking and knowing they had to talk, but several years later only two in the group were still in government. Killing intake was like Middle Age bloodletting use of leeches, one interlocutor said, risking that the best and brightest would leave, draining the lifeblood of the civil service and weakening the entire workforce.

Furthermore, programs to train skilled early-career academics and professionals for government and national security service have never been fully funded or supported. Programs such as the Pathways internship program, the Presidential Management Fellows program and the Boren Fellows continue but they are

limited and are not informed by workforce analytics that might identify critical skill gaps. Moreover, the implicit social contract in federal employment — trading income for security — was upset by hiring freezes and furloughs, including at the Defense Department.

Toxic workplaces plainly compound the stress of overwork. The culture of many government organizations, perhaps especially those in national security, has long been bad; as one woman put it: “sailors talk like sailors.” Now, women in senior civil services positions have lots of alternatives, and workplaces made toxic by sexual harassment drive them away. At State, there were, for instance, 400 cases of harassment investigated in 2017, and the same number in the first four months of 2018, according to a roundtable participant familiar with the matter. Between 2016 and 2017, a larger percentage of female SES officers and GS-15s left the Pentagon than did males at the same levels.<sup>37</sup> The counterpart of sexual harassment is the weaponization of the complaint process leading to investigations. As part of this study, we heard several stories about male bosses being unfairly targeted by complaints, then investigations that both required

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<https://www.opm.gov/policy-data-oversight/data-analysis-documentation/federal-employment-reports/historical-tables/executive-branch-civilian-employment-since-1940/>. According to Henderson (see full bibliography) of the Naval Postgraduate School in Monterey, budget cuts and personnel reductions that happened were largely in response to the end of the Cold War.

<sup>34</sup> “Full-Time Permanent Age Distribution,” U.S. Office of Personnel Management, 2017, <https://www.opm.gov/policy-data-oversight/data-analysis-documentation/federal-employment-reports/reports-publications/full-time-permanent-age-distributions/>.

<sup>35</sup> Katz, Eric, “The Federal Government Has Gotten Slower at Hiring New Employees for 5 Consecutive

Years,” *Government Executive*, 2018, <https://cdn.govexec.com/b/interstitial.html?v=8.15.0&rf=https%3A%2F%2Fwww.govexec.com%2Fmanagement%2F2018%2F03%2Ffederal-government-has-gotten-slower-hiring-new-employees-five-consecutive-years%2F146348%2F>.

<sup>36</sup> “2018 Executive and Senior Level Employee Pay Tables,” U.S. Office of Personnel Management, 2018, <https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/2018/executive-senior-level>.

<sup>37</sup> “FedScope: Federal Human Resources Data,” U.S. Office of Personnel Management, last modified May, 2018, <https://www.fedscope.opm.gov/>.

them to spend money defending themselves and nearly ruined their careers.

Relations between permanent civil servants and the political appointee superiors have always been somewhat fraught. This tension has expanded in favor of political appointees over the past decades: in 1961, Kennedy had the ability to make fewer than 300 political appointments to his staff, in 2009, Obama had authority to appoint more than 3,000 staffers. Since the 1980s, executive branch leadership has been increasingly dictated by legislation and executive orders, both of which have served to politicize executive branch leadership and diminish the traditional managerial role played by career executives.<sup>38</sup> The appointees are bound to be suspicious of the civil servants because, after all, they had worked for the “other guys” if the presidency had changed party. All three of the study leads (Bray, Jahn, and Treverton) have experienced the relationship on both sides. In earlier years, though, the suspicion usually didn’t last long: political appointees first realized that they couldn’t get anything done without the civil servants, and not long after that, realized that as a general and principled rule, civil servants regarded themselves as working for the country, not any party.

That seems to have changed, even dramatically. Our interlocutors spoke of dissent channels being leaked, resulting in what they regarded as “witch hunts.” One participant spoke of a 2016 Inspector General’s report that cited 550,000 calls to IG hotlines, from a total federal workforce of 2.1 million government employees. When we asked participants

how many leaders would provide top cover if need be, the answer was “not many.” High level SES officials are tasked with keeping the ship of state afloat during transitions, with administration’s slow and slower getting people confirmed. When they arrive, the political appointees don’t trust the officials and so want to start over. Then they criticize officials for not getting it done. As one participant put it: “experience is cause for suspicion.” And the cycle gets worse to the point that it is almost a myth that there is a civil service. Each party believes the civil service is people from the other party who burrowed in. The military is accorded trust, not civil servants. Each change in administration is like a hostile corporate take-over. In the process the civil service becomes demoralized and paralyzed.

Partly as a result of the poisoned link between civil servants and political appointees, risk aversion seems on the rise. Civil servants worry that if the decision they make is the wrong one, it will be the end of their careers. Here, too, there always was tension: the average tenure of political appointees is less than two years, and they want to achieve the administration’s goals quickly, and so may be prepared to take risks that their civil service subordinates worry that they will have to clean up and live with.

Risk aversion is also increased by the extent of “Monday-morning quarterbacking” in fragmented media. Risks and responses often are mischaracterized by the media, and by the time they are cleaned up, careers of senior executives may be over. Even more challenging, some media outlets are hiring

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<sup>38</sup> Valdez, Bill, “Theory and Practice in Federal Government Executive Branch Leadership and Administration,” in *The Handbook of Federal Government Leadership and Administration*, eds.

Rosenbloom, Malone and Valdez, New York: Routledge, 2016.

young women to get compromising photos of leaders.

