



FEBRUARY 2020

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A Report of the
CSIS DEFENSE BUDGET ANALYSIS PROGRAM

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The Defense Budget Analysis (DBA) Program at CSIS leads the center's efforts to provide in-depth, nonpartisan research and analysis of defense funding issues. As part of the International Security Program at CSIS, DBA explores trends in the overall defense budget, military readiness, force structure, defense acquisitions, and military compensation in a broader effort to assess the alignment of the country's defense strategy and its resources.

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1 | Introduction

Before the Fiscal Year 2019 (FY 2019) defense budget request was submitted by the Trump administration to Congress, the FY 2020 defense budget was lauded as a forthcoming “masterpiece” by then-Deputy Secretary of Defense Patrick Shanahan.¹ Shanahan’s pledge of a “masterpiece” budget for FY 2020 meant that the request’s priorities would be driven by the National Defense Strategy (NDS), released in January 2018, and the country’s resources for national defense would be in alignment with its strategy.

Just as a new defense strategy cannot be fully implemented in one year, it takes time to align the defense budget with the strategy. The effort to match the priorities detailed in the NDS with adequate funding is complicated by a multitude of factors, including ongoing operations, acquisition programs years in the making, and the fiscal restrictions imposed by the Budget Control Act (BCA). In fact, planning for the FY 2020 defense budget under the Department of Defense’s (DoD) Planning, Programming, Budgeting, and Execution (PPBE) process began in late 2017, before the NDS was released. Thus, it would be difficult for the administration’s FY 2020 defense budget request to perfectly align with the strategy.

What the FY 2020 request should provide, however, is a roadmap for how DoD intends to align its budgets and shape its forces over time in accordance with NDS priorities. The projections provided in the Future Years Defense Program (FYDP) indicate the Department’s plans for spending over a five-year period. Any effort to measure the FY 2020 budget request against the construct of the NDS should therefore include an assessment of the FYDP and its projections for the future direction and priorities in the budget.

For that reason, this analysis places significant emphasis on the FYDP of the FY 2020 request in preparation for better understanding and evaluating the FY 2021 budget request and any changes in direction it proposes. This report also explores the impact of the Bipartisan Budget Act of 2019, which raised the discretionary spending limits for the final two years of the BCA caps, and compares the recently passed FY 2020 defense appropriations with the levels requested by the administration.

¹ Aaron Mehta, “Pentagon expects on-time budget for 2019 but Trump’s ‘masterpiece’ will be in 2020,” Defense News, December 22, 2017, <https://www.defensenews.com/pentagon/2017/12/22/pentagon-expects-on-time-budget-for-2019-but-trumps-masterpiece-will-be-in-2020/>.

2 | Overview of Defense-Related Funding

Total Defense-Related Funding in the Request

The Trump administration requested \$750 billion in discretionary funding for national defense (budget function 050) in FY 2020, a 3 percent real increase above the amount Congress appropriated in FY 2019.^{2,3} As shown in Table 1, that figure includes \$545 billion in base discretionary funding for DoD and \$174 billion in Overseas Contingency Operations (OCO) and emergency supplemental funding. The remaining \$32 billion is divided between atomic energy programs (\$23 billion) and defense-related activities in other parts of the federal government (\$8 billion).⁴ Funding for atomic energy programs is primarily for the Department of Energy's National Nuclear Security Administration (NNSA) to modernize and sustain the nation's inventory of nuclear warheads and bombs as well as the nuclear reactors on aircraft carriers and submarines.

If mandatory funding and other defense-related activities beyond the 050 national defense budget function are included, as shown in Table 1, total defense-related funding in the FY 2020 request is \$1.1 trillion. That additional funding includes \$217 billion for veterans benefits and services, \$123 billion of which is mandatory funding.^{5,6} Veterans benefits and services accounts for over 90 percent of defense-related mandatory funding in the budget; the FY 2020 budget requests only \$12 billion in mandatory funding for 050 activities.

The request also provides \$88 billion in transfers from the Department of Treasury to continue paying down the unfunded liability in the Military Retirement Trust Fund. The total unfunded liability was estimated to be \$768 billion at the end of FY 2017, approximately a 2 percent increase in real terms above the unfunded liability at the end of FY 2016.⁷ However, the percentage of the liability that is

² The Office of Management and Budget (OMB) provides a functional classification of programs within the federal budget. The national defense budget function (050) includes three subfunctions: Department of Defense-Military (051); atomic energy defense activities (053); and defense-related activities (054).

³ All adjustments for inflation in this report are made using the GDP Chained Price Index published by OMB in Historical Table 10.1 rather than the deflators used by DoD. The defense deflators count some of the growth in labor costs for military and civilian employees as inflation and therefore understate the growth in these accounts over time.

⁴ Figures may not add up due to rounding.

⁵ The OMB budget function for veterans benefits and services is (700).

⁶ Mandatory funding, as opposed to discretionary funding, does not need an annual appropriation by Congress and is not subject to the BCA budget caps.

⁷ DoD Office of the Actuary, *Valuation of the Military Retirement System as of September 30, 2017* (Alexandria, VA: Revised April 2019), 5,

funded increased from 47 percent to 49 percent over that same period. The request also included \$6 billion to pay down the unfunded liability in the Medicare-Eligible Retiree Health Care Fund.⁸ The unfunded liability for that fund fell nearly 10 percent, to \$156 billion, from the end of FY 2016 to the end of FY 2017. An additional \$22 billion in tax expenditures was provided to account for the exclusion of some military pay and veterans benefits from federal taxes.⁹ While these other sources of defense-related funding are important for understanding the broader fiscal implications of defense strategy and policy decisions, the remainder of this analysis primarily focuses on the national defense (050) portion of the budget.

Table 1: Summary of Defense-Related Funding in the FY 2020 Request

(All figures in then-year dollars)	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
DoD (base discretionary)	\$523.5B	\$599.7B	\$616.2B	\$544.5B	\$557.7B	\$707.0B	\$721.5B	\$736.7B
DoD (base mandatory)	\$20.3B	\$23.8B	\$8.1B	\$9.6B	\$10.4B	\$10.2B	\$10.1B	\$10.2B
DoD (OCO & Emergency)	\$82.5B	\$71.0B	\$68.8B	\$173.8B	\$155.8B	\$20.0B	\$20.0B	\$10.0B
<i>Subtotal DoD (051)</i>	<i>\$626.2B</i>	<i>\$694.5B</i>	<i>\$693.1B</i>	<i>\$728.0B</i>	<i>\$723.8B</i>	<i>\$737.2B</i>	<i>\$751.7B</i>	<i>\$756.9B</i>
Atomic Energy (discretionary)	\$20.0B	\$21.8B	\$22.4B	\$23.2B	\$23.8B	\$24.2B	\$24.6B	\$25.1B
Atomic Energy (mandatory)	\$1.4B	\$1.5B	\$1.6B	\$1.6B	\$1.6B	\$1.6B	\$1.5B	\$1.5B
Other Defense-Related (discretionary)	\$8.2B	\$8.4B	\$8.6B	\$8.4B	\$8.7B	\$8.8B	\$11.9B	\$12.2B
Other Defense-Related (mandatory)	\$0.6B	\$0.6B	\$0.6B	\$0.6B	\$0.6B	\$0.6B	\$0.5B	\$0.5B
<i>Subtotal National Defense (050)</i>	<i>\$656.3B</i>	<i>\$726.8B</i>	<i>\$726.2B</i>	<i>\$761.8B</i>	<i>\$758.5B</i>	<i>\$772.4B</i>	<i>\$790.2B</i>	<i>\$796.2B</i>
Veterans Benefits & Services (disc.)	\$74.6B	\$82.0B	\$86.9B	\$93.3B	\$105.2B	\$105.2B	\$105.1B	\$104.9B
Veterans Benefits & Services (mand.)	\$104.7B	\$110.4B	\$107.9B	\$123.2B	\$128.8B	\$139.9B	\$149.1B	\$158.5B
Amortization of Unfunded Military Retirement Liabilities	\$86.9B	\$89.4B	\$93.7B	\$96.8B	\$99.2B	\$102.4B	\$105.7B	\$109.1B
Defense-Related Tax Expenditures	\$22.6B	\$22.4B	\$22.7B	\$22.1B	\$22.6B	\$23.4B	\$24.3B	\$25.2B
Total Defense-Related	\$945.0B	\$1,031.1B	\$1,037.5B	\$1,097.2B	\$1,114.2B	\$1,143.2B	\$1,174.4B	\$1,194.1B

