

Can We Buy Like We Talk?

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For where your treasure is, there your heart will be also.

—Matthew 6:21

The Pentagon excels at producing strategy documents, reports, studies, and policy papers. They are just words on paper (or the monitor) without the funding to make them a reality. When and how the money is spent, and what the money is spent on, provide a more accurate reading of the United States national security strategy. But it can be difficult to see the connection if one compares the strategy documents written by various administrations with the actual spending.¹

Why does military funding not follow the proclaimed US strategy? Part of the reason is that the strategy is produced solely by the executive branch, usually without seeking much input from the legislative branch. Funding, on the other hand, is primarily a legislative responsibility.

Many people assume that when it comes to national defense, the president and cabinet officials decide what is needed and send the request to Congress, which may quibble but eventually salutes smartly and writes the check. But that is not what the Constitution says. Article I, Section 8 provides, “The Congress shall have power . . . to raise and support armies . . . to provide and maintain a navy,” among other duties. And Article I, Section 9 states, “No Money shall be drawn from the Treasury but in Consequence of Appropriations made by Law.”

In reality, the executive branch submits a funding request, but it is up to Congress to decide how much to spend and on what, subject of course to

The views expressed in this chapter are solely those of the individual author and do not necessarily reflect the views of any organization with which they are, or have been, affiliated.

the president's veto of the relevant legislation. Congress does consider the individual items in the administration's request but also takes input from the members themselves based on their oversight, travel, and parochial interests, as well as proposals from outside groups.

Congress's decisions on defense spending occur primarily with two of the bills it enacts each year. The National Defense Authorization Act (NDAA) sets recommended funding levels for each program and establishes the policies under which the funds are spent. The annual appropriations bill actually provides the funds.

The different perspectives and responsibilities of the two branches of government make it difficult to have actual spending that reflects a single, coherent defense strategy. However, beyond the separation of powers, our system is challenged in four areas related to defense spending: the amount we spend, what we spend it on, how we spend it, and the time it takes to get results. Some brief observations on each from a congressional perspective may be useful in finding a better approach.

The Amount

Under the 1974 Budget Act, Congress is supposed to approve a budget establishing the amounts to be spent in various categories of federal spending, including defense. That topline number is then given to the authorization and appropriations committees to write the individual bills. In reality, Congress has not followed this road map in some time, and the topline spending number is generally decided well after the fiscal year has begun, in a negotiation among the House, Senate, and White House. Therefore, the total amount of defense spending is more the result of a political negotiation than a considered strategy. It is obviously challenging for planners and program managers to cope with these year-to-year topline fluctuations resulting from political forces and negotiations.

Defense spending as a percentage of the economy (measured by the gross domestic product) was around 9 percent during the Cold War years of the early 1960s and was between 6 and 7 percent during the Reagan years. It is now less than 4 percent. Similarly, as a percentage of total federal spending, defense has fallen from roughly 50 percent of total spending in the early 1960s to about 13 percent today.²

While the trend over the last sixty years is clear, world events, such as Russia's invasion of Ukraine, can affect the political dynamics and thus the topline amount for defense. At the same time, the year-to-year change in

US defense spending is followed closely by other countries looking for signs either of growing resolve and unity or of dissonance and unreliability in US defense commitments.

The What

As typically categorized, the largest component of defense spending is operation and maintenance, which includes upkeep and operation of existing equipment, training costs, expenses to run military bases, military health care, and a host of other items. The next largest category is personnel costs. Procurement of weapons and equipment comprises about 20 percent of defense spending, with research and development at about 15 percent.³

Perhaps surprisingly, with political fluctuations and yearly bills, what defense funding actually buys is largely consistent from one year to the next. The vast majority of the funding continues to fund the same kinds of operations, pay roughly the same number of people, and buy the same weapons and equipment as the year before. Changes are only on the margins.