At the same time, for U.S. Federal Government senior executives, errors often are not permitted and efforts to cooperate across agencies frequently are not rewarded by political leadership. Even as the world becomes more interconnected, the government has become more siloed. One IRS employee wanted to move to another agency but was held back by a superior, and eventually had to quit to move. Career senior executives feel less empowered to make decisions, a process that began to accelerate in Obama administration with more oversight of career people.

Do these trends risk that the government will lack capacity in a stressing event? The most frequent answer was that it is less prepared. It is losing capacity, as talent departs or — as in the cyber world — it is impossible to recruit. The composition of the federal workforce is more of a concern than its size: in the 20<sup>th</sup> century it was largely clerical, but that it not what the workforce of the 21<sup>st</sup> century should look like.

One person spoke of the government “bleeding,” especially loss of talent to major technology companies. It is not just this administration, for the trends have been in motion since before 9/11. Different agencies don’t even speak same language, and technology hardens stovepipes. Getting access is a huge problem, given legacy systems and architecture. People want to move forward but don’t know how to. One open source collaborative distribution spread to 500, but to get access required personally identifiable information (PII).

On the positive side, technology, like automation, machine learning, and artificial intelligence, potentially could

help, provided the government has the organization and competence to adopt it. Our interlocutors cited a trifecta of obstacles: leaders don’t understand technology, and neither do mission owners. And procurement can’t get it. Acquisition is likely to be risk averse to avoid running afoul of the department Inspector Generals (IGs). Procurements of commercial technology have declined, not increased, over the last ten years. Procurement officers, IGs, contracts people: none really understand technology was what we heard in our conversations as part of this study.

The situation is not all black and white, for some leaders know how to work the system and they recognize that taking calculated risks is imperative. The Enterprise Risk Management Assessment, to be done by all agencies, will be a rich base for analysis once fully implemented throughout government. A 2010 law sought to enable cross agency teams. Now, there is a process to do it, but one not used enough. The same law required data-driven reviews of objectives.



## Section 4: Stress Testing

To set up a portfolio of potential stress tests to examine the functional consequences of the structural staffing trends, participants were asked for their feedback on the likelihood of several dozen departures or crises. These potential scenarios were divided between those virtually certain in the next year and ones that are highly plausible over the next several years.

The point was to see if (1) the participants thought that there was increasing stress facing the U.S. Federal Government, and (2) to solicit their views on whether the U.S. Federal Government had the capacity to respond to such events or lacked the collective resilience to recover from them. For this study we developed lists of stresses that are as unbiased as is possible to best consider which parts of the federal government would need to respond, and how important each stress is based on the potential for significant large-scale failures or lapses of consequence.

While it was beyond the scope of this preliminary assessment to formally apply techniques of stress testing, a collection of potential stressors was developed to characterize the kinds of exigencies government must endure. These stressors are presented in two categories — stressors virtually certain to occur this year, and stressors that are distinctly plausible or likely in the next several years.

In the first category is the near-certainty that voter suppression, social media, gerrymandering and cybersecurity will bear on the legitimacy of future elections, including national, state and local elections. The second category ranges from an economic recession, to a cyber-

attack much more damaging than those seen to date on major U.S. Federal Government and financial institutions, to hurricanes flooding the Gulf and East coasts at the same time as record wildfires burn across California. These lists could be used for spot checks to define which parts of the federal government would potentially be engaged, and, in general terms, how important each part is. Based on available data, this analysis can yield rough judgments with the goal of identifying examples of potential high-risk stresses.

Governmental stresses that are virtually certain to occur in the next year:

- Formally unconstitutional challenges to voter rights, gerrymandering and cybersecurity lapses bear on legitimacy of local, state and national elections.
- Investigations by the House of Representatives are certain to increase oversight of the administration, potentially widening the already huge political divide in Washington.
- Misinformation/disinformation campaigns aimed at enhancing discord in American civic discourse across all issues including immigration, gun rights.
- Hybrid threats targeted at citizens, e.g., mass shooting victims, public officials, intelligence officials (OPM hack of cleared federal employees in 2012).
- Major “natural” disaster or cyberattack produces long-term major grid failure (Puerto Rico).
- Hate groups spark outbreaks of civic unrest exploited by U.S. adversaries (Houston, 2016, Charlottesville, 2017).
- African swine fever outbreak in Europe.

- Worst year for global famine since WWII and worst year for migration in history.
- Worst year for losses to wildfires in U.S. history.
- Very hot year relative to history of the United States
- Extremely low snow pack in the Western United States
- Extreme political polarization seizes many parts of government housekeeping duties at the same time.
- Major foreign policy crisis.
- Xi exercises “permanent” dictatorial power in China.
- Abusive attacks surface for hybrid threat provided by Facebook and Twitter and raises pressure for government intervention/regulation.

Governmental stresses plausible in next several years:

- North Korean missile test lands between Hawaii and California.
- WannaCry or other cyberattack on key U.S. Federal Government or financial institutions e.g., Equifax.
- Low compliance in the United States with food safety regulations (insurance, HACCP) fails to prevent widespread multi-drug resistant illness, panic is spread by misinformation on social media.
- Multidrug-resistant plasmids appear in foodborne pathogen, highlighting broad lack of compliance with new food safety laws.<sup>39</sup>

- Foot and mouth disease outbreak in United States
- Major recession.
- Multiple sequential and coordinated attacks sparked by domestic terrorism (gun or explosive or dirty bomb) in large public gatherings.
- Major hack of agricultural harvesting equipment halts agricultural harvest for several weeks during peak harvest season wreaking havoc on global commodity markets and local/regional rural economies and disruptions in food supply chains (Siemens hack, 11/17).
- Major hack of shipping infrastructure e.g., Maersk hack 2017 resulted in lost ships, cargoes stalled.
- Major Mississippi flood (a “bigger than 750” year flood wipes out shipping infrastructure causing long term disruption to flow of goods and a slow-moving global food security crisis).
- “The Big One” occurs — specifically a massive earthquake — happens in California.
- Hurricane brings massive coastal flooding in Louisiana, Gulf of Mexico or East Coast, interrupts energy at the same time record breaking wildfires hit west.
- Key infrastructure fails throughout the United States, including roads and bridges, locks and dams, electrical grid security.