OCO and Emergency Supplemental Funding

OCO and emergency supplemental funding proved to be among the most controversial aspects of the FY 2020 defense budget request. The Trump administration requested \$165 billion for OCO and \$9 billion in emergency funds. The emergency funds were directed for military construction for the southern border wall and to rebuild facilities damaged by hurricanes. The \$165 billion requested in

[https://actuary.defense.gov/Portals/15/Documents/MRF%20ValRpt%202017%20\[April%202019\]%20FINAL.pdf?ver=2019-04-26-211812-593](https://actuary.defense.gov/Portals/15/Documents/MRF%20ValRpt%202017%20[April%202019]%20FINAL.pdf?ver=2019-04-26-211812-593).

⁸ DoD Office of the Actuary, *Valuation of the Medicare-Eligible Retiree Health Care Fund – September 30, 2017* (Alexandria, VA: December 2018), 3,

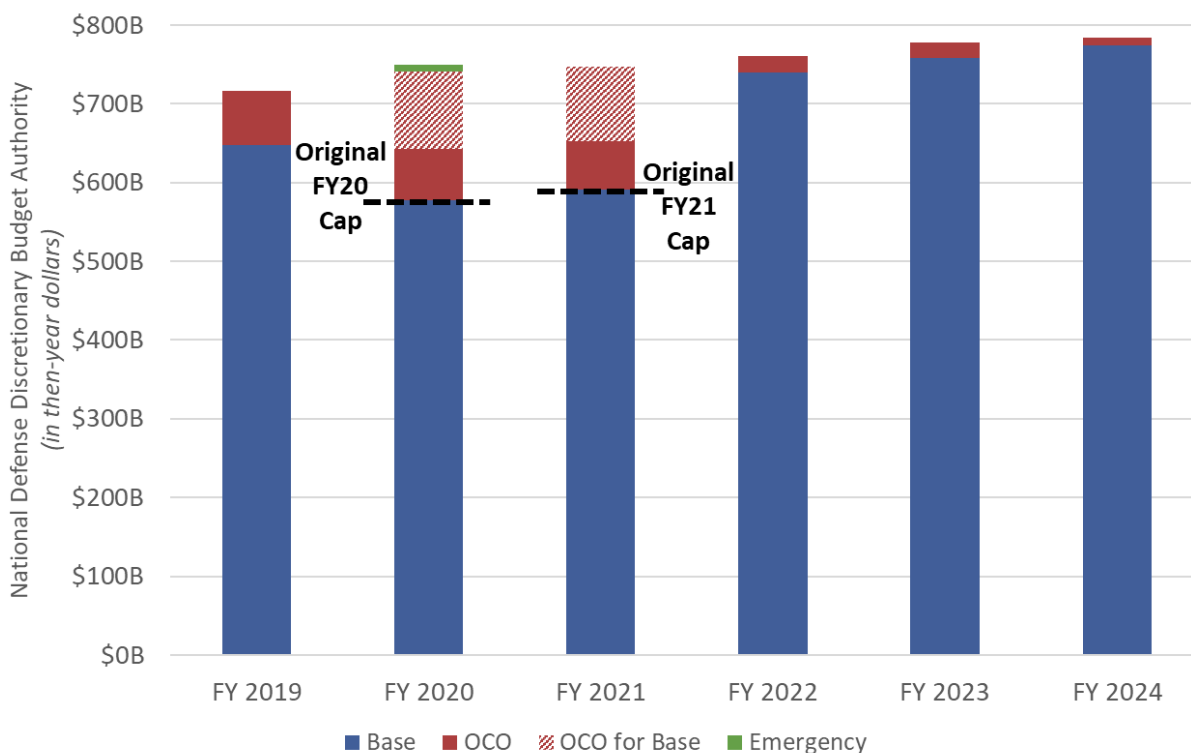
<https://actuary.defense.gov/Portals/15/Documents/MERHCF%20Val%20Rpt%202017.pdf?ver=2018-12-28-133219-273>.

⁹ Executive Office of the President, Office of Management and Budget, *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2020* (Washington, DC: 2019), 174, 179, <https://www.whitehouse.gov/wp-content/uploads/2019/03/spec-fy2020.pdf>.

OCO is nearly \$100 billion more than the enacted FY 2019 level. Approximately \$98 billion of that amount was designated by DoD as “OCO for Base Requirements,” or traditional base budget activities that are “financed in the OCO budget to comply with the base budget defense caps included in current law.”¹⁰ Figure 1 provides a breakdown of discretionary national defense funding by base, OCO, OCO for base, and emergency supplemental funding as requested by the administration.

As Figure 1 illustrates, the Trump administration sought to retain the FY 2020 and FY 2021 budget caps at their original levels of \$576 billion and \$590 billion, respectively, while placing the entire increase in the defense budget in supplemental funding, which does not count against the caps. This would have enabled the administration to increase defense spending significantly without Congress passing a budget deal to increase the budget caps. To do this, the request shifted entire categories of funding, such as Army Ammunition Procurement, from the base budget into OCO. Once the BCA budget caps expire in FY 2022, the budget request projects that OCO would be reduced to \$20 billion and eventually \$10 billion by the end of the FYDP, and other funding currently in OCO would transition back into the base budget.

Figure 1: Breakdown of Discretionary Base and OCO Funding in the FY 2020 FYDP



¹⁰ Office of the Under Secretary of Defense (Comptroller), *United States Department of Defense Fiscal Year 2020 Budget Request – Defense Budget Overview* (Washington, DC: DoD, March 2019), 6-2, https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2020/fy2020_Budget_Request_Overview_Book.pdf.

The Trump administration's request only heightened existing criticism of OCO as a loophole to skirt the fiscal constraints imposed by the BCA. Coupled with the request for emergency funds for the border wall and proposed cuts to non-defense programs in other parts of the overall federal budget, the movement of \$98 billion in funding from the base to OCO budget to circumvent the BCA caps was certain to face opposition in Congress.¹¹

The Bipartisan Budget Act of 2019

Given the bipartisan desire to raise the BCA caps for the final two years in FY 2020 and FY 2021, Congress passed the Bipartisan Budget Act of 2019 (BBA 2019), which was signed into law on August 2, 2019.¹² Table 2 provides a breakdown of the agreement's impact on defense funding for FY 2020 and FY 2021 relative to the requested levels. BBA 2019 increased the defense budget caps by approximately \$90 billion and \$81 billion for FY 2020 and FY 2021, respectively. The deal also mandated OCO levels at \$71.5 billion for FY 2020 and \$69 billion for FY 2021. The total national defense topline agreed to in the deal is 1.6 percent lower than the administration's request for FY 2020 and 0.7 percent lower in FY 2021.

