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The Cost of Saving Money

The Negative Impact of Roller Coaster DoD Funding

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THE OPPORTUNITY FOR ACTION

In the current configuration, the peaks and troughs of defense procurement obscure the true causes of cost increases and inefficiencies. The current cycle of temporarily cutting defense budgets only to suffer increased costs on the backend of those cuts is inefficient and short-sighted.

If DoD were to operate on a stable budget, instead of its topline number being used as a political football, its spending could become more transparent. With this increased transparency, Congress and others could more readily identify areas to address for long-term savings. For example, many legacy programs, particularly in information technology, consume large shares of agency budgets; in one estimate it is close to 80%.[1] Replacement programs that may be more efficient and more capable are dismissed because they are seen as too expensive in the short-term.

Decreasing the peak to trough amplitude of the budget is merely one element. There is a current defense reform effort underway to reduce the Department's logistics, human resources, contracting, and property management spending by 25%.[2] The Budget Control Act threatened mandatory 10% budget cuts of Defense spending.

It is entirely possible the prospect of those cuts were more frightening to Defense leadership than many national security threats. There is a problem with setting a particular number for blanket cuts. Creating a floor is unpalatable, small percentages may be intolerable for the optics, and 10% is too high for managing the requirements we place on DoD.

DoD works best with stable funding. While it may be politically advantageous to tout lower baseline numbers for the defense budget, DoD's budget can, and must, be managed better.

The strategic environment we operate in calls for agility in the face of multiple potential kinds of conflicts. While the current National Defense Strategy emphasizes Great Power Competition, the next may emphasize a different kind of challenge that we are unable to predict today.

The breadth of the investments we make must match the breadth of the challenges we will face. While difficult with public funds, prioritize maintaining and potentially increasing investments in RDT&E during downturns. Though potentially challenging to determine, prioritize those lines of acquisition that are most difficult to restart. On new program starts in lean years, prioritize understanding the true quantity requirements.

Finally, this is a perennial problem, and one we can predict in planning. Taking the time now in the period of relative calm and economic growth to look strategically at the DoD's budget will allow the United States to align its budget with the objectives it intends to achieve.

1. Frank, R. Konkel, "Some agencies are spending even more on legacy IT than you think," Nextgov, October 25, 2019, accessed October 14, 2019, https://www.nextgov.com/cio-briefing/2016/10/idc-report-legacy-it-in-agencies/132618/.

2. Peter Levine, "Can the Pentagon Save its Way to Better Management?," War on the Rocks, accessed September 15, 2019, https://warontherocks.com/2019/08/can-the-pentagon-save-its-way-to-better-management/.

It may go without saying that budgets can't always go up. We largely forget that truism until a crisis such as the last recession occurs. Then we bemoan the large reductions that become necessary and argue for large increases when the purse strings loosen.

In short, in the case of the Department of Defense, we over cut and over correct. As such, this last downturn, like all past ones, will eventually cost the U.S. far more than was saved—as we are beginning to see now in the largest peacetime increase to defense spending.

- The Department of Defense (DoD) has to spend more to achieve readiness levels.
- Programs that are started in downturns statistically exceed their budgets and have more cost increases.
- Surges in lowest price technically acceptable contracts occurred, only to be cancelled for underperformance.
- Government contractors had a difficult time providing a well-trained workforce without sustained investment, and will therefore need to spend more to regain lost skills. They may have been forced to drift out of their core business competencies in a way that made sense for their survival, but not department-wide efficiency.

In this white paper, I demonstrate the negative impact of roller coaster DoD funding on defense programs, including the whipsawing of military readiness, and make recommendations to prevent it going forward.

The DoD budget is the 800-pound gorilla that the country likes to point to when we express concerns about the federal budget. Small cuts to things in the DoD budget "feel" like big savings. While we save more in real dollars in the short term, the country often decides that it needs those same things at a later date and ends up spending more to get there.

Despite its bulk, there is limited swing space in the DoD budget. Salaries, pensions, and healthcare are commitments that must be paid. DoD is responsible for keeping a well-equipped professional military force, a nuclear deterrent, cutting edge technologies, and a host of other investments; the price tag is high and will continue to be. Today, the United States finds itself working to maintain its role as the world's superpower on a shoestring. The demands are great and the available resources small.

As we begin the latest phase of increased defense spending in the United States, there is broad agreement that these investments are needed after the last decade of cuts. In February 2018, then-DoD Comptroller David Norquist briefed,

> It is a sign of how deep the hole is that we are in that it takes this big of an increase just to get the Department's budget back to where inflation alone would have put us."

The current uptick arrives after a ten-year period of budget cuts and efficiency drills in the aftermath of the 2008 recession. Due to the magnitude of these costs, DoD was unable to make strategic investments that would be coming online in the next few years.