Some of that makes sense. We need some stability in personnel. Large weapons purchases take years to buy, then to train personnel to use and maintain. But there is also a certain degree of inertia. Virtually any spending program has a constituency interested in maintaining or growing that funding and will resist efforts to cut it. Cuts can be made but only with a willingness to take on program supporters. With most of the money locked in, even marginal changes can have disproportional consequences for the warfighter. For example, defense spending cuts under sequestration and pursuant to the Budget Control Act of 2011 resulted in less money for maintenance and training, leading to alarming increases in accident rates.⁴

Over the years, defense procurement dollars have been geared toward purchases of hardware, often large, complex weapons. The entire system is oriented toward—and is more comfortable with—those kinds of buying decisions. It is much less comfortable with acquiring software, for example, which is increasingly essential in everything from weapons systems to decision making.⁵ Without a significant push from within or from Congress, the Department of Defense (DoD) will continue to buy what it is comfortable buying, and that will exclude newer technologies, nontraditional suppliers, and different approaches to getting military capabilities to the troops.

Virtually all the spending on weapons and equipment results from decisions made by the military services. The rest of the department can issue lists of important technologies associated with the strategies it produces and

make declarations about the changing nature of warfare, but they have limited tools to force compliance from the services.

For example, the DoD's under secretary for research and engineering has identified fourteen critical technologies that she considers vital to national security. But analysis of how much is spent on each area points to a discrepancy in what is said versus what is done. The business intelligence firm Govini looked not at budget requests or appropriations but at actual contracts that were issued. They found that increases in many areas of technology identified as a high priority were not commensurate with the guidance.⁶

The How

In addition to how much the government spends on defense and what those defense dollars are used to buy, the matter of how the money is spent—what process is followed—presents challenges for those responsible for safeguarding the country. The long, complex process usually begins with a five-year budget plan that attempts to meet a military need with a spending program that must find its way into a bill that becomes law. Even after a decision on what to buy is made, funds are approved, and a contract is awarded to a particular company, that is not the end of the story. Other bidders may appeal the awarding of the contract, leading to a protracted bid appeal process. And the many regulations that affect defense spending must be applied.

As with any endeavor pursued by human beings, mistakes are made in various stages, some intentionally and some not. Those mistakes often result in a new legal or regulatory requirement to reduce the chance of the mistake happening again. Over time, the laws and regulations, as well as the informal cultural caution they instill, add up to impose greater costs in dollars and time on the system. They also reduce the number of suppliers willing to enter the defense marketplace.

Congress and various Pentagon officials have regularly and recurrently pushed acquisition reform over the years with mixed results. Various mechanisms have been created to short-circuit these laborious requirements, to include streamlined acquisition authorities and even new offices and organizations. All of these, however, are workarounds to an increasingly clogged system through which most of the DoD spending is made.

A glimpse of what might be possible was provided by the COVID-19 pandemic. By utilizing the Defense Production Act and other authorities, the Trump and Biden administrations developed, produced, and delivered effective vaccines and protective equipment in a remarkably short time compared with the normal government process.

The Time

Time—it may be the most difficult and most significant challenge facing defense spending in the United States. By any standard, the time it takes to go from an identified need to getting something into the hands of the warfighters is excessive. And it is even worse when compared with the pace at which technology now develops and the speed at which successful commercial companies operate. It calls to mind the statement General Douglas MacArthur made in 1940: “The history of failure in war can almost be summed up in two words: ‘Too late.’”⁷

Part of the reason for the sluggishness is an outdated process designed for a different time and for purchasing a large number of items usually made of metal. That process has been encumbered over the years by layer upon layer of additional mandates and regulations. Another factor is that competition over resources, whether within the executive branch or among Congress, and the decision-making process to sort it all out take time. The test and evaluation process at the Pentagon, which can have the effect of writing or amending the attributes required of the product, is often blamed for more delays. Of course, erratic funding usually means efficient production is compromised, and delivery is delayed even further.