Table 2: Defense Funding Levels Under the Bipartisan Budget Act of 2019 Relative to FY 2020 Requested Levels (discretionary budget authority in current dollars)

	FY 2020 Request	FY 2021 Request	FY 2020 in BBA 2019	FY 2021 in BBA 2019
Prior BCA Budget Cap for National Defense (050) Base Budget	\$576.2B	\$590.2B	\$576.2B	\$590.2B
Budget Cap Increase in BBA 2019	-	-	+\$90.3B	+\$81.3B
Newly Revised Budget Caps for National Defense (050) Base Budget	-	-	\$666.5B	\$671.5B
OCO / Emergency Funding	\$173.8B	\$155.8B	\$71.5B	\$69.0B
TOTAL National Defense (050)	\$750B	\$746B	\$738B	\$740.5B

However, if the \$7 billion in emergency funds for border wall construction is subtracted from the requested topline, the new \$738 billion level falls precisely in the middle of the \$743 billion for regular defense activities (including \$2 billion in emergency funds for hurricane relief and recovery) in the FY 2020 request and the previously project topline of \$733 billion for FY 2020 projected in the FY 2019 budget request, which had been endorsed by House Democrats.¹³

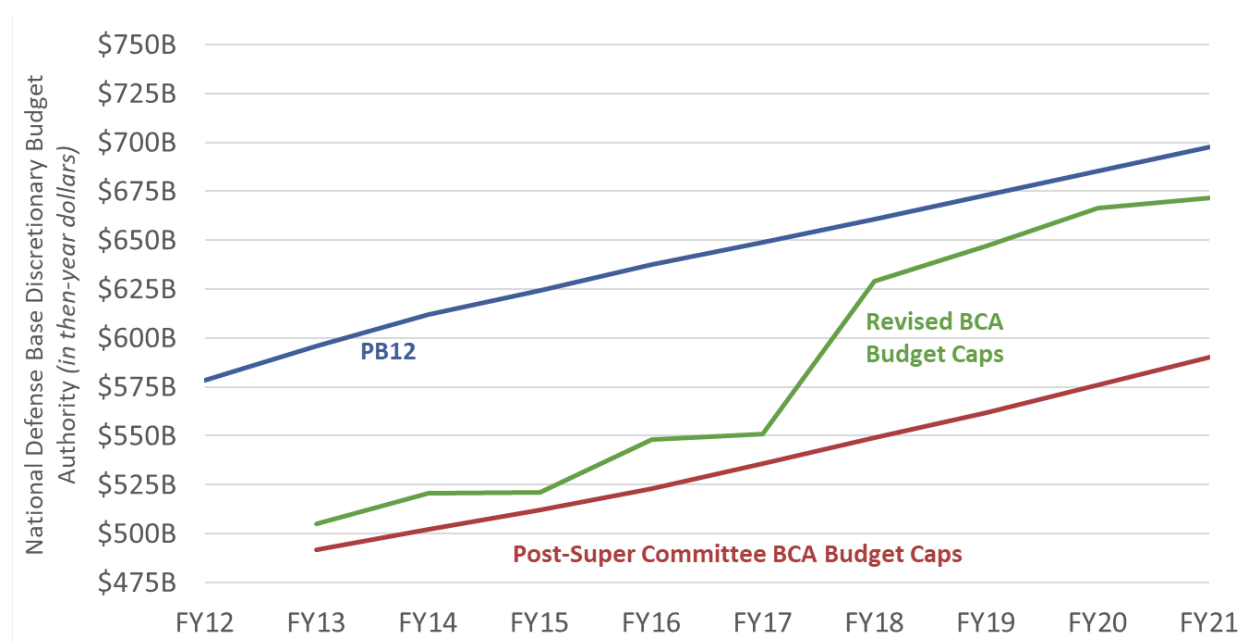
¹¹ Susan Ferrechio, "Trump's budget dead on arrival in the House, says Democratic appropriator," *Washington Examiner*, March 11, 2019, <https://www.washingtonexaminer.com/news/congress/trumps-budget-dead-on-arrival-in-the-house-says-democratic-appropriator>.

¹² For a more detailed analysis of the Bipartisan Budget Act of 2019, see Seamus Daniels and Todd Harrison, "What Does the Bipartisan Budget Act of 2019 Mean for Defense?" CSIS, *Critical Questions*, August 5, 2019, <https://www.csis.org/analysis/what-does-bipartisan-budget-act-2019-mean-defense>.

¹³ Ibid.

Given that BBA 2019 is a two-year deal that increases the budget caps through FY 2021—the final year of the discretionary budget caps imposed by the BCA—Congress will not need to pass another budget deal for the upcoming fiscal year, thus spelling the sunset of the BCA.¹⁴ Since the BCA was passed in 2011, five budget agreements have been made by Congress to adjust the budget caps.¹⁵ These deals lessened the overall impact of the BCA on defense spending by increasing the defense caps above their original level. Figure 2 shows the original (post-Super Committee) and revised budget caps relative to the base national defense spending projections in the Obama administration’s FY 2012 budget request, the last request submitted before the BCA was enacted. Between FY 2012 and FY 2021, total base defense spending under the original caps was supposed to be roughly \$1 trillion less than the projections in the FY 2012 request over the 10-year period. However, the five budget agreements together increase the caps by a total of \$435 billion over that period in then-year dollars.¹⁶

Figure 2: BCA Defense Caps in Hindsight



¹⁴ If Congress seeks to appropriate base funding above the revised BBA 2019 budget cap levels for FY 2021, it would have to pass another budget agreement. However, this is unlikely.

¹⁵ Those agreements include: the American Taxpayer Relief Act of 2012; the Bipartisan Budget Act of 2013; the Bipartisan Budget Act of 2015; the Bipartisan Budget Act of 2018; and the Bipartisan Budget Act of 2019.

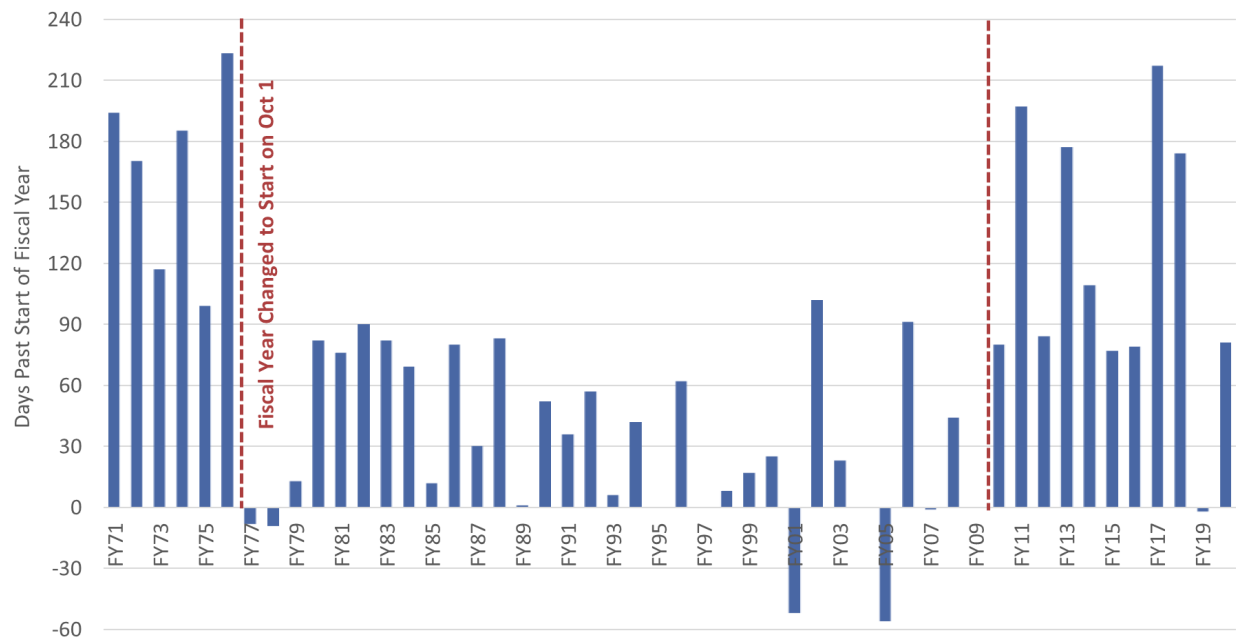
¹⁶ Daniels and Harrison, “What Does the Bipartisan Budget Act of 2019 Mean for Defense?”