Procurement, which has ripple effects on all areas of readiness, is often a first target in periods of lower resources. It is the trade space when we consider other areas of the budget sacred. Other early targets include military construction, facilities sustainment, restoration and modernization, and equipment maintenance. Additionally, service contractor reductions and hiring freezes cut administrative and support services and leave existing positions vacant. These deeper cuts end up costing more in the long term, however. We are not filling in the hole, we ultimately have to put in more than we take out to achieve less capability. It leads to the unfortunate necessity, as former Secretary of Defense Donald Rumsfeld, stated "You go to war with the Army you have, not the Army you might want or wish to have at a later time."

One challenge will be how to smartly spend going forward, particularly as it related to the government's contract dollar. There will be some inefficient spending as leaders determine what areas to plus up or start. This is in part due to budget structures that incentivize rapid spending over intelligent spending, and in part due to sheer volume of contract dollars spent.

It is a challenge recognized by the former-Acting Secretary of Defense Patrick Shanahan. As he told National Public Radio in May of 2018,

> There's probably going to be a $600 hammer. Because someone was moving quickly and they made a mistake. The math on this is a little over $300 billion dollars a year. A billion dollars a day. I bet you we could find a mistake. Just think of the volume.[1]

The macro-level action of significant budget increases over a short time period has the micro-level impact of driving inefficiency with excessive throughput requirements.

1. Tom Bowman, "Pentagon's No. 2 Watches the Money—And the Future," last modified May 2, 2018, https://www.npr.org/sections/parallels/2018/05/02/607525467/pentagons-no-2-watches-the-money-and-the-future.

DoD's Budget Request
(FY2020, in billions)

Total	$718
Base	$545
Overseas Contingency Operations (OCO), Base	$98
Overseas Contingency Operations (OCO)	$66
Emergency	$9
Department of Energy & Other Agencies	$32

Source: DoD Comptroller, FY 2020 Budget Request.

WHAT DOES THE BUDGET LOOK LIKE

Altogether, including base and items in the Overseas Contingency Operations (OCO) budget, DoD's FY2020 budget request is $750 billion.[2] This includes funding new priorities with $14.1 billion for the space domain, to include the Space Force. There are investments in directed energy, hypersonics, artificial intelligence, and cyber. It also includes significant investments in Services' readiness and a 3.1% pay increase for military personnel.[3] At the same time, procurement budgets are seeing a decrease, roughly 5.9% below the FY19 enacted level.[4]

The intention here is not to discuss the ideal DoD budget, declare it too large or too small, or debate the administration's priorities. Others have covered that extensively. Susanna Blume, for example, gave a thoughtful commentary entitled, "Dear Pentagon: It's Not How Big Your Budget Is. It's How You Use It," pointing out that our traditional measures of comparing to Gross Domestic Product (GDP) or other countries' defense budgets are inadequate to determine what the U.S. should invest in defense.[5]

For reference, the overall defense budget has declined from an average of 7.7% to 3.3% of GDP.[6] Michael O'Hanlon and former Undersecretary of Defense for Policy, Jim Miller, also published, "Quality over Quantity: U.S. Military Strategy and Spending in the Trump years," which posits that while the top line amount matters, prioritization of spending matters more.[7] That debate will continue on the question of how much can we ask of our military for a reasonable amount of the federal budget. These are the internal questions the Pentagon must answer, and has robust, and occasionally cumbersome, processes to do so.

Instead, what are the effects of the cyclical nature of the U.S. defense budget? The budget snakes in a sine curve of drawdowns and up-ticks, in approximately 20-year increments. Figure 1, on page 4, established by research from the Center for Strategic and International Studies (CSIS), provides a picture of the peaks and valleys of the budget. Past budget drawdowns bottom out at approximately $400B in 2019 constant dollars, with the exception of the most recent one. These changes between peak and trough are all above 30%.[8]

BUDGET TO STRATEGY?

In Figure 1, the alignment of budget increases and conflicts is clear, as are the post-conflict drawdowns. Some have argued that periodic reevaluations in times of austerity can create sounder strategy. Melvyn P. Leffler, for example, argued in *Foreign Affairs* that past downturns force a reevaluation of policy, pointing out through historic examples

2. "Fiscal Year 2020 Budget Request," Department of Defense, March 2019, https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2020/fy2020_Budget_Request.pdf.

3. Ibid.

4. Shaun McDougall, "FY20 Budget Leaves Future Topline Growth Largely Unchanged, But Modified Acquisition Spending Plans," Defense and Security Monitor, last modified May 6, 2019, https://dsm.forecastinternational.com/wordpress/2019/05/06/fy20-budget-leaves-future-topline-growth-largely-unchanged-but-modifies-acquisition-spending-plans/.