Whatever the factors are creating the delays, the results speak for themselves. A study by Bill Greenwalt and Dan Patt of the Hudson Institute found:

Historical analysis of innovation time cycles—the time measured from the origin of a new concept for military capability until its initial fielding—indicates the cycles were shorter prior to the implementation of the triad of McNamara-era processes, commonly with an average time around five years for both ships and aircraft, and have grown steadily since.⁸

Greenwalt and Patt compared the time to market for commercial aircraft and automobiles to DoD aircraft and found that as automobiles took less time to get to market over the last fifty years and commercial aircraft slightly more, DoD aircraft went from five years in 1975 to more than twenty-five currently.

While we have slowed down, China is speeding up.

China

US defense spending has to be placed in the context of the global geostrategic environment, which also shapes our domestic political environment. China “is the only competitor with both the intent to reshape the international

order and, increasingly, the economic, diplomatic, military, and technological power to advance that objective,” according to the Biden National Security Strategy.⁹

And that “competitor” has marshaled its resources to win the competition. As the annual DoD report on Chinese military developments reported in November 2022:

The PRC [People’s Republic of China] has mobilized vast resources in support of its defense modernization, including through its Military-Civil Fusion (MCF) Development Strategy, as well as espionage activities to acquire sensitive, dual-use, and military-grade equipment. The PRC has substantially reorganized its defense-industrial sector to improve weapon system research, development, acquisition, testing, evaluation, and production.¹⁰

While we will never emulate the Chinese, we have to make better use of the considerable strengths of the American system. We need all segments of our society to contribute to keeping the country safe. We need all of our players on the field.

How to Improve

Comprehensive solutions to all our challenges in defense spending are beyond the scope of this paper. Some achievable improvements, however, would make a considerable positive difference.

We can start with the recognition that we will not and should not upend the fundamentals of our system of government. Separation of powers is built into our system and is one of our great strengths. We will continue to have administrations draw up national security strategies, which will depend upon congressional funding decisions consistent with those strategies. Administrations that consult more closely with bipartisan leaders of the relevant congressional committees in writing their strategies will find a greater likelihood that their strategies are funded.

No category of defense spending can be exempt from reform. For example, accelerating the adoption of artificial intelligence (AI) can make equipment maintenance more efficient and improve availability rates, as some commercial companies are proving daily. It can also increase the efficiency of administrative functions and decision making, as well as a host of other operations.

Congress and the DoD must continually reexamine military pay and benefits to ensure that the proper recruitment and retention incentives are in place to continue to attract the best and brightest of our nation. We will always pay our service members more than our adversaries, and our personnel costs will be higher.¹¹ But we should never automatically assume that the current benefits package continues to address the interests and concerns of those who volunteer to serve and their families. The passage of the new military retirement system, discussed below, is a good model to follow when adjustments seem appropriate.

When it comes to the acquisition of goods and services, those working in the trenches of DoD acquisition seem to generally believe that the Pentagon has the authorities it needs to deliver appropriate capability to the warfighter. No doubt, those authorities can be streamlined and made easier to use, but too often, those responsible for various programs do not make full use of the authorities Congress has provided. Beyond authorities, however, there are two areas where improvements are clearly needed, funding—the actual appropriations made available to the department—and culture.

Funding

On funding, there is little dispute that the process developed by the RAND Corporation and brought into the Pentagon by Secretary Robert McNamara in the early 1960s is out of date. Even with the modifications made over the years, it does not fit an era of rapidly changing technology and innovations developed largely in the commercial market. Congress has authorized a commission to examine and make recommendations about the current budgeting system. The Commission on Planning, Programming, Budgeting, and Execution Reform is scheduled to publish its final report in March 2024.¹² The commission is expected to recommend significant reforms that will have to be debated and voted on by Congress and, at best, take some time to implement.¹³

In the meantime, there are at least three important steps that can be taken to improve the funding of military capability. One is to permit greater flexibility and speed in making certain purchases. The National Security Commission on Artificial Intelligence noted in its final report:

The DoD's budget process requires that funds be requested two years in advance of their execution and focuses planning within the five-year Future Years Defense Plan. Resources are allocated to program

elements that are defined at the system level and based upon cost build-ups for pre-determined and highly specified system requirements. In addition, the life-cycle-phased appropriation categories that govern the DoD budget structure run counter to the iterative process inherent to AI and other software-based technologies.¹⁴

The commission recommended a portfolio management approach for certain purchases. The idea is that Congress would approve money for a particular portfolio of capabilities, such as AI applications. The DoD's program office would have the flexibility to spend out of that fund for capability within the portfolio without having to get Congress's approval for each expenditure. It would, however, be required to report each expenditure to Congress for full transparency. The DoD would also not be limited by "color of money" restrictions that separate research and development spending from procurement or operations, distinctions that do not make much sense for certain technologies.

This kind of funding flexibility does not fit many kinds of capabilities, but for others, it would not only speed up getting capabilities into the hands of the warfighters but also make it easier for more companies to work with the DoD. It requires that Congress loosen the control strings a bit on prior approvals. Fortunately, there are signs that key legislative leaders now recognize that changes are needed.

A second important step is to provide more stability in funding. Congress always will and should put its stamp on defense spending, but it must do its work on time. The actual cost to the American taxpayer in wasteful spending, lost productivity, and the inefficient purchasing that comes with every continuing resolution (CR) is massive.¹⁵ According to the Government Accountability Office, the federal government has operated under a CR for all but three of the last forty-six years.¹⁶ And, with one exception (FY2019), the DoD has begun the fiscal year under a CR for twenty-six straight years. While many in Congress would resist a two-year budget for both, the authorization and appropriations bills could provide some relief if this trend continues.

In addition to passing bills on time, multiyear procurement can be expanded. Large ships have been authorized and funded over several years because of the high costs of each ship. The FY2023 NDAA authorized multi-year contracts for certain kinds of missiles and ammunition to give suppliers the surety they need to expand factories and hire workers. Again, multiyear contracts do not fit all DoD purchases, but wider use would provide greater stability, certainty, and efficiency.

A third improvement that can be made in DoD funding is to make it easier for nontraditional suppliers, whether they are established commercial companies, new start-ups, or something in between, to do business with the DoD. Max Boot writes that “to the limited extent that we can generalize about five hundred years of history, it seems fair to say that the most radical innovations come from outside of formal military structures.”¹⁷ Certainly, most innovation today occurs in the private sector, and those companies have a choice of whether to do business with the DoD. If the difficulties in funding and regulatory burden are too great, they will focus only on the commercial market. Vital innovation, capability, and differing perspectives are lost.

Congress and the DoD have contributed to the mound of regulations, and both will have to participate in easing them. In the FY2016 NDAA, Congress established a commission to recommend specific ways to streamline the acquisition process. Known as the 809 Panel, it issued several volumes of reports with a number of recommendations.¹⁸ Only a small percentage of its final recommendations were implemented, partly because some were so sweeping that they attracted considerable opposition and were viewed as beyond the Section 809 Panel’s charge. Another focused attempt to identify and enact specific improvements, however, should be made.

The so-called “valley of death” occurs when a company receives DoD funding to develop a product but encounters a time gap, often in years, between initial funding and when production funding is included in the DoD’s five-year budget request. Few companies can continue to pay their workforce or hold ready the capital improvements while they wait. The idea gaining traction in both the Pentagon and Congress is to have funds that can be used to help bridge that time gap for the company and also speed the time in which the capability gets to the warfighter.

It is also important to remember that taxpayers can never provide all the resources needed to research and develop all that our warfighters need. Companies, whether large, traditional prime contractors or new start-ups, need to be attractive to private investors and stockholders. They also must have the chance to make a profit. Making it too difficult or cumbersome for defense suppliers to be successful only increases the burden on taxpayers and denies the warfighters what they need to do their job.