3 | Congressional Action on the FY 2020 Defense Budget

Delays in Appropriations

Despite Congress having reached a budget deal nearly two months before the start of the fiscal year, appropriations for FY 2020 were not enacted until 81 days after the start of the fiscal year. As shown in Figure 3, in 41 of the past 50 years, DoD has started the fiscal year under a continuing resolution. Since FY 2010, this has been a more significant issue, with only one year of appropriations passed on time (FY 2019) and an average delay of almost 116 days past the start of the fiscal year. Appropriations for FY 2020 were delayed due to a number of factors, including the question of funding for the construction of the border wall in the defense bill.¹⁷

Figure 3: Delays in the Annual Defense Appropriations Bill

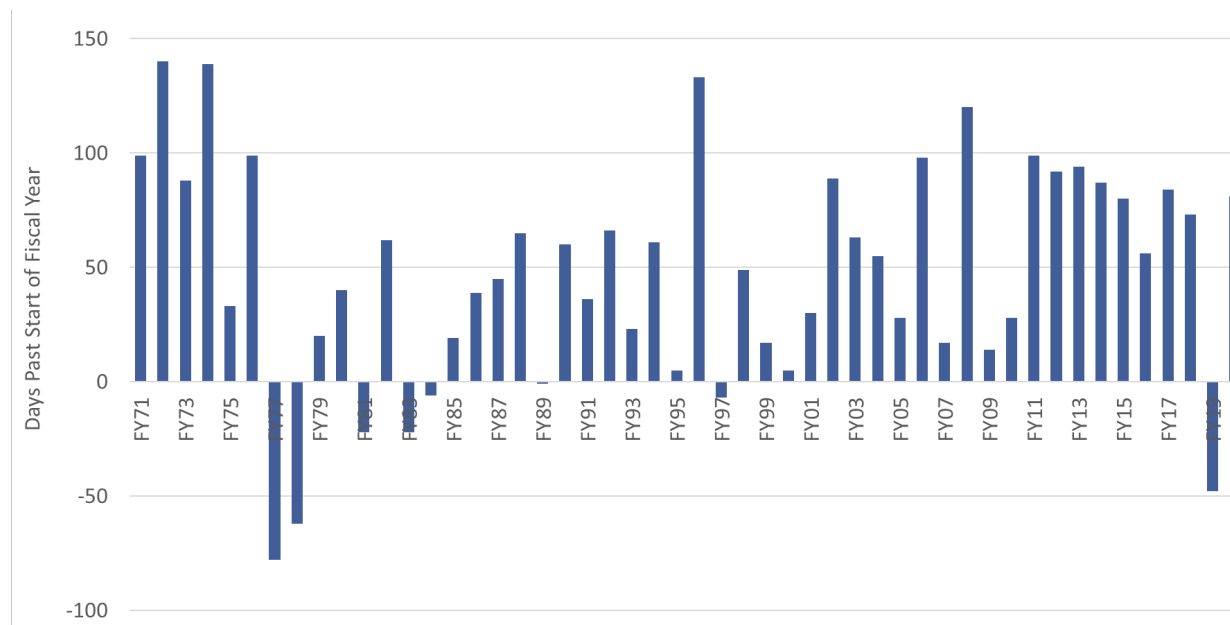


The FY 2020 National Defense Authorization Act (NDAA) was similarly delayed 81 days into this fiscal year after the FY 2019 bill had been signed into law 48 days early. The delay also stemmed from the Congressional Armed Services Committees' difficulty resolving the wall funding issue, among other

¹⁷ John Bresnahan and Caitlyn Emma, "Congress strikes stopgap funding deal, postpones border wall fight," *Politico*, November 18, 2019, <https://www.politico.com/news/2019/11/18/government-funding-thursday-shutdown-approaches-071344>.

areas.¹⁸ As shown in Figure 4, the NDAA historically tends to be passed after the start of the fiscal year. Over the past 50 years, it has been signed into law prior to the new fiscal year only 8 times. Typically, the authorization is passed before appropriations, although this is not required. In the 50-year period between FY 1971 and FY 2020, a period of 50 years, the NDAA was signed into law before the defense appropriations bill only 30 times.

Figure 4: Delays in the Annual Defense Authorization Bill



Comparison of Defense Appropriations and Requested Levels

On December 20, 2019, President Trump signed into law two appropriations minibuses and the NDAA. Appropriations for DoD were contained in H.R. 1158 (P.L. 116-93), while appropriations for military construction and family housing, along with atomic energy and other defense-related activities, were included in H.R. 1865 (P.L. 116-94). As shown in Table 3, the total enacted for national defense in the appropriations bills was \$746 billion, which is \$8 billion more than allowed for under the BBA 2019. The extra appropriations include emergency funding (\$1.8 billion to repair damage from natural disasters at military bases and \$6.2 billion to repair hurricane, flooding, earthquake, and tornado damage at military installations), which is exempt from the budget caps and would subsequently not trigger sequestration.¹⁹

¹⁸ David Brown, “NDAA hung up over wall, Space Force,” *Politico, Morning Defense*, November 22, 2019, <https://www.politico.com/newsletters/morning-defense/2019/11/22/ndaa-hung-up-over-wall-space-force-782889>.

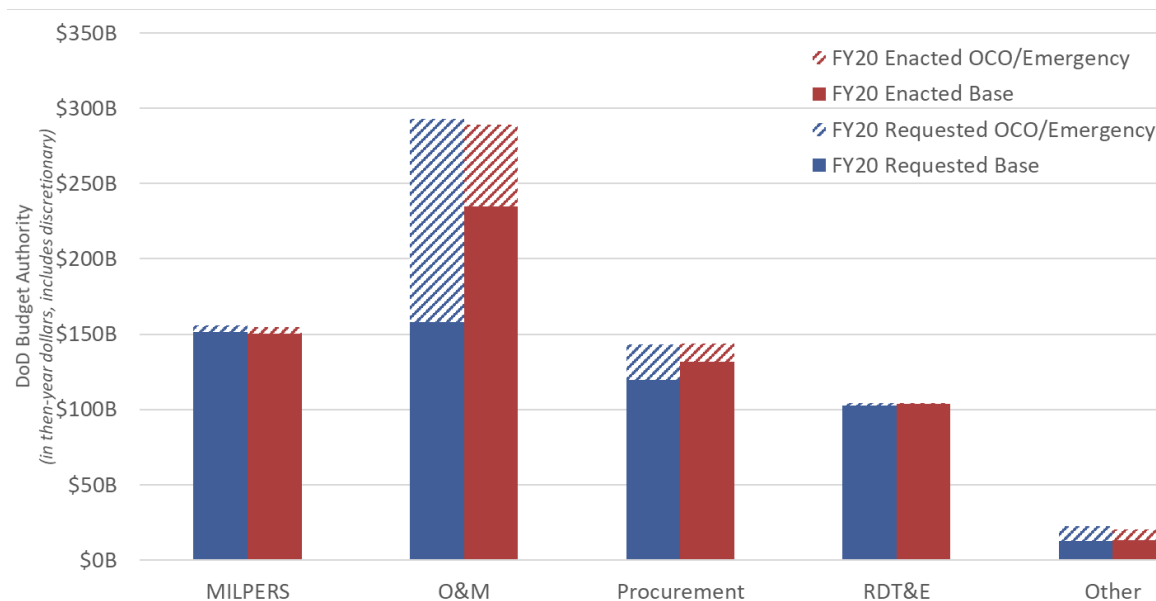
¹⁹ For a breakdown, see the Division-by-Division Summary of each appropriations minibus from the House Committee on Appropriations: <https://appropriations.house.gov/news/press-releases/house-passes-fy-2020-appropriations-agreement>.