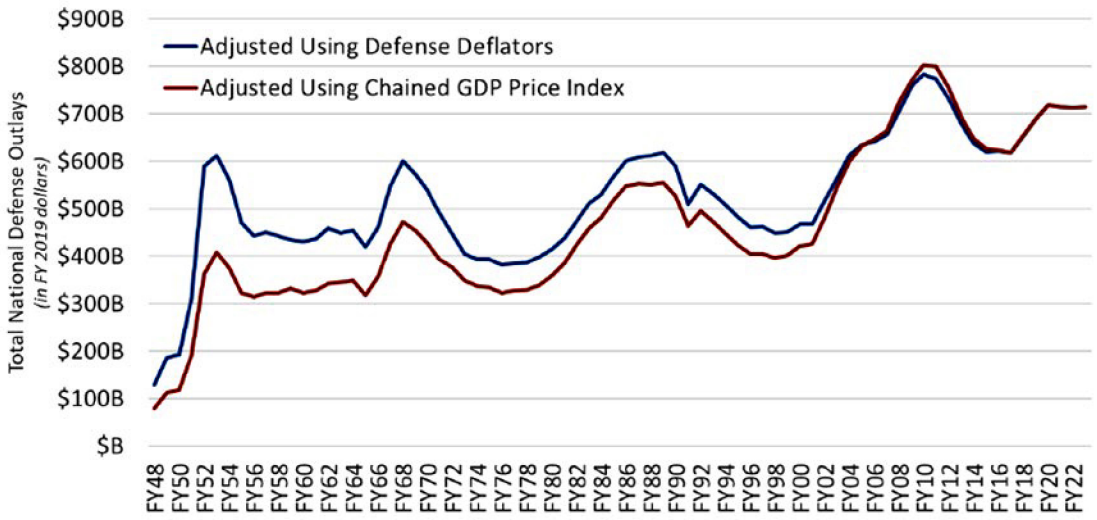
5. Susanna Blume, "Dear Pentagon: It's Not How Big Your Budget Is. It's How You Use It," *Foreign Policy*, January 10, 2019, accessed November 17, 2019, https://foreignpolicy.com/2019/01/10/pentagon-defense-budget-trump/.

6. Todd Harrison, Seamus P. Daniels, "Analysis of the FY 2019 Defense Budget," Center for Strategic and International Studies, September 2018 (Washington, DC), https://csis-prod.s3.amazonaws.com/s3fs-public/publication/180917_Harrison_DefenseBudget2019.pdf?uUH.v7t_nXrNnkX01631tlu7IGamFIe9.

7. James N. Miller and Michael E. O'Hanlon, "Quality over quantity: U.S. military strategy and spending in the Trump years," Brookings Institution, January 2019, accessed November 27, 2019, https://www.brookings.edu/research/quality-over-quantity-u-s-military-strategy-and-spending-in-the-trump-years/.

8. Clark Murdock, Ryan Crotty, and Angela Weaver, "Affordable Military Working Group Final Report Brief," Center for Strategic and International Studies (Washington, DC: 2014).

Figure 1. Defense Outlays Adjusted for Inflation



Source: Todd Harrison, Seamus P. Daniels, "Analysis of the FY 2019 Defense Budget," Center for Strategic and International Studies, September 2018, https://csis-prod.s3.amazonaws.com/s3fs-public/publication/180917_Harrison_DefenseBudget2019.pdf?uUH.v7t_nXrNnkX01631tlu7IGamFIe9.

that the U.S. was able to rally to the cause of the next crisis. He states that,

> "The rancorous domestic climate and austere budget environment that characterized the last years of the Vietnam War did not stymie creative adaptation, and there is no reason to believe that inadequate U.S. military spending triggered the Islamic Revolution in Iran or Soviet adventurism in Afghanistan in the late 1970s. Nor did demands for a peace dividend after the Cold War prevent the first Bush administration from formulating a new strategy designed to sustain American hegemony."[9]

Periods of austerity demand close consideration of national security threats and investment of scarce resources where there is the highest priority.

Unfortunately, those are some rose colored glasses. While that may be true that is what should be done, strategic tradeoffs are made less frequently than they are discussed. As the current Executive Vice President of American Armed Forces Mutual Aid Association (AAFMAA), Brigadier General (retired) Michael Meese, PhD, has pointed out, "In the extreme, periods of budget stringency may cause political leaders to scramble to preserve constituent interests, military officers to fight to protect pet projects, decision makers to placate the demands of competing groups, and no one to focus on the security needs of the nation. Consequently, when it is most important to maximize the effectiveness of each defense dollar, billions are diverted to goals that do not directly contribute to national security."[10]

Even today with a relatively robust defense budget, it is difficult to align resources to the National Defense Strategy. It is far more likely that the next crisis forces a new prioritization. The reality is past drawdowns have resulted in a reduction of capabilities that is followed by a scurry of activity to reinvest at the subsequent crisis point. The late Jacques

9. Melvyn P. Leffler, "Defense on a Diet." *Foreign Affairs* (November/December 2013), http://www.foreignaffairs.com/articles/139985/melvyn-p-leffler/defense-on-a-diet.