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<sup>39</sup> Ellis, Carole, Multidrug-Resistant Gene Found in Salmonella, *Contagion Live*, 2017,

<http://www.contagionlive.com/news/multidrugresistant-gene-found-in-salmonella>.

- Global undersea cable failure, either due to inadvertent degradation or intentional sabotage.<sup>40</sup>

This study provides these stresses to give a sense of the looming challenges confronting what we, as researchers, believe to be an increasingly eroded U.S. Federal Government workforce. Were our research to continue, the next step would be to make rough judgments of how capable each government component is to perform the required tasks to address these potential crises.

In this report there is not scope enough to run full tests on each stressor, yet readers can consider them for themselves as representative of looming challenges to a strained workforce. As one small example, consider what might happen if simultaneous nuclear negotiations with Iran and North Korea had to occur. The task would fall on the State Department, especially its nuclear experts. Given both the numbers and the turmoil at State, it is hard to have confidence that the department would be able to muster the needed capacity to manage these dialogues. The unfortunate consequential impact to both the United States and the world as a result of this strain on the workforce could be sizable.

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<sup>40</sup> Beale, Jonathan, "Russia a 'risk' to undersea cables, defence chief warns," *BBC News*, 2017, <https://www.bbc.com/news/uk-42362500>.

## Section 5: Drivers of Change in Federal Bureaucracy

In part, traditional partisan ideology can explain trends in federal employment data. Since its founding the United States has experienced an internal tension between a robust federal government and the rights of states. Consequently, minimizing federal capacity is seen as a means of building state level autonomy. There is a solid constituent basis of the Republican Party that uses this frame as a justification to systematically remove power from the federal government and with aligned intent, take actions to make government less effective.

Currently, political oscillations have driven these traditional party-line tensions to new heights across government. Tracking Congress as a measure of partisanship across government, during the 112<sup>th</sup> Congress the number of votes that cut exclusively across party lines, with no “boundary spanners” across parties, was at a sixty-year high.<sup>41</sup> No longer are legislative compromises the order of the day; instead it appears as if both political parties are operating under a mutually reinforcing “winner take all” principle.

The results of the recent mid-term Congressional elections demonstrate this widening chasm. The House flipped primarily because of increasingly blue suburban districts that were formerly Republican strongholds. Orange County’s delegation, which has been 100% Republican in the past, is now 100%

Democratic. Similarly, the 116<sup>th</sup> Congressional delegation of New England states is comprised of 30 Democrats, 2 Independents, and 1 lone Republican.

Partisanship at high levels of government is observed alongside a similar trend in the general public. In 2004, nearly half of all Americans held a mix of conservative and liberal views. In 2017, only one third had mixed opinions on political issues.<sup>42</sup> Media polarization no doubt plays a role in this trend, for example, 47 percent of consistent conservatives cite Fox News as their main news source, while expressing greater distrust than trust for 24 of the 36 news sources measured in the survey. At the same time, fully 88 percent of consistent conservative voters say they trust Fox News, compared to only 6 percent of consistent liberal voters.<sup>43</sup>

The polarization also extends to where people live, in what kind of neighborhoods, and even affects economic decisions. For instance, in one set of recent experiments, people were willing to work for less money for fellow partisans, and the effect was large, as large as the effect of more “normal” factors like relevant employment experience. When presented with a purchasing opportunity, consumers were almost twice as likely to engage in a transaction when their partisanship matched the seller’s. And finally, three-quarters of the subjects in one experiment refused a higher monetary payment to themselves if it would also help the other party — thus, they preferred

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<sup>41</sup> Andris et al., “The Rise of Partisanship and Super-Cooperators in the U.S. House of Representatives,” *PLoS ONE* 10(4): e0123507, 2015, <https://doi.org/10.1371/journal.pone.0123507>.

<sup>42</sup> Kiley, Jocelyn, “In polarized era, fewer Americans hold a mix of conservative and liberal views,” *Pew Research Center*, 2017, <http://www.pewresearch.org/fact-tank/2017/10/23/in->

[polarized-era-fewer-americans-hold-a-mix-of-conservative-and-liberal-views/](http://www.pewresearch.org/fact-tank/2017/10/23/in-polarized-era-fewer-americans-hold-a-mix-of-conservative-and-liberal-views/).

<sup>43</sup> Mitchell, Amy, Jeffrey Gottfried, Jocelyn Kiley, Katerina Eva Matsa, “Political Polarization and Media Habits,” *Pew Research Center*, 2014, <http://www.journalism.org/2014/10/21/political-polarization-media-habits/>.

to make themselves worse off so that they would not benefit the other party.<sup>44</sup>

Changes in campaign finance laws have altered the way public will is reflected in office, often exacerbating underlying divisions. In the past two decades, laws and, more so, Supreme Court rulings — the Bipartisan Campaign Reform Law Act of 2002, popularly known as McCain-Feingold act<sup>45</sup> and judicial outcomes such as *Buckley v. Valeo* (1976), *Citizens United v. FEC* (2010)<sup>46</sup>, and *McCutcheon v. FEC* (2013)<sup>47</sup> have fundamentally altered the U.S. campaign finance system. Studies agree that the structural changes in campaign finance and interest representation put the median voter at a democratic disadvantage vis-a-vis organized economic interests and economic elites.<sup>48</sup> Yet the lack of fine-grained data and the complexity inherent to the political process makes it hard to draw specific, causal conclusions.<sup>49</sup>

Broad trends in financing by both disclosed and undisclosed donors,

however, are clear. For example, in the first presidential election since the *Citizens United* decision, spending in federal elections by outside groups tripled from around 150 million dollars to over a billion dollars.<sup>50</sup> Outside group spending consists of money spent independent of and without coordinating with candidate committees. While constitutional, these issue specific political communications aimed at mobilizing voters usually deepen existing societal divisions and deepen polarization, makes compromises costly for lawmakers and feeds into legislative gridlock.