Table 3: FY 2020 Funding Levels in the FY 2020 Request, BBA 2019, and Enacted Budget (discretionary budget authority)

	FY 2020 Request	FY 2020 BBA 2019	FY 2020 Enacted
National Defense (050) Base Budget	\$576.2B	\$666.5B	\$666.5B
OCO Budget	\$164.6B	\$71.5B	\$71.5B
Emergency Funding	\$9.2B	-	\$8.0B
TOTAL National Defense (050)	\$750B	\$738B	\$746B

At a macro level, the primary difference between the FY 2020 appropriations and the administration's request is the treatment of OCO funding. Figure 5 shows a comparison of the FY 2020 enacted and requested levels by title broken out by base and OCO/emergency funding. Nearly half of the administration's operation and maintenance (O&M) request was classified as OCO funding to skirt the budget caps,²⁰ yet only 19 percent of enacted O&M is in OCO/emergency funding. Similarly, the administration requested 16 percent of its procurement funds as OCO, yet Congress appropriated only 8 percent as OCO/emergency. The topline funding levels for each title were largely consistent between the requested and enacted levels.

Figure 5: Comparison of FY 2020 Defense Appropriations vs. Requested Levels by Title



*The "Other" category includes MILCON, Family Housing, and Revolving and Management Funds. Rescissions are applied directly to the relevant spending titles.

Each military department's share of the budget was similarly consistent with requested levels, with the exception of the Army, which saw a 6 percent lower topline in its budget. Figures 6-9 compare

²⁰ The Defense Health Program, Drug Interdiction and Counter-Drug Activities, and the office of the DoD Inspector General are considered O&M programs.

each department's FY 2020 enacted and requested levels of funding. As Figure 6 illustrates, the administration's budget request for the Army included approximately \$9 billion in emergency funds intended for the construction of the southern border wall, among other priorities, yet this did not make it into the final appropriations bill. Each department also saw large OCO requests in their O&M and procurement accounts shifted into the base budget.

Figure 6: FY 2020 Army Appropriations vs. Requested Levels by Title

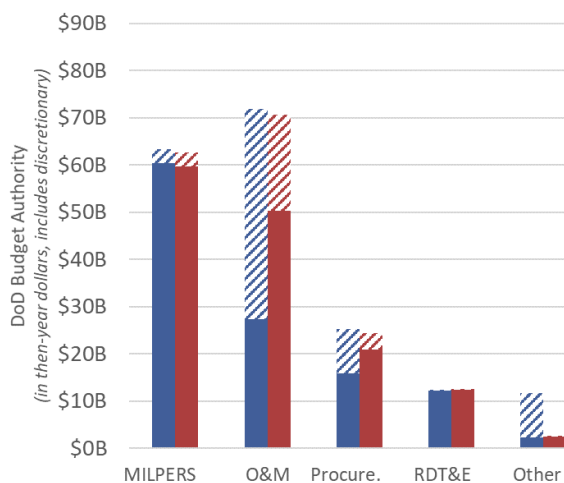


Figure 8: FY 2020 Air Force Appropriations vs. Requested Levels by Title

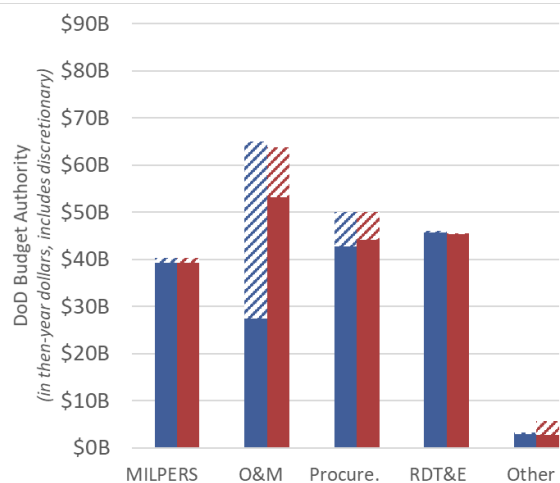


Figure 7: FY 2020 Defense-Wide Appropriations vs. Requested Levels by Title

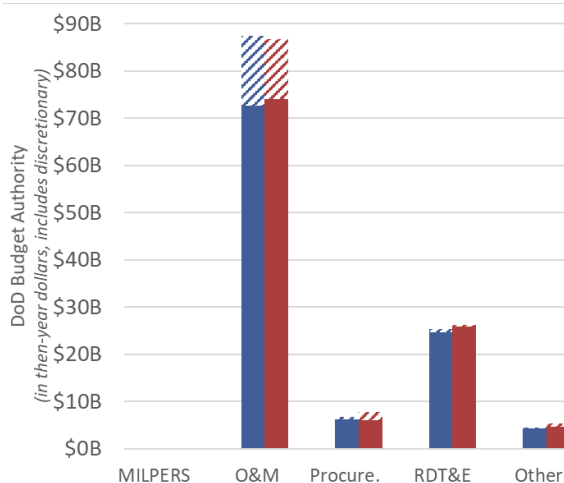
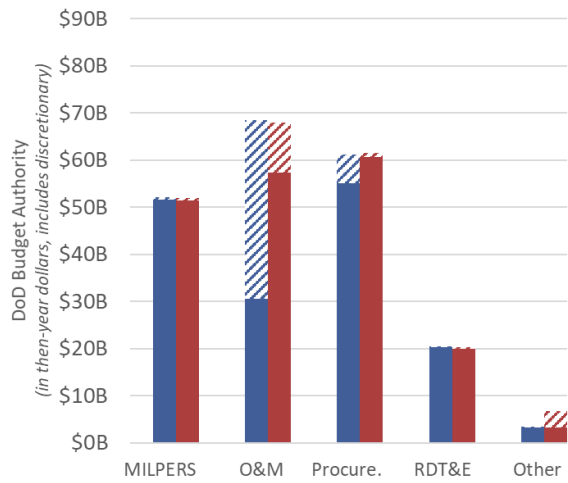


Figure 9: FY 2020 Navy Appropriations vs. Requested Levels by Title



▨ FY20 Enacted OCO/Emergency
 ■ FY20 Enacted Base
 ▨ FY20 Requested OCO/Emergency
 ■ FY20 Requested Base