10. Michael James Meese, "Defense Decision Making Under Budget Stringency: Explaining Downsizing in the U.S. Army," (Ph.D. Dissertation, Princeton University, 2000).

Gansler, former Under Secretary of Defense for Acquisition, Technology and Logistics, wrote,

> The public expected (and received) a large peace dividend, and significant defense-budget swings followed . . . Such large cycles create significant inefficiencies, and actions should have been taken to minimize their effects."[11]

In light of today's enormously complex environment, even in shifting the balance from counter insurgency to more of a Great Power alignment, there are more demands being placed on the men and women that make up the contractors, civilians, and armed forces of the Department of Defense.

Most national security strategic planners recognize that the world changes rapidly, and will continue to do so. A well-known memo that Lin Wells composed for Secretary of Defense Don Rumsfeld on the "unpredictable nature of great power relations," once again making the rounds, proves this point. A planner in 1990 would still be looking at the Soviet Union, on the verge of a war in Iraq, and operating without the internet. One in 2000 would find, "Warsaw was the capital of a NATO nation, asymmetric threats transcended geography, and the parallel revolutions of information, biotechnology, robotics, nanotechnology, and high density energy sources foreshadowed changes almost beyond forecasting."[12]

There is also recognition that the system is terrible at predicting what will come next. Therefore, the inconsistency and complexity of the security environment requires us to build agility into the system. Though there are many reasons why DoD can be slow to adapt or innovate, irregularity in the Defense budgets is one piece Congress can control.

In addition, the system struggles with making tradeoffs between strategic priorities and instead makes tradeoffs between investments for today and for longer-term requirements. For example, the United States faces the conundrum of maintaining strategic superiority across all domains—air, land, sea, cyber, etc. There is a high price tag to maintaining that superiority. Frequently, the investment accounts that maintain this superiority are the first to be cut and cut the deepest. Cuts to procurement and research development test and evaluation (RDT&E), in past cycles (1970s and 1990s) are upwards of 50% vice the mid-thirties percentage typical of the overall budget.[13] That ground, once lost, is very difficult to recover.

As Kori Schake pointed out during our most recent bout of budget austerity, the U.S. is walking a thin edge that tests the military's professionalism and resolve. We take for granted our military superiority and warn Congress against, "pinching the military between arbitrary spending reductions and rejection of responsible portfolio management by the Department."[14]

Rather than fixing problems inherent to managing our Defense, we are banking on the enemies' incompetence rather than our own capabilities. This approach is unsustainable in the long run. Part of the rationale in the recent budget increase is to account for the National Defense Strategy's turn from regional adversaries to long-term strategic competitors.

To address that challenge, DoD is upping investments in high end (read, expensive) technology. For example, in hypersonics, the high speed weapons that travel at five times the speed of sound, DoD will double its previously planned investments from $6 billion to $11.2 billion over the next five years.[15] And though the Advanced Technology Development request dropped slightly, the FY20 request for Advanced Component Development and Prototypes request went up by a little over 22%.[16] These long

11. Jacques Gansler, *Democracy's Arsenal: Creating a Twenty-First-Century Defense Industry*, (Cambridge, MA: Massachusetts Institute of Technology Press, 2011).

12. Linton Wells, Memo, in Donald Rumsfeld, *Rumsfeld's Rules—Leadership Lessons in Business, Politics, War, and Life* (New York: Harper Collins, 2013).

13. Kevin Dehoff, John Dowdy, and John Niehaus, 2013. "Managing a Downturn: How the US Defense Industry Can Learn from Its Past," McKinsey & Co, accessed January 15, 2019, http://www.mckinsey.com/insights/manufacturing/managing_a_downturn.

14. Kori Schake, 2014. "Security and Solvency." *Orbis* 58 (3). Foreign Policy Research Institute: 310–25. doi:10.1016/j.orbis.2014.05.011.

15. Michael D. Griffin, "Statement before the House Armed Services Subcommittee on Emerging threats and Capabilitites, FY2020 Science and Technology Posture Hearing," March 28, 2019, accessed November 15, 2019, https://armedservices.house.gov/_cache/files/f/4/f4841e4d-6e60-4644-95b5-caa3d26f032e/899137CD12BFA09D5202B35A29C157DA.hhrg-116-as26-wstate-griffinm-20190328.pdf.