Overall spending on political campaigns is also on the rise — a report by the Bipartisan Policy Center on campaign finance pointed out that “one media tracking firm, Borrell Associates, estimates total advertising spending for all races — federal, state, and local — in the 2016 election to be \$9.8 billion, a \$400 million increase over 2012.”<sup>51</sup>

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<sup>44</sup> McConnell, Christopher, Yotam Margalit, Neil Malhotra, Matthew Levendusky, “Research: Political Polarization Is Changing How Americans Work and Shop,” *Harvard Business Review*, 2017, <https://hbr.org/2017/05/research-political-polarization-is-changing-how-americans-work-and-shop>.

<sup>45</sup> This case established the legal framework for independent unlimited private campaign spending (as long as it is not coordinated with the candidate) and opposed the spending limits in place by the Federal Election Campaign Act of 1971.

<sup>46</sup> This case established the legal framework that the free speech clause of the first amendment to the constitution prohibits the government from restricting independent expenditures for political communications (i.e. political advertising) non-profit and for-profit corporations, unions and other civil society groups.

<sup>47</sup> This case established the case that it is unconstitutional to limit individual donations to a

political party or a federal election committee over a two-year period per the Federal Election Campaign Act.

<sup>48</sup> Gilens, Martin and Benjamin I. Page, “Testing Theories of American Politics: Elites, Interest Groups and Average Citizens,” *Perspectives on Politics*, Vol.12, No.3 (2014).

<sup>49</sup> Persily, Nathaniel, Benjamin L. Ginsberg, and Robert F. Bauer, “Campaign Finance in the United States: Assessing an Era of Fundamental Change,” *Bipartisan Policy Center*, 2018, <https://bipartisanpolicy.org/wp-content/uploads/2018/01/BPC-Democracy-Campaign-Finance-in-the-United-States.pdf>.

<sup>50</sup> “8 Charts That Show How Political Spending Has Exploded Since *Citizens United*,” *Common Cause*, 2015, <https://www.commoncause.org/democracy-wire/8-charts-that-show-how-money-has-exploded/>, data from Center for Responsive Politics.

<sup>51</sup> Persily, Nathaniel, Benjamin L. Ginsberg, and Robert F. Bauer, “Campaign Finance in the United States: Assessing an Era of Fundamental Change,” *Bipartisan*



Analysis of political shifts offers cause and context for changes in the bureaucracy itself. With spending by the U.S. Federal Government increasing fivefold since 1950, but civilian personnel hardly budging, the U.S. Federal Government has become less the doer and more the funder.<sup>52</sup> In other words, functions of government are increasingly outsourced and executed by the private sector.

To be sure, private sector, and public-private partnerships are better at providing some services than the government, but the extreme shift toward outsourcing of government work raises questions of how the benefits of government resources are reaped, especially in the context of a steadily upward trend in income inequality since 1980.<sup>53</sup> Context must also be provided that, compared to other advanced industrial democracies, the U.S. Federal Government is out-funded by 7 to 10, or even 20 percent of annual GDP compared to other nations.<sup>54</sup> The relative funding numbers for the United States have for the most part not changed over forty years.

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Policy Center, 2018, <https://bipartisanpolicy.org/wp-content/uploads/2018/01/BPC-Democracy-Campaign-Finance-in-the-United-States.pdf>

<sup>52</sup> Valdez, Bill, “Theory and Practice in Federal Government Executive Branch Leadership and Administration,” in *The Handbook of Federal Government Leadership and Administration*, eds. Rosenbloom, Malone and Valdez, New York: Routledge, 2016.

<sup>53</sup> “GINI index (World Bank estimate),” *The World Bank, Development Research Group*, 2016, <https://data.worldbank.org/indicator/SI.POV.GINI?end=2016&locations=US&start=1979&type=shaded&view=chart>

<sup>54</sup> “Revenue Statistics – OECD countries: Comparative tables,” *Organisation for Economic Co-Operation and Development*, 2016, <https://stats.oecd.org/index.aspx?DataSetCode=rev>.

## Section 6: Reflections and Recommendations

This study has established that the U.S. Federal Government and its workforce are in an unprecedented condition. Further, modern interconnectedness creates both enormous threats and monumental opportunities to redesign government services and government-anchored communities to be more effective and more resilient. This includes designing government agencies to better address both new and familiar suites of challenges.

For instance, millions of medical devices on which the lives of many Americans depend are highly vulnerable to hacking, essentially completely unsecured against nefarious actors; so, too, is the equipment used to harvest the United States' vast agricultural production. Terrorism and warfare are evolving in ways not yet foreseen, while the stresses of climate change are already well underway, far surpassing earlier and more conservative estimates.

In fact, these stresses are so monumental that an adversary might find great potential to strike during an extreme event, which are occurring much more rapidly at larger and larger scales. The year 2018 saw the largest wildfire in U.S. history, and enormous losses to flood and drought, while 2016 and 2017 each surpassed any other year in history for the magnitude of financial losses to extreme

events. These events always have overwhelming local effects. On May 27, 2018, Ellicott City, Maryland, experienced its second 1 in 1,000-year flood in two years.<sup>55</sup>

On the topic of collective resilience:

- On one hand, modern public service confronts a rapidly changing external environment that requires continuous adaptation as a strategic imperative; yet on the other hand, layers of legacy processes, methods of interacting, and outdated technologies make embracing that organizational agility — let alone building resilience to unanticipated events — difficult to achieve for the U.S. Federal Government
- That continuous adaptation requires public service to rethink how it organizes its human processes and technologies, asking hard questions about who does what work and how
- Such adaption includes creating “safe spaces” for those focused on the non-partisan work of public service. Those require the private sector’s explicit recognition that without these spaces, the United States will become increasingly politically polarized<sup>56</sup>, unstable, and unable to operate in either crisis or normal modes
- More specifically, the rapidly changing world requires new ways of organizing who does what work in public service and how to include bottom-up, more “entrepreneurial-on-the-inside” activities not typically associated with

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<sup>55</sup> Halvorsen, Jeff, “The second 1,000-year rainstorm in two years engulfed Ellicott City. Here’s how it happened,” *The Washington Post*, 2018, [https://www.washingtonpost.com/news/capital-weather-gang/wp/2018/05/28/the-second-1000-year-rainstorm-in-two-years-engulfed-ellicott-city-heres-how-it-happened/?noredirect=on&utm\\_term=.ff9fc7c722b2](https://www.washingtonpost.com/news/capital-weather-gang/wp/2018/05/28/the-second-1000-year-rainstorm-in-two-years-engulfed-ellicott-city-heres-how-it-happened/?noredirect=on&utm_term=.ff9fc7c722b2)

<sup>56</sup> Bray, David A, “Three Meaningful Strategies for Managing Rapid Change,” *MIT Sloan Management Review*, 2017, <https://sloanreview.mit.edu/article/three-meaningful-strategies-for-managing-rapid-change/>

how public service has functioned in the past

- If the U.S. private sector were willing to take a leadership role to help improve both local communities and the United States as a whole, in addition to pursuing profits, this too could improve the resilience of the country to future crises – after all, united we stand, divided we fall.<sup>57</sup>
- Lastly: for “We the People” frank conversations with the public, private sector, media, and other social institutions of the United States need to continue, based on understanding the plurality the United States embodies and recognizing the investments needed in new forms of networked governance and collaboration if United States is to remain a pluralistic society not captured by only a few, privileged interests.

The ability to adapt in the face of new pressures, stresses, and novel situations increasingly determines whether

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<sup>57</sup> Wingfield, Nick, Katie Thomas and Reed Abelson, “Amazon, Berkshire Hathaway and JPMorgan Team Up to Try to Disrupt Health Care,” *The New York Times*, 2018,

<https://www.nytimes.com/2018/01/30/technology/amazon-berkshire-hathaway-jpmorgan-health-care.html>.

<sup>58</sup> Bray, David A., Charles Rath. “Cultivating Resilience: A Modern Day Organizational Imperative,” in *The Handbook of Federal Government Leadership and Administration*. Edited by Rosenbloom, Malone and Valdez. New York: Routledge, 2016.

<sup>59</sup> “Leadership for America: Rebuilding the Public Service,” *National Commission on the Public Service*, 1989, [http://www.washingtonpost.com/wp-srv/opinions/documents/Leadership\\_for\\_America\\_Rebuilding\\_the\\_Public\\_Service.pdf](http://www.washingtonpost.com/wp-srv/opinions/documents/Leadership_for_America_Rebuilding_the_Public_Service.pdf)

<sup>60</sup> “Urgent Business for America: Revitalizing the Federal Government for the 21<sup>st</sup> Century,” *National*

organizations survive in our rapidly changing world<sup>58</sup>. The same can be said of nations, societies, and ways of life too.

Scores of eminent scholars and experts have made legions of recommendations to address these trends of concern in federal staffing which are occurring at all levels, along with the dismantling and lagging of federal capabilities and functions. This study stands on their shoulders.

Seminal reports from the National Commission on the Public Service in 1989<sup>59</sup> and 2003,<sup>60</sup> and ongoing work from the National Academy of Public Administration,<sup>61</sup> the Volcker Alliance,<sup>62</sup> and the Government Accountability Office<sup>63</sup> have provided a rich backdrop of scholarship for renewal and reform. Recommendations from these bodies consider a range of scopes and scales, but many of our recommendations build upon similar themes, such as restoring pride in civil service, reducing the number of political appointees across government, significantly increasing wages and wage flexibility across civil service, federating

*Commission on the Public Service*, 2003, <https://www.brookings.edu/wp-content/uploads/2016/06/01governance.pdf>.

<sup>61</sup> “No Time to Wait: Building a Public Service for the 21<sup>st</sup> Century,” *National Academy of Public Administration*, 2017, [https://www.napawash.org/uploads/Academy\\_Studies/No-Time-to-Wait\\_Building-a-Public-Service-for-the-21st-Century.pdf](https://www.napawash.org/uploads/Academy_Studies/No-Time-to-Wait_Building-a-Public-Service-for-the-21st-Century.pdf).

<sup>62</sup> “Preparing Tomorrow’s Public Service: What the Next Generation Needs,” *The Volcker Alliance*, 2018, [https://www.volckeralliance.org/sites/default/files/attachments/Preparing\\_Tomorrow%27s\\_Public\\_Service.pdf](https://www.volckeralliance.org/sites/default/files/attachments/Preparing_Tomorrow%27s_Public_Service.pdf).

<sup>63</sup> “Strategic Human Capital Management,” *U.S. Government Accountability Office – High-Risk Series*, 2017, <https://www.gao.gov/assets/690/682765.pdf>.

and diversifying personnel systems to meet the needs of specific agencies, and placing greater emphasis on missions, rather than bureaucratic processes. Opportunities for implementation vary across political moments and administrations, but, in any case, inaction cannot be attributed to a lack of quality scholarship.

In recognition of this existing body of work, our recommendations strike a simpler, framing tone:

- This study represents the first of its type to do a comprehensive and systematic assessment of staffing trends across all federal departments for which public data exist and to further assess these shifts in head counts regarding their implications for shifts in capability and function. This study recommends that a systematic, regular, comprehensive census for federal staffing should be regularly undertaken by OPM and reviewed by Congress. The degradation of the civil service must be recognized as a major threat to U.S. sovereignty, national stability, security and prosperity, and continually monitored as such. It is not a concern that can be safely kept in public administration silos — the alarm must be sounded and tended to by all manner of concerned citizens and leaders, or the functions of our government will continue to weaken.
- Second, it has become clear to us that, at its heart, this is not an issue about civil service, but an issue about the size and quality of the U.S. Federal Government generally. For which kind of government do we, as citizens, advocate? A small one incapable of tending to crises, or a more robust institution equipped to manage the

complex challenges of our time? The nation's answers to that question contain the roots of the tensions the American people currently face.

Given the limits of our data sets and the novelty of our approaches, this study does not attempt to give a definitive answer as to what the long-term future of the U.S. Federal Government is, or if these trends will reverse themselves on their own without focused, definitive intervention (although as researchers we view that as unlikely, potentially impossible). Also, as noted earlier, this study does not seek to make the case that the workforce should be larger, simply that our nation's public service should have the capabilities to respond effectively to emergencies and different types of crisis scenarios. What we as researchers can say is that the data sets show that such a growing weakness in the ability of the U.S. Federal Government to respond to crises, and the increasing missed opportunities to improve collective resilience in our turbulent world, have been occurring for the last few decades.

As researchers, we conclude noting that history tells us that irrevocable systemic failures happen with the acquiescence of a mostly passive majority against the backdrop of long-term, hard to detect erosions of institutions and norms. Given the analyses presented in our study, it would be a great folly to take any comfort in doing nothing when so many shocks, some incremental and others dramatic, increasingly constitute clear and present dangers to the institutional configurations that provide the foundation for the United States and our continued hopes and aspirations for an open, pluralistic union of many.

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## Appendix A: Research Methods

This study aims not at theory-building but rather employs inductive reasoning from what data is available. It also is different from most assessments of the United States Government (USG), which typically assess variations in policy outcomes across time and space, say for example, welfare state retrenchment, changes in U.S. grand strategy or U.S. trade policy. In contrast, this study makes the United States Federal Government the object of analysis. Long-term trends and anomalies in USG in effect becomes the dependent variable. However, the authors of this study are amply aware of the limitations such broad-scope conditions impose on their analyses, the difficulties they face in maintaining consistent analytical boundary conditions and the challenges inherent to focusing on and along different levels of analysis when they are all also fundamentally related.

What to look for, where, and how when the object of analysis professes to be an unwieldy beast? At the broadest macro-level, the entire USG edifice is built on the foundational scaffolding of checks and balances. “Ambition must be made to counteract ambition”<sup>64</sup> and consequently the executive, judicial and legislative branches at the analytical level remain fiercely protective of their predetermined jurisdictional boundaries and remain independent of each other. These predetermined jurisdictional boundaries are not so clearly delineated and therefore always remain in a state of tension and evolution. Indeed, much of American

political development and the evolution of the republic over time has been characterized precisely by these tensions as these branches reacted to or reflected wider social trends. As they do, there are informal affinities and relationships that engender across these branches along partisan, ideational, and even patronage lines to name a few. That elemental reality, ties that binds across branches both formally and informally, compromises both their purported independence and their analytical autonomy.

Premised on this reality, the authors analyze component — sub-units — of the government. They recognize that an analytical sub-unit at a specific level of analyses will always have its own internal characters, rules, norms and processes unique to it. But the same sub-unit, as unique as it may be, is also subject to, shaped by, and will evolve along general characters, rules, norms and processes as the rest of the federal bureaucracy. Take the judicial branch, for example, at the broadest macro-level of analysis. The three main branches are analytically autonomous and independent of each other. There are bureaucratic processes unique to say the Judicial branch that define and shape it over time. And yet, irrespective of its uniqueness defined by its independence and autonomy, it is still very much shaped by the overall federal constitutional structure in place.

Quantitatively, the study in its inductive analyses draws primarily on descriptive and plausible quasi-correlational

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<sup>64</sup> Madison, James. *The Federalist Papers*. “Federalist No. 51.” 1788.

[http://avalon.law.yale.edu/18th\\_century/fed51.asp](http://avalon.law.yale.edu/18th_century/fed51.asp)

assertions and refrains from controlling for variables. Authors based their broad inferences and highlight trends of concern based on a large-scale, time series data set that is representative of overall USG staffing trends. Simultaneously, authors assessed singular variations across time specific to sub-units of analysis, (different branches of the government, and agencies for example), with the collection of data specific to agencies and branches. Authors also conducted series of anonymized surveys across civil service ranks and gathered data on individual perceptions. They work as a proxy measure to assess congruities and or incongruities between observed trends in the broader data sets versus participant perceptions of reality. The same survey data sets provide the jumping off point for authors on their qualitative assessments.

Research Assistants scraped FedScope, the public-facing database for OPM, as a logical first step to explore trends in federal staffing.<sup>65</sup> They began by methodically capturing a time-series dataset on staffing across each cabinet department from the middle of 2000 (9 months into George W. Bush administration) through Obama and Trump administrations. This first step captured some of the macro-level trends across administrations and allowed the research group to get both familiar with FedScope and refine data collection pertaining to independent agencies.

Broad federal staffing data was separated along GS-15, SES, Excepted Service, etc., across cabinet departments and federal

agencies with the objective of assessing broad trends across the government. In addition, members of the Senior Executives Association looked at SES employment history, mass transfers of SES, individual transfers of SES, separations and accessions of GS-15s and SES, overall employment trends, overall accessions and separations, employment by department, ratio of SES to total government and ratio of GS-15 to total government.

This data was complimented with publicly available resources from news outlets known for their veracity and fact checking. They further complimented the data from the Best Places to Work Surveys documenting short term and long-term trends. Best Places to Work surveys was used as a proxy measure for employee morale.

Qualitatively, the study relies on *participant-observation* (in fact, authors themselves bring years of USG experience to bear), *in-depth unstructured interviews*, and *in-depth structured-focus groups* with the GS-15 and SES level participants. Participation was purely voluntary, and no-incentives were built into the research design to compel participation. Participant observation help authors gather data on “naturally occurring phenomena”, meaning processes and changes unique to sub-units in their normal context. In-depth interviews and focus-groups also helped authors gather individual experiences and perceptions and elicited valuable data on issues of concern and changes in work

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<sup>65</sup> FedScope data exclude Foreign Service Officers, Department of Defense uniformed branches, and Intelligence Community Data. Foreign Service Officer

data was gathered from the American Foreign Service Association to supplement data from FedScope.

norms and culture. Elicited qualitative data was then used to explicate the observed anomalies and trends of concern from quantitative data, enabling broad inferences on changes in work culture and norms overtime at the macro level as well as independent agency level.

The date of this written version of our study's findings, is 25 Jan 2019. We thank everyone who provided valuable feedback to different draft iterations of this paper.



## **Appendix B: Acknowledgements**

The authors would like to thank all those who supported this study, to include the Senior Executive Association and the multiple individuals who participated with the in-person interviews and data collection for this paper. We also thank the feedback we received on working drafts of this paper from the Volcker Alliance, Partnership for Public Service, and the National Academy of Public Administration.

Data sets used for this study came from FedScope; photos used for this publication were licensed CCo by Pixabay.com for reuse. Lastly, a big thank you goes to all who continue to support and believe in a “Government of the People, By the People, and For the People.”



## **Appendix C: About the Authors**

**Dr. Molly Jahn** leads a global alliance of research organizations focused on building and testing modern knowledge systems for sustainability. At the University of Wisconsin, she has been named a Wisconsin Institutes of Discovery Fellow, and holds appointments in the Department of Agronomy, the Center for Sustainability and the Global Environment (SAGE), and the Global Health Institute. She holds adjunct appointments at the US Department of Energy's Los Alamos National Laboratory and at Columbia University, and was the first Lillian Martin Fellow at the University of Oxford's Martin School. She has previously served as dean of the University of Wisconsin's College of Agricultural and Life Sciences (CALS) and Director of the Wisconsin Agricultural Experiment Station (WAES). From 2009-10, she served as Deputy and Acting Under Secretary of Research, Education, and Economics at the U.S. Department of Agriculture. She consults globally for businesses, governments, philanthropic organizations, and international multi-lateral institutions focused on agriculture, food, water and energy security, systemic risks originating in food system failures, life sciences and environment.

**Dr. Greg Treverton** is a member of APCO's International Advisory Council, previously served as chair of the U.S. National Intelligence Council (NIC), the Director of National Intelligence's interagency arm for both current intelligence support to senior policymakers and more strategic analysis. He served earlier in government on the staff of the first Senate Select Committee on Intelligence, on the National Security

Council staff and as vice chair of the NIC. He was for many years at the RAND Corporation, where he directed several centers, most recently the RAND Center for Global Risk and Security.

**Dr. David Bray** has served in a variety of leadership roles in turbulent environments, including bioterrorism preparedness and response from 2000-2005, time on the ground in Afghanistan in 2009, serving as the non-partisan Executive Director for a bipartisan National Commission on R&D, and providing leadership as a non-partisan Senior Executive and CIO at the FCC for four years. He was named one of the "24 Americans Who Are Changing the World" under 40 by Business Insider. He was also named a Young Global Leader by the World Economic Forum for 2016-2021. Since 2017, David has served as Executive Director for the People-Centered Internet coalition co-founded by Vint Cerf and focused on providing support and expertise for community-focused projects that measurably improve people's lives using the Internet. He serves on advisory Boards and provides strategy to start-ups espousing human-centric principles regarding collaboration, technology, and decision-making in turbulent, challenging environments. He also serves on Oxford Social Data Science Advisory Board at the University of Oxford and is a Senior Fellow with the Institute for Human-Machine Cognition.



**Dr. Buddhika Jayamaha** brings his political science and security studies background to the study of human and food system security. At the Jahn Research Group, he looks at how internal conflict dynamics in countries with weak institutions influence the food system and shape multi-state food crisis. He also brings his experience and interests in the use of Geo-Spatial data in complex humanitarian emergencies from International Crisis Mappers. Jay holds a Ph.D. in political science from Northwestern University where he did research on how combatant-state relations shape wartime authority structures with case studies in Iraq, Iraqi-Kurdistan, Turkey, and Nepal. Prior to Northwestern Jay served in the US Army as an Airborne Infantryman in the 82nd Airborne Division.

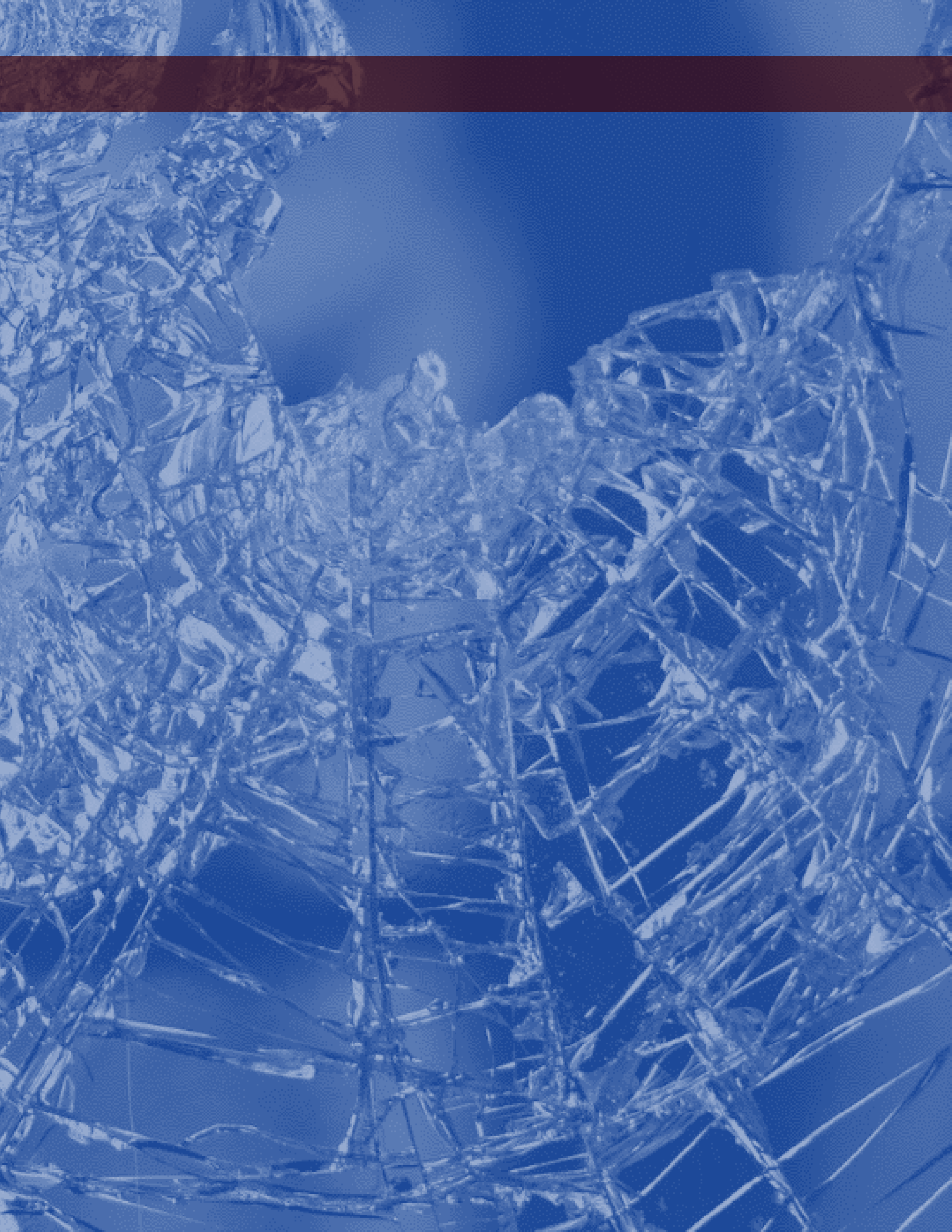
**Bill Valdez** was appointed as the President of the Senior Executives Association (SEA) in September 2016. As President, Bill sets SEA's overall strategic direction and is focused on strengthening the Senior Executive Service (SES) through legislative and policy initiatives, building a leadership pipeline for the Executive Branch, and establishing SEA as a thought leader in the Washington, DC policy debates that impact not only the SES, but all civil service employees. His career with the Department of Energy spanned over 20 years and he was a senior advisor at the White House Office of Science and Technology Policy (OSTP) in the 1990s.

**Ben Carnes** is a legislative and communications associate at Shaw Bransford & Roth, P.C. He is a tech-savvy public relations specialist with diverse background in politics, broadcast media,

and media production. Seven years of experience as Congressional Communications Director for two Members of Congress, most recently handling press operations for Congressman Darrell Issa (CA-49) and the R Street Institute, a Washington, D.C.-based public policy think-tank.

**Liam Hutchison** is a research specialist with the Jahn Research Group. He holds a B.S. from UW-Madison in Agricultural and Applied Economics, with academic interests ranging across the social and environmental sciences. His senior thesis examined the intersections of climate change and consumer behavior through a study of the U.S. advertising industry and the norms it helps create. As an essential counterpoint to broad-view academic research, Liam engages in systems change at a local level. Specifically, he is involved with movements toward sustainability and justice on matters of education, race and environment.

**Will Mulhern** is a graduate student at the Johns Hopkins University School of Advanced International Studies pursuing an MA in international economics and energy, resources and environment. Previously, he worked as a research specialist at the Jahn Research Group, where he conducted research on food systems, climate change, risk, extreme weather events, and human security. Prior to becoming a research specialist, he worked as an undergraduate research assistant for two years while obtaining both a B.S. (with Distinction) in Environmental Sciences and a B.A. (with Distinction) in Environmental Studies at the University of Wisconsin-Madison.





# **It's Not Too Late to Correct and Remediate These Trends**