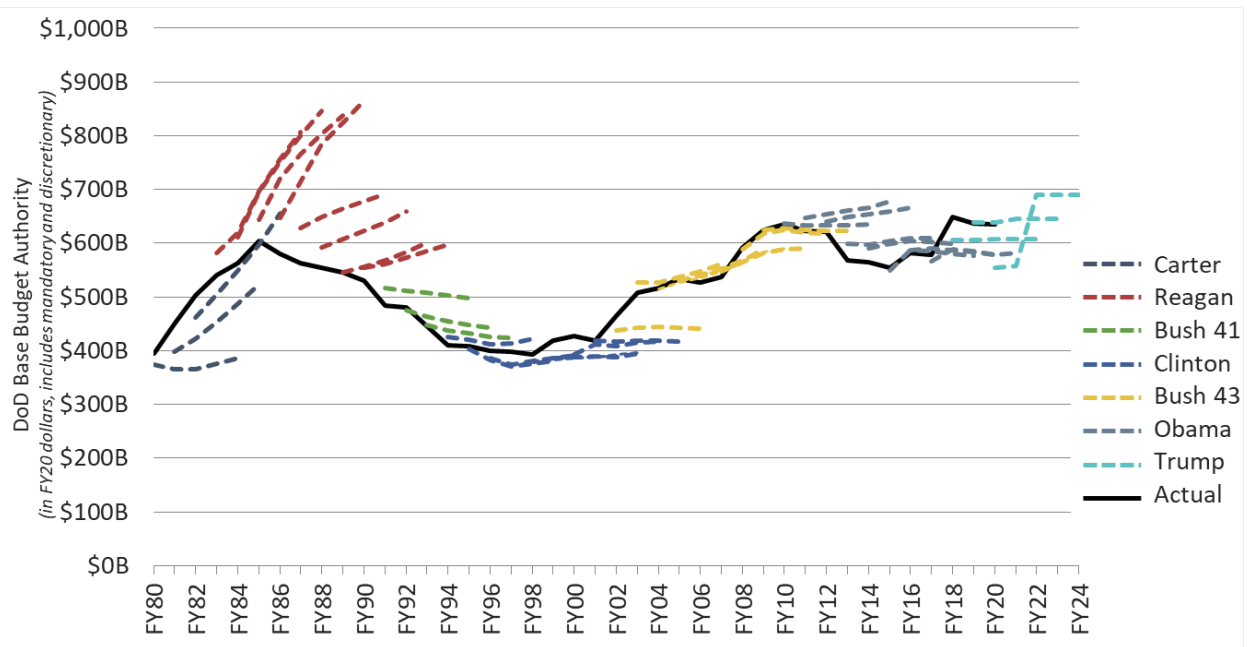
**The "Other" category includes MILCON, Family Housing, and Revolving and Management Funds. Rescissions are applied directly to the relevant spending titles. General provisions that are not specific to a military department were placed in defense-wide appropriations.*

4 | Funding in FY 2021 and Beyond

Five-Year DoD Budget Projections

The president's budget request includes a detailed five-year projection of future funding, known as the FYDP. As shown in Figure 10, the FYDP has historically proven to be a lagging indicator of where the defense budget is headed. For example, the FYDP did not project the defense drawdown that started in FY 1986. Once the drawdown started, the FYDP submitted each year as part of the defense budget continued to project increasing funding in the future year after year, even as the budget continued to decline. In the most recent budget cycle, the FYDPs submitted with each budget request did not project the downturn that occurred from FY 2010 through FY 2015, nor did they project the surge in funding experienced from FY 2017 through FY 2020.

Figure 10: DoD FYDP Projections versus Actuals



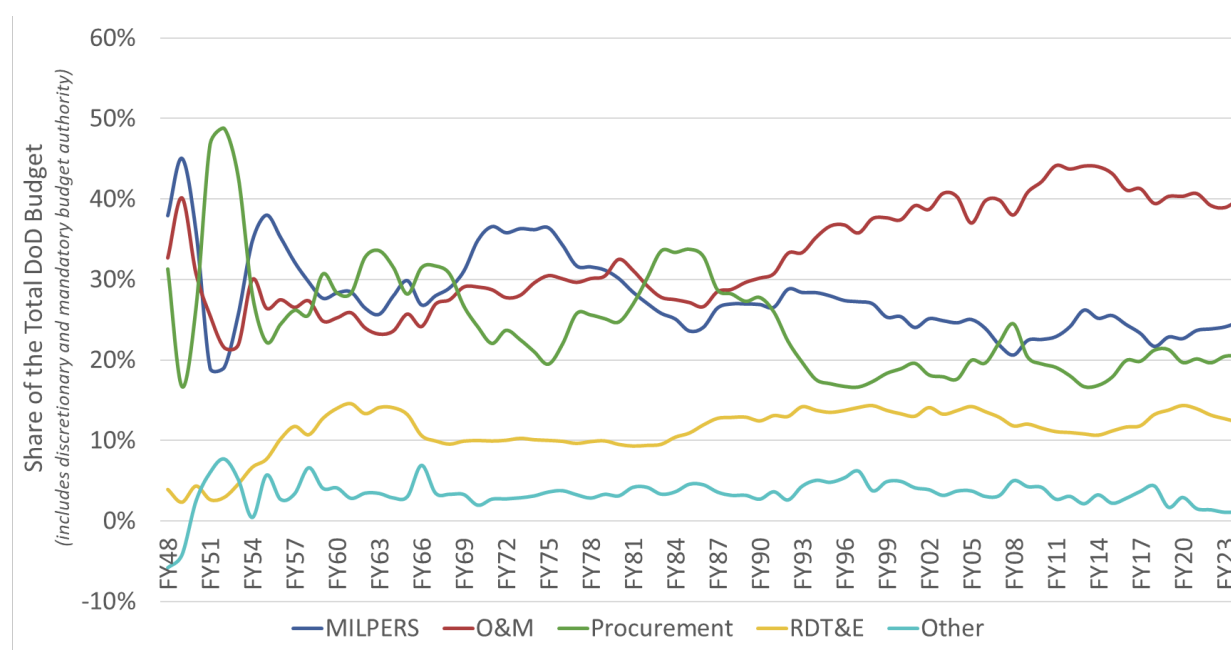
The FYDP is therefore best understood as a statement of policy rather than a prediction of where the budget is headed. It is an indication, with considerable detail, of the Defense Department's priorities and trade-offs among modernization, force structure, and readiness. However, as history has shown, the plans and programs projected in the FYDP are not set in stone and are subject to ongoing modification by Congress, as it considers the budget request, and by DoD itself, in subsequent budget requests.

Budget Projections by Title Over the FYDP

The DoD budget is divided into appropriation titles according to how money is to be used. The share of the overall DoD budget allocated to each title has varied over time due to wars and changes in peacetime defense strategy and policies, as shown in Figure 11. For example, near the end of the Vietnam War in the early-1970s, the military personnel (MILPERS) title of the budget garnered a greater share of overall funding as the Defense Department began to transition to a more expensive all-volunteer force. Likewise, at the height of the Cold War buildup in the 1980s, procurement funding enjoyed the largest share of the budget, as DoD invested heavily in modernization and new technologies.

Since the end of the Cold War, however, O&M funding has garnered the largest share of the budget. This is due to several factors, such as growing health care costs in the defense health program budget, which is funded through the O&M title (rather than MILPERS). It is also due to higher operating costs for military forces, such as the costs of operating aircraft, ships, and other equipment. The average age of equipment has been increasing due to lagging modernization programs, and older equipment can cost more to operate and maintain. But newer equipment often proves to be more expensive to operate and maintain than the old equipment it replaces.²¹