16. Congressional Research Service, Federal Research and Development (R&D) Funding: FY2020, August 13, 2009, accessed

term investments require significant research and development investment and planning. We should knowingly tread into these investments and support their development and intention prior to the next period of austerity to gain the strategic advantage.

WHY DOES IT MATTER

While each drawdown is in part a natural shift from war posture to peacetime posture, we have not investigated the consequences and costs of our inefficiency. In 2011, as then-Secretary of Defense Leon Panetta told Congress,

> After every major conflict—World War I, World War II, Korea, Vietnam, the fall of the Soviet Union—what happened was that we ultimately hollowed out the force, largely by doing deep, across-the-board cuts that impacted on equipment, impacted on training, impacted on capability. Whatever we do in confronting the challenges we face now on the fiscal side, we must not make that mistake.[17]

In particular, the Armed Forces of the 1970s and 1990s are frequently described as hollow forces, "military forces that appear mission-ready but, upon examination, suffer from shortages of personnel, equipment, and maintenance or from deficiencies in training."[18] In the 1970s, low public support for the military and the transition from the draft force to the All Volunteer Force, which required a normalization of pay and allowances that were slow to be enacted, were headwinds for readiness. In 1979, 6 of 10 Army divisions stationed in the U.S. were deemed not combat-ready. In 1990, as part of the Base Force budget, the new military strategy and force structure for the post–Cold War era, real capability decreased by 35% instead of the planned 10%. Active fighter aircraft went from 3,057 to 1,553 and surface warships from 223 to 111.[19]

History shows that when defense procurement spending is cut, it must be offset by disproportionate increases in subsequent years. Figures 2 and 3 show that a 15% cut in procurement spending cuts from 1970 to 1974 was countered by increased spending of over 25%. To look at the two graphs below, we see that spending cuts in the procurement line of -15% in 1970 and 1974 are balanced by increased spending of upwards of 25%. Similarly, in the 1990s, the cumulative spending on the upside, particularly in procurement exceeds the cuts that took place.

While procurement has suffered many peaks and troughs, budget shifts are less dramatic for end strength and seldom impact manpower, as shown in Figure 3. While there are a few peaks and troughs, the effect is not nearly as dramatic. The Defense Department's approach has been to maintain manpower and incentivize the professional military, and purchase only what is required. Maintaining manpower without maintaining investments in procurement and maintenance leads to a well-paid force being asked to fight tomorrow with yesterday's technology or without the equipment they do have ready to go. By no means, am I suggesting the force should be reduced in a similar fashion. In an all-volunteer force, there are few options for quickly increasing or decreasing troops. However, leveraging procurement space as the budget trade space has led over and over to readiness issues.

Readiness of the force is the headline challenge. There are many aspects to readiness that are important to address and covered better by others such as training of the forces, operational tempo, or equipment maintenance. Let's look instead at some of the impacts of these inefficiencies on the government contracting and procurement community.

Fits and starts in the flow of resources have an eroding effect on the industries that support DoD. From Major Defense Acquisition Programs (MDAPs) and large programs down to small service oriented contracts, the challenge of finding, training, and maintaining a workforce and their subsequent intellectual capital capable of providing the necessary support to the government is increased without steady resources. Government contractors are forced to make investments depending on the requirements of the government, and when the need goes away the industrial base choses a new line of business. The nuclear force is a good example of this phenomenon, as those are skills one needs more time than money to build.

Restarting lines of business is an

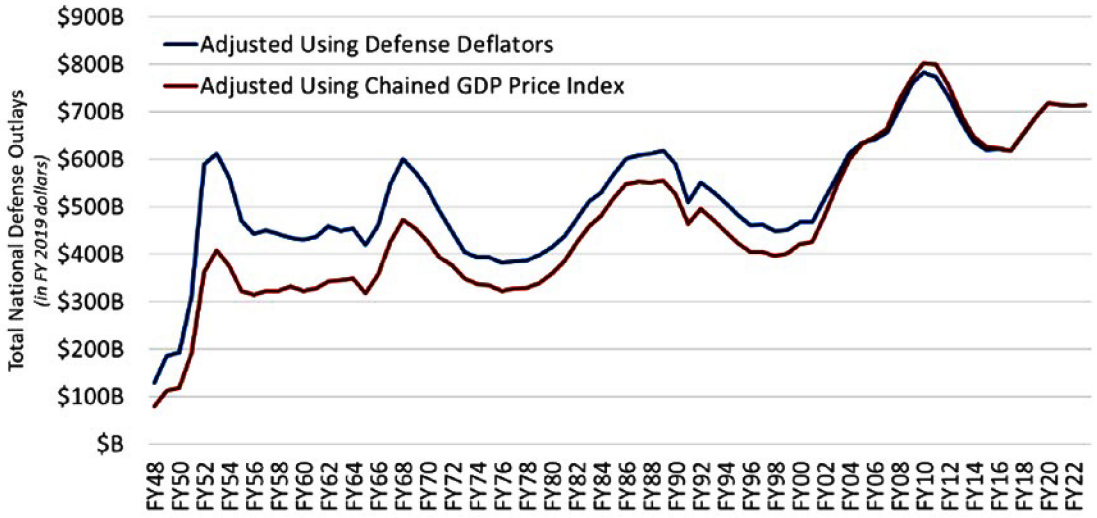
November 15, 2019, https://crsreports.congress.gov/R45715.