Culture

In addition to funding, the other area in which improvements are a prerequisite for success is the culture surrounding the defense budget process. The culture of organizations has been the subject of many studies and countless

books. It is influenced by the organization's mission, its power, its leadership, and especially by incentives—what sort of behavior is rewarded and what gets punished.

Within both the DoD and Congress, the culture must accept and encourage a willingness to experiment and fail quickly when developing new capabilities. It must also accept a willingness to field a 70 percent solution rather than the perfect answer years later.

Many of the needed changes are countercultural for the DoD. As an example, former Defense Innovation Board chair Eric Schmidt and former deputy secretary of defense Bob Work wrote an article recently arguing that the DoD should embrace a new offset strategy that uses a distributed, network-based force; fully integrates human-machine teaming; and integrates software into its decision aids, combat systems, and operations.¹⁹ All of those changes make the DoD and most of its congressional overseers uncomfortable. Implementing them requires, if not a change in culture, an openness to doing things differently.

Congress plays a key role in determining the department's culture by its budget, its authorization and appropriations process, the hearings and oversight it conducts, and the laws it passes. It is always tempting for Congress to pass a new restriction or requirement when the department does not perform as it should, but the result is delay and caution. Over the years, congressional and media scrutiny have sent the message to the DoD that "you'd better not try something that you are not sure about." And that message has been received. Congress willingly adds oversight and control but rarely relaxes it. One key to changing the Pentagon's culture is congressional restraint, especially in new mandates.

At the same time, it is too easy for those in the department to blame Congress for being parochial and political while ignoring those same tendencies within the services themselves, as well as failing to acknowledge inconsistent decisions as military and civilian leaders rotate in and out of jobs. History has shown that in some cases, only Congress can mandate reforms that the department cannot or will not make on its own. In short, there is room for improvement, and both branches must participate.

Is Change Possible?

Is it even possible to make significant reforms in a system so well entrenched and in a time of such extreme partisanship? Recent history says that it is and offers some valuable lessons.

The FY2016 NDAA (Pub. L. 114-92) reformed the military retirement system, one of the most sensitive and politically volatile issues Congress or the Pentagon could tackle. The new law was based upon the recommendations of a commission that Congress had created three years before to study the all-volunteer force's health and sustainability. The plan provided a transition so that the rules would not change for those who had been in the system for a number of years but offered greater benefits for those just entering the system. Not only did the fully enacted plan reduce taxpayer costs by billions of dollars, but it also added flexible retirement benefits to service members.²⁰

Congress enacted numerous provisions related to acquisition reform in the FY2016–18 NDAs.²¹ The ideas resulted from a concerted effort to solicit suggestions from sources inside and outside government that began two years prior.²² Both chairs of the House and Senate Armed Services Committees placed the highest priority on seeing these reforms enacted into law. Some at the Pentagon have utilized these authorities effectively and made a real difference. But many others have not taken advantage of them and continued to follow the traditional path. Of course, it is always easier for Congress to add new authorities than to take some away. But one of the key lessons for recent years is that providing more authority does not mean it will be used. Culture and various incentives can work against the hoped-for benefits.

A crisis can lead to reform. The attacks on 9/11 led to the creation of the Department of Homeland Security and the director of national intelligence position. A spying scandal at a national laboratory led to the creation of the National Nuclear Security Administration. While there had been occasional calls for a separate military service devoted to space for some time, intelligence briefings given to a House Armed Services Committee subcommittee convinced its chairman and ranking member that we could afford to wait no longer. After initially failing to convince the Senate about the proposal, their bipartisan solidarity and presidential support overcame the many opposing arguments and created the US Space Force, the first new military service since the creation of the air force in 1947.²³ Of course, our goal should be to act ahead of the crisis and thus avert it.