Figure 11: Share of DoD Budget by Title

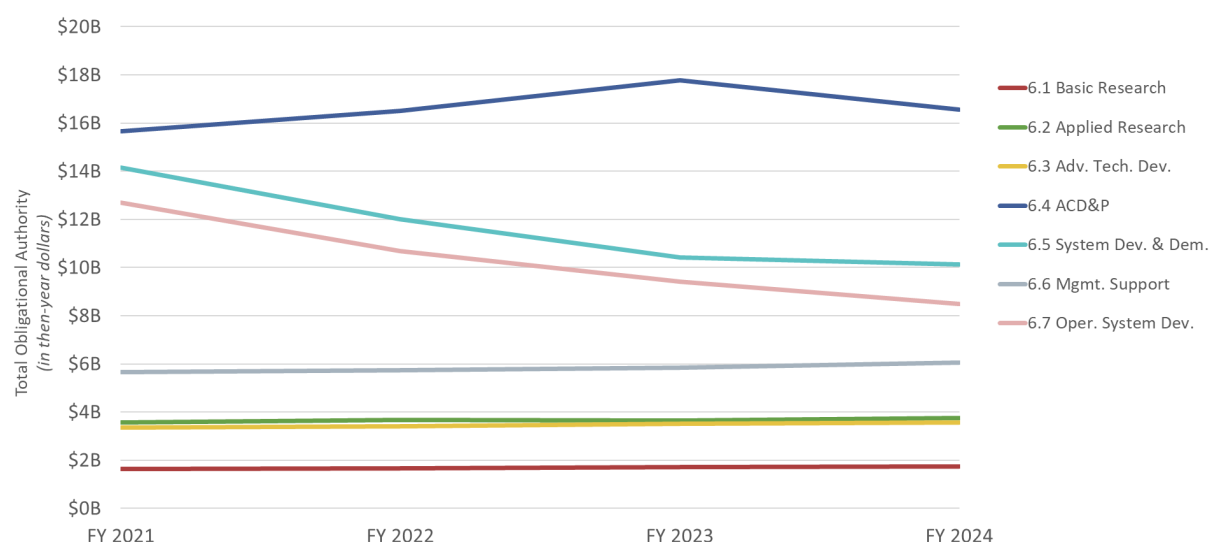


The FY 2020 FYDP continues many of the trends seen since the end of the Cold War. It projects that O&M funding will continue to consume some 40 percent of the budget—the largest share of any title. It

²¹ For a more detailed discussion of rising O&M costs for aircraft, see: Todd Harrison, *The Air Force of the Future: A Comparison of Alternative Force Structures* (Washington, D.C.: CSIS, October 2019), <https://www.csis.org/analysis/air-force-future-comparison-alternative-force-structures>.

also projects that procurement funding will stay relatively flat as a share of the budget, at 20 percent; that MILPERS funding will increase from 22.7 to 24.7 percent; and that RDT&E funding will decline from 14.4 to 12.2 percent. This reflects a shift in funding away from investments in new technologies to fund higher military personnel costs. Given that the overall number of military personnel is not projected to increase substantially over the coming five years, the higher share of the budget going to MILPERS indicates an expected increase in the cost per service member for pay and benefits (other than health care, which is primarily funded through the O&M title of the budget).

Figure 12: RDT&E FYDP by Budget Activity



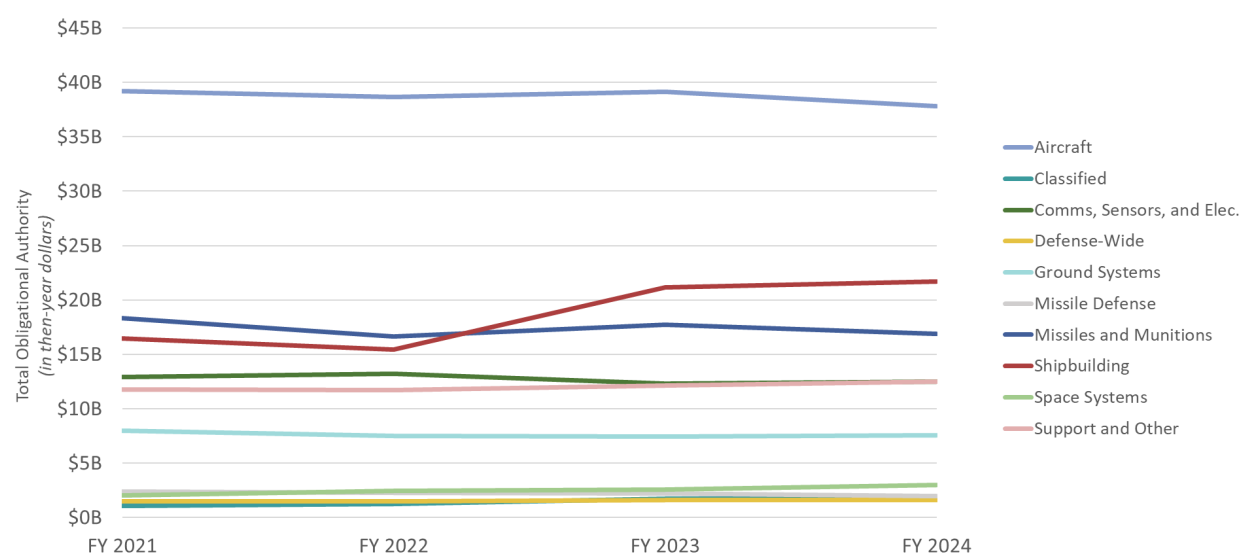
The projected decline in RDT&E funding would appear to be at odds with the NDS, which says that “we must invest in modernization of key capabilities through sustained, predictable budgets.”²² However, looking closely at the RDT&E budget projected over the FYDP, shown in Figure 12, the decline in funding is concentrated in two areas: the budget activities for system development and demonstration (6.5) and operational system development (6.7). System development and demonstration funding is typically used for acquisition programs that have passed Milestone B and are in the engineering and manufacturing development phase, progressing toward initial low-rate production. Operational system development funding is typically used to continue research and development work for programs that have already been fielded or approved for full-rate production.²³ A decline in these two areas of RDT&E funding means that programs are leaving these development phases faster than new programs are transitioning into these phases. However, the projected increase in advanced component development and prototyping funding (6.4) indicates that new programs are in the development pipeline.

²² Jim Mattis, “Summary of the 2018 National Defense Strategy of the United States,” DoD, 2018, 6, <https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>.

²³ DoD, “Chapter 5: Research, Development, Test, and Evaluation Appropriations,” June 2004, 5-3, https://comptroller.defense.gov/Portals/45/documents/fmr/archive/02barch/02b_05old.pdf.

The overall level of procurement funding is projected to stay relatively flat through FY 2024. Aircraft funding dominates the procurement budget, as shown in Figure 13, with several major aircraft acquisition programs in production simultaneously, including the F-35 Joint Strike Fighter, KC-46A tanker, F/A-18 fighter, and CH-53K helicopter. As has been the case for the past decade, the Navy projects that it will continue to spend more than the Air Force on aircraft procurements over the FYDP. Shipbuilding procurement funding is projected to grow substantially over the FYDP as the Columbia-class submarine moves into production and the DDG-51 procurement rate increases from two to three ships per year. Space procurement funding, nearly all of which is now in the Air Force's budget, is projected to grow from \$2.5 billion in the FY 2020 request to \$3.0 billion in FY 2024. Procurements of ground systems are projected to decline over the FYDP from \$8.7 billion in the FY 2020 request to \$6.0 billion in FY 2024, driven in part by the Bradley Modernization program, which is nearing completion in FY 2022.