17. Quoted in Peter Baker, "Panetta's Pentagon, Without the Blank Check," *New York Times*, October 23, 2011, accessed June 30, 2019, http://www.nytimes.com/2011/10/24/us/at-pentagon-leon-panetta-charts-change-of-course.html?pagewanted=all&_r=0.

18. Andrew Feickert and Stephen Daggett. "A Historical Perspective on Hollow Forces," Congressional Research Service, last modified January 31, 2012, https://fas.org/sgp/crs/natsec/R42334.pdf.

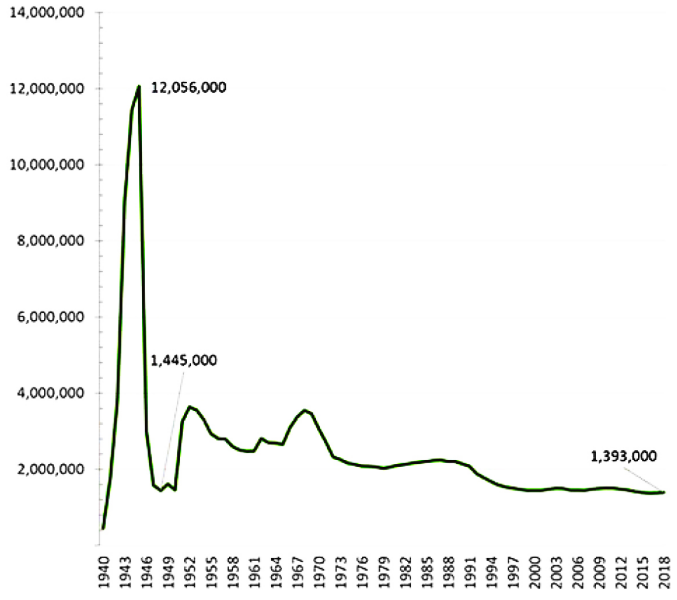
19. John Dowdy and Diana Farrell. "Fiscal Shock, Combat Awe," The Future of American Defense, 2014, http://www.mckinsey.com/insights/public_sector/fiscal_shock_combat_awe.

Figure 2. Annual Changes in Spending Components



Source: OUSD (Comptroller), National Defense Budget Estimates for FY 2018, FY 2018 Greenbook (Washington, DC: DoD, June 2017), Table 7-6, "U.S. Labor Force," http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2018/FY18_Green_Book.pdf, cited at https://csbaonline.org/reports/military-personnel.

Figure 3. Total Active Duty and Activated Reserve Forces, FY40–FY18



Source: OUSD (Comptroller), National Defense Budget Estimates for FY 2018, FY 2018 Greenbook (Washington, DC: DoD, June 2017), Table 7–6, "U.S. Labor Force," http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2018/FY18_Green_Book.pdf, cited at https://csbaonline.org/reports/military-personnel.

expensive proposition. The erosion of skills due to unsteady investments means the government loses overtime and will end up spending more to make up for the reductions. This plays out particularly in bringing innovative investments to utility, MDAP starts, sole source availability, and those small and mid-size businesses that are looking to maintain a workforce of a certain caliber.

MDAPs, which are the large weapon system investments DoD makes, are affected. A recent report from the Institute for Defense Analyses (IDA) aligns economic climate to begin to model cost increases or decreases related to Program Acquisition Unit Cost (PAUC) from 1970 to 2009. In a paper entitled, "Cost Growth, Acquisition Policy, and Budget Climate," IDA's David McNicol demonstrated that during periods of fiscal constraint, program managers had relatively few tools available to manage limited resources. He observed that those MDAP that passed milestone II/B in periods of constraint showed higher PAUC growth than those in less constrained environments—40% having very high PAUC growth in constrained years compared to 7% in an accommodating funding climate. DoD's largest programs begun in fiscally constrained times have the largest cost growth when those constraints are ultimately alleviated.[20]