There have also been attempts at reform that were not successful. The FY2004 NDAA, for example, established the National Security Personnel System to provide greater flexibility in managing the DoD civilian personnel than was allowed under the General Schedule that applies to all federal civilian employees. It was opposed by federal employee unions from the

beginning and became a partisan issue. The new system was never fully implemented and was then repealed in 2009.²⁴

One of the key lessons from the reform efforts of recent years is that the chances of success are greater when Congress and an administration work together in enacting and then implementing the changes. Another is that commission recommendations can help provide specific reforms but need advocates in both houses of Congress. A third is that the reform should have support from both political parties.

In many ways, the armed services committees have been the last vestige of bipartisan cooperation in Congress. It is a credit to the leaders of those committees, especially in the last two years, that they continued to focus on the men and women who serve our country and American national security in an increasingly contentious political environment. That must be encouraged and give us hope for needed reforms.

So far, the annual defense authorization bill has been one of the few pieces of legislation sure to become law, if need be, over a presidential veto, with a large majority from both parties voting for the final product. The NDAA process allows a large number of House and Senate members to contribute and thus gain a stake in the outcome.²⁵ Appropriations bills are also enacted yearly in some form but do not usually attract the same level of support and are often the product of each party holding hostage some spending valued by the other side.

Of course, no reform will occur without leadership, which is necessary to overcome inertia and outright resistance to change. Professor Williamson Murray writes in *America and the Future of War* that “[bureaucracies] are happiest with established wisdom and incremental change. . . . And in the absence of driving political leadership, even structured debate may produce only paralysis.”²⁶ There are organizations with that kind of bureaucratic behavior not only in the DoD but in other parts of the executive branch, such as the Office of Management and Budget, and in Congress. “Driving political leadership” can come from a president or secretary of defense or, as it often has in the past, from within Congress, such as with the Goldwater-Nichols reforms in the 1980s.

In national security policy, the various interests and considerations involved are not what most Americans encounter in their daily lives. That makes communication about what is at stake and why it matters even more important than it is for other issues. Much of leadership is about reminding as much as educating. Especially in the United States, with our many differences, we need leadership that reminds us of our commonality. Some of those

reminders need to be of what we have achieved—past accomplishments, not just past failings. And with those reminders, leaders can point us optimistically toward a safer, more prosperous future that we can build together.

One final thought: How can we ask America's finest young men and women to put their lives on the line for our country if we are not providing them with the very best training and equipment that our nation—our whole nation—can produce? Our ability to provide for them depends on our spending decisions. These men and women are our true treasure—the 1 percent of the population that defends the freedom and way of life of the other 99 percent. Our actions, not just words, must reflect our commitment to them and the vital mission they perform for us all.

Notes

1. It may be worth noting that some of the words used around defense spending have meanings that create some confusion to some audiences. For example, “defense budgeting” can mean the overall process, or it can mean the amount of money allocated for defense in a president's budget request or congressional budget resolution. Similarly, “authorize” is sometimes used for broad approval rather than a specific authorization in a defense authorization act. “Funding” also can sometimes mean the money approved for a purpose, but it can also reference an appropriation.

2. “FY2022 National Defense Authorization Act: Context and Selected Issues for Congress,” Congressional Research Service Report R47110, updated May 20, 2022.

3. Peter G. Peterson Foundation, “Budget Basics: National Defense,” June 1, 2022.

4. Tara Copp, “The Death Toll for Rising Aviation Accidents: 133 Troops Killed in Five Years,” *Air Force Times*, April 8, 2018.

5. David Ignatius, “Opinion: How the Algorithm Tipped the Balance in Ukraine,” *Washington Post*, December 19, 2022.

6. Robert O. Work and Tara Murphy Dougherty, “The National Security Scorecard,” Critical Technologies Edition, Govini, June 2022, <https://govini.com/wp-content/uploads/2022/06/Govini-National-Security-Scorecard-Critical-Technologies.pdf>.

7. “The history of failure in war can almost be summed up in two words: ‘Too late.’ Too late in comprehending the deadly purpose of a potential enemy; too late in realizing the mortal danger; too late in preparedness; too late in uniting all possible forces for resistance; too late in standing with one's friends. Victory in war results from no mysterious alchemy or wizardry but depends entirely upon the concentration of superior force at the critical points of combat.” Statement by General Douglas MacArthur in 1940, quoted by James B. Reston in *Prelude to Victory* (New York: Pocket Books, 1942), 64.

8. William C. Greenwalt and Dan Patt, “Competing in Time: Ensuring Capability Advantage and Mission Success through Adaptable Resource Allocation,” Hudson Institute, February 2021.

9. The White House, "National Security Strategy," October 2022.
10. US Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022: Annual Report to Congress*, November 2022.
11. Bret Stephens, "Are We Sleepwalking through a 'Decisive Decade?'," *New York Times*, December 6, 2022.
12. "Commission on Planning, Programming, Budgeting, and Execution (PPBE) Reform Releases Status Update," US Senate, March 2, 2023.
13. For a discussion of the current planning, programming, budgeting, and execution process and potential issues that the commission may address, see "DoD Planning, Programming, Budgeting, and Execution (PPBE): Overview and Selected Issues for Congress," Congressional Research Service Report R47178, July 11, 2022.
14. Eric Schmidt and Bob Work, "Final Report: National Security Commission on Artificial Intelligence," March 2021, 308.
15. Stuart Roy Kasdin, "Continuing Costs: The Impact of Continuing Resolutions on Federal Contracting," *American Review of Public Administration* 51, no. 7 (September 2021): 542–59; Adam Mazmanian, "6 Hidden Costs of Continuing Resolutions," *FCW*, August 19, 2015.
16. US Government Accountability Office, "Federal Budget: Selected Agencies and Programs Used Strategies to Manage Constraints of Continuing Resolutions," Report to Congressional Requestors (GAO-22-104701), June 2022.
17. Max Boot, *War Made New: Technology, Warfare, and the Course of History: 1500 to Today* (New York: Avery, 2007), 457.
18. To review the panel's various reports, see Defense Technical Information Center, "Section 809 Panel" at <https://discover.dtic.mil/section-809-panel>. A summary of which recommendations were enacted can be found in a document issued by the Naval Postgraduate School, "List of Section 809 Panel Recommendations," <https://discover.dtic.mil/wp-content/uploads/809-Panel-2019/Promo-Outreach/ImplementationTracker.pdf>. An example of the bipartisan criticism of its final report can be found at Peter Levine and Bill Greenwalt, "What the 809 Panel Didn't Quite Get Right: Greenwalt & Levine," *Breaking Defense*, April 4, 2019; and the panel chair's response is at David Drabkin and Lt. Col. Sam Kidd, "War of the Acquisition Reformers: 809 Panel Defends New Commercial Approach," *Breaking Defense*, April 30, 2019.
19. Eric Schmidt and Robert O. Work, "How to Stop the Next World War," *The Atlantic*, December 5, 2022.
20. For a fuller description of the legislative path of retirement reform, see William McClellan Thornberry, "National Defense Authorization Act: The Sturdy Ox of Legislation," *Harvard Journal on Legislation* 58, no. 1 (Winter 2021): 1–22.
21. For more information about the reforms enacted, see "Acquisition Reform in the FY2016–FY2018 National Defense Authorization Acts (NDAAs)," Congressional Research Service Report R45068, updated January 19, 2018.
22. In addition, draft legislative proposals were released publicly approximately two to three months before the committee took action, with feedback and suggested

modifications encouraged. The amended provisions were then considered as part of the usual NDAA process.

23. National Defense Authorization Act for Fiscal Year 2020, Pub. L. 116-92 (2019).

24. Anthony R. Crain, "NSPS: The Brief, Eventful History of the National Security Personnel System," Office of the Secretary of Defense, Historical Office, *Occasional Papers*, no. 1 (February 2017).

25. Thornberry, "National Defense Authorization Act."

26. Williamson Murray, *America and the Future of War: The Past as Prologue* (Stanford, CA: Hoover Institution Press, 2017), 131.