Figure 13: Procurement FYDP by Category



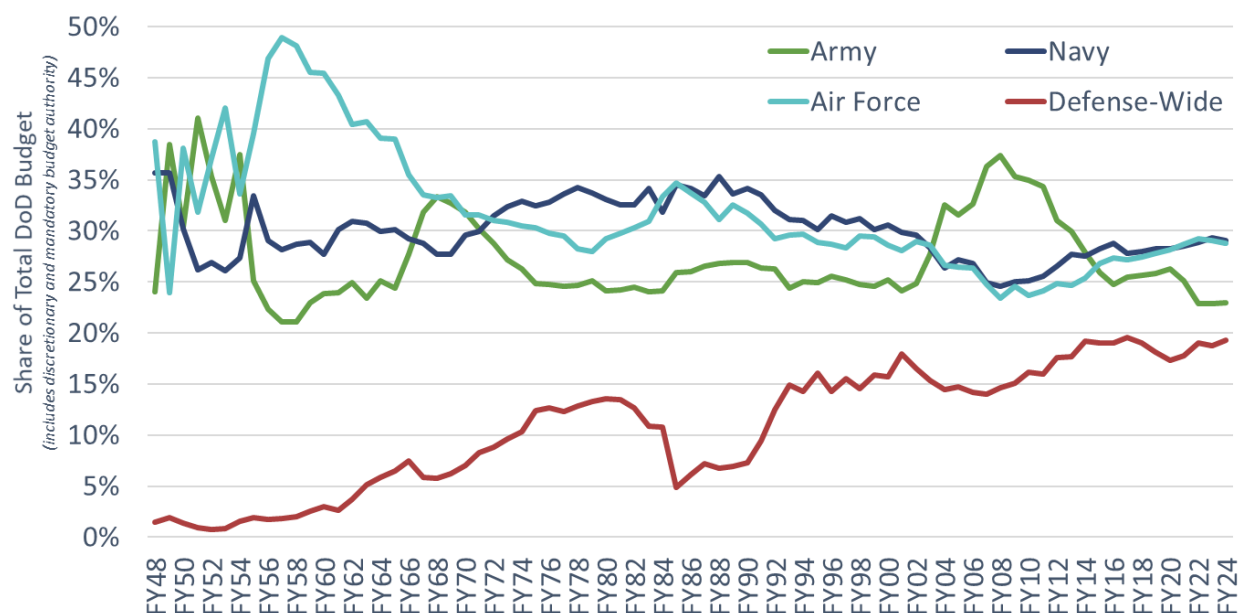
Budget Projections by Military Department Over the FYDP

An often-repeated myth about the defense budget is that it is divided into thirds among the military departments. As shown in Figure 14, this is not true, and it never has been true. The departments' shares of the budget have varied considerably over time in response to changes in strategy and operational demands. In the late-1950s, for example, the newly created Air Force garnered 49 percent of the budget as it built out the bomber and intercontinental ballistic missile legs of the nuclear triad as part of Eisenhower's strategy of massive retaliation.

Today, some 17 percent of the DoD budget is defense-wide funding that does not go to the military departments at all. The Army had received the largest share of the budget throughout the 2000s due to operations in Iraq and Afghanistan, but since U.S. deployments for these operations have largely subsided, the Army now receives the smallest share among the departments. The FYDP projection is

somewhat distorted by the OCO placeholder projection for FY 2022 and beyond, which allocates this funding to defense-wide and artificially deflates the Army's share of the total.

Figure 14: Share of DoD Budget by Military Department



Defense-Wide

The defense-wide portion of the budget funds defense agencies and activities that are not part of a specific military department. This includes entities such as the Defense Healthy Agency, Defense Security and Cooperation Agency (DSCA), DoD Education Activity (DoDEA), Special Operations Command (SOCOM), Missile Defense Agency, and Defense Advanced Research Projects Agency (DARPA), to name a few. The vast majority of the defense-wide budget is O&M funding, and some \$23 billion of it is classified. Figure 15 provides a breakdown of defense-wide funding in the FY 2020 request by agency.

Figure 15: Defense-Wide Funding by Agency in FY 2020 Request

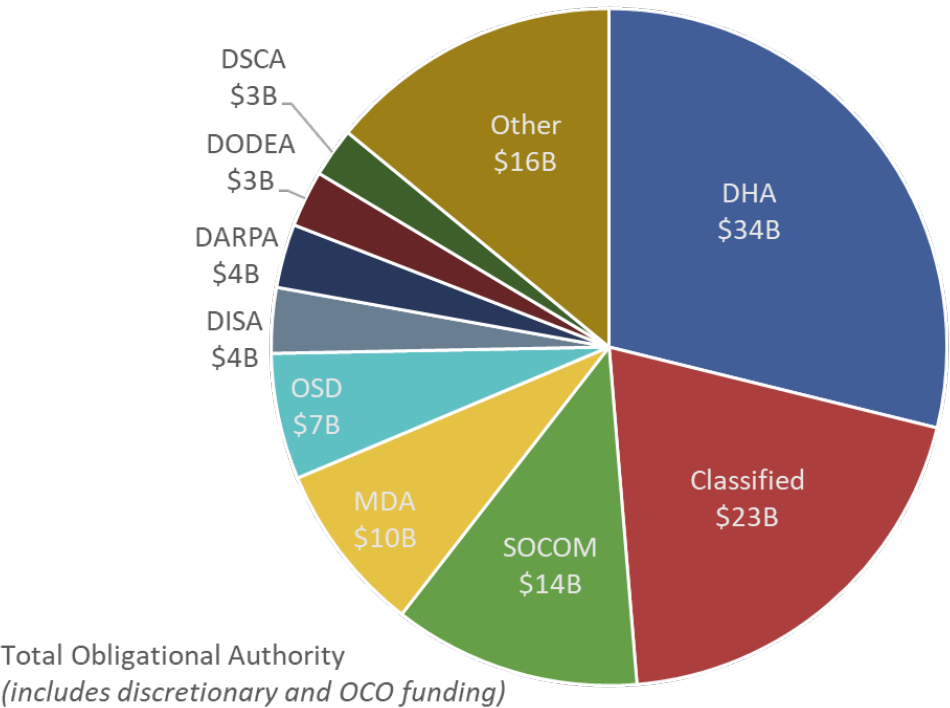
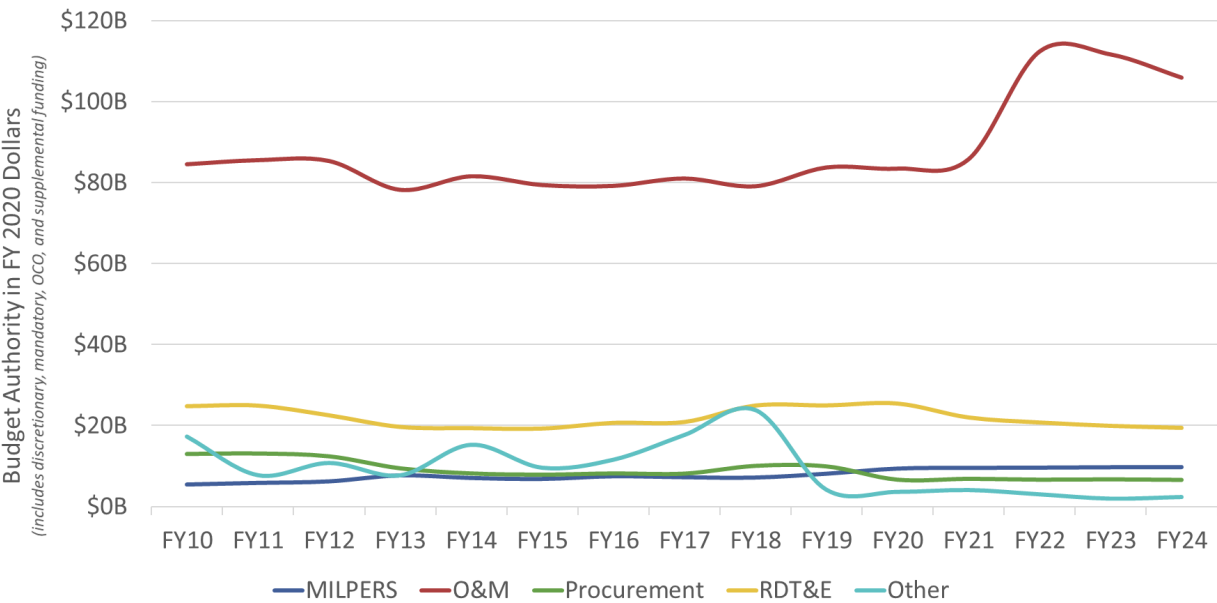


Figure 16: Defense-Wide Funding by Title



The FYDP projection for defense-wide funding is somewhat skewed because, as previously noted, the placeholder for OCO funding in FY 2022 and beyond is allocated to defense-wide O&M, when in reality nearly all