On June 6, 2019, the Government Accountability Office (GAO) released the 17th annual assessment of the Department of Defense's 82 major weapon systems acquisition programs, *Weapon Systems Annual Assessment: Limited Use of Knowledge-Based Practices Continues to Undercut DoD's Investments*. This report demonstrated that those programs begun after 2010 have seen a significant increase since 2018. GAO's analysts recognize the importance of Better Buying Power and the Weapons System Acquisition Reform Act of 2009 (WSARA) and their support of knowledge-based practices as important to controlling costs. Those programs begun before 2010 account for the vast amount of cost growth. However,

> Over the past year, we observed a total of $1.4 billion in cost growth among these newer programs. Thus, instead of helping offset the cost increases within the portfolio, as they have done in the past, newer programs directly contributed to the portfolio's cost growth between 2017 and 2018.

The report goes on to state that it is unclear if the programs that were able to control costs before will be able to continue into the production phase.[21]

Peter Levine criticized the report for failing to account for increased quantities.[22] In a subsequent response to Peter Levine's criticism of their work, Shelby Oakley, director at GAO elaborated further:

> On the other hand, since 2017, 53 programs suffered decreases in buying power, including 39 programs that had no changes in quantities. Further, over half of the 28 programs begun after WSARA suffered buying power losses. While the overall buying power number is a good one, the degradation in the newer programs raises concerns about the direction we see the performance of the portfolio heading.[23]

Is it also the case, then, that cost growth automatically increases with an increasing budget? The debate whether the cost increases are driven by increased quantities or programmatic inefficiencies is less important than the near automatic increase in quantities and potential cost increases when budgets increase. When moving a program through the early milestone processes during low budget years, quantities are lowered in planning in the expectation they will rise in the future. Also, with an increased budget, the incentives to strictly control costs for the last six years have been alleviated. If this correlation continues over time, increasing the defense budget directly leads to greater than anticipated cost increases in these programs.

Additionally, contractor workforce challenges have a direct impact on the government's ability to ramp up quickly and are another element of readiness for the industrial base. Budget fluctuations are particularly hard on small and midsize companies that do not have large enough portfolios to shift people between projects. The contractor workforce loses skills or move on. Though not directly affecting DoD, we can extrapolate some conse-

20. David McNicol, "Cost Growth, Acquisition Policy, and Budget Climate," Institute for Defense Analyses, September 2014, https://apps.dtic.mil/dtic/tr/fulltext/u2/a626036.pdf.

21. Government Accountability Office, Weapons Systems Annual Assessment, Limited Use of Knowledge-Based Practices Continues to Undercut DoD's Investments, accessed June 30, 2019, https://www.gao.gov/assets/700/698933.pdf.

22. Peter Levine, "GAO Needs to Step Up Its Game On Annual Weapons Study," June 6, 2019, accessed November 19, 2019, https://breakingdefense.com/2019/06/gao-needs-to-step-up-its-game-on-annual-weapons-study/.

23. Shelby Oakley, "GAO Defends Annual Weapons Review: Let's Look at All the Facts," Breaking Defense, last updated June 26, 2019, https://breakingdefense.com/2019/06/gao-defends-annual-weapons-review-lets-look-at-all-the-facts/.

quences from the recent shutdown, which magnifies a number of challenges, which cost contractors an estimated $1.5 billion per week.[24]

- Growing small and mid-size businesses are operating with thin margins and low lines of credit.
- During a May 2019 hearing on Government Operations Subcommittee, David Berteau, CEO and President of the Professional Services Council, began his remarks with the point that the government's first action is to stop paying their workers, which creates recruitment concerns at a point of low unemployment.[25]
- One consulting firm discussed how they burned through their entire overhead budget for the year in one month shuffling people to internal projects during the extended shutdown.
- Others had to lay off employees or make difficult choices such as cutting insurance premiums or retirement benefits.[26]

Finally, reducing RDT&E investment dulls the U.S. strategic edge. In FY2020, DoD is one of the few federal agencies requesting an increase in research and development funds at $7.1 billion.[27]

- In government, R&D is often one of the first to be reduced when looking to preserve the force in a downturn. Between 2008 and 2015, DoD saw a reduction of 47.8% in R&D contract obligations.[28]
- In the corporate sector, R&D is often the last to be reduced, or at least is maintained as a percentage of sales. "Invest into the downturn," is a frequent adage.[29] Interestingly, however, companies will frequently take the opportunity to reduce the portfolio and shed underperforming projects, or those that are not likely to be long term performers.[30]

The Department of Defense accounts for approximately 38.6% of the federal government's research and development dollars.[31] A 2016 study on the economic impacts of DoD license agreements, one measure of DoD's RDT&E investment outputs, demonstrated that between 2000–2014 these agreements generated $20.4 billion in total (both commercial and military) sales of new products and services and 182,985 full-time jobs.[32] Reducing the inputs in a downturn, means fewer new experiments, useful technologies, or innovations. The reduction in R&D subsequently reduces our margin of error, with dramatic consequences for our implementation of a great power competition-focused National Defense Strategy.

THE OPPORTUNITY FOR ACTION

In the current configuration, the peaks and troughs of defense procurement

24. Christopher Flavelle, Paul Murphy, "Shutdown Threatens $200 Million a Day in Federal Contracts," January 7, 2019, accessed November 15, 2019, https://www.bloomberg.com/news/articles/2019-01-07/shutdown-puts-200-million-a-day-in-federal-contracts-at-risk.

25. Government Operations Subcommittee to Hold Field Hearing on the Government Shutdown's Effects on Federal Contractors, May 6, 2019, https://oversight.house.gov/news/press-releases/government-operations-subcommittee-to-hold-field-hearing-on-the-government.

26. Frank Konkel, "Tens of Thousands' of Government Contractors Laid Off Due to Shutdown," January 14, 2019, accessed November 15, 2019, https://www.nextgov.com/cio-briefing/2019/01/tens-thousands-government-contractors-laid-due-shutdown/154259/.

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obscure the true causes of cost increases and inefficiencies. The current cycle of temporarily cutting defense budgets only to suffer increased costs on the backend of those cuts is inefficient and shortsighted.

If DoD were to operate on a stable budget, instead of its topline number being used as a political football, its spending could become more transparent. With this increased transparency, Congress and others could more readily identify areas to address for long-term savings. For example, many legacy programs, particularly in information technology, consume large shares of agency budgets; in one estimate it is close to 80%.[33] Replacement programs that may be more efficient and more capable are dismissed because they are seen as too expensive in the short-term.

Decreasing the peak to trough amplitude of the budget is merely one element. There is a current defense reform effort underway to reduce the Department's logistics, human resources, contracting, and property management spending by 25%.[34] The Budget Control Act threatened mandatory 10% budget cuts of Defense spending.

It is entirely possible the prospect of those cuts were more frightening to Defense leadership than many national security threats. There is a problem with setting a particular number for blanket cuts. Creating a floor is unpalatable, small percentages may be intolerable for the optics, and 10% is too high for managing the requirements we place on DoD.

DoD works best with stable funding. While it may be politically advantageous to tout lower baseline numbers for the defense budget, DoD's budget can, and must, be managed better.

The strategic environment we operate in calls for agility in the face of multiple potential kinds of conflicts. While the current National Defense Strategy emphasizes Great Power Competition, the next may emphasize a different kind of challenge that we are unable to predict today.

The breadth of the investments we make must match the breadth of the challenges we will face. While difficult with public funds, prioritize maintaining and potentially increasing investments in RDT&E during downturns. Though potentially challenging to determine, prioritize those lines of acquisition that are most difficult to restart. On new program starts in lean years, prioritize understanding the true quantity requirements.

Finally, this is a perennial problem, and one we can predict in planning. Taking the time now in the period of relative calm and economic growth to look strategically at the DoD's budget will allow the United States to align its budget with the objectives it intends to achieve.

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Jennifer Taylor is a recognized civil–military relations and security sector institutional capacity building expert. She is a Research Staff Member at Institute for Defense Analyses (IDA). Jennifer has over 19 years' experience in government, think tanks, and as a consultant, transforming government institutions through strategy, planning, and implementation.

After beginning her career at Chemonics International as a contract program manager, Jennifer spent five years in the Office of the Undersecretary of Defense for Policy. She has been working on security cooperation and defense institutional capacity building since 2006 and has seen firsthand the challenges and opportunities of assessing and evaluating security cooperation programs.

After leaving the Pentagon in 2010, she spent a year at the Center for Strategic and International Studies, where she led the first conference on supporting the design of partner nations' Strategic Defense Reviews and other institutional capacity building efforts. As a strategy and organizational change management consultant, Jennifer provided a number of institutional assessments to our international partners in the security sector for DoD. She led the team that helped create the newest defense institution, the Defense POW/MIA Accounting Agency (DPAA).

Jennifer also has a background in acquisition reform and government contracting, recently serving as professional staff on the Section 809 Panel evaluating federal acquisition regulations. She is frequently asked to translate between contract staff and program staff to ensure the right solutions to policy challenges. She currently serves as a Senior Fellow with the George Mason University Center for Government Contracting.

Jennifer has a B.A. in music (voice) and intercultural communication from the University of North Carolina at Greensboro. She received an M.A. in international relations, focusing on human security issues from Yale University, and a Master of Applied Security Strategy from the University of Exeter in the United Kingdom. She has a personal commitment to building better government institutions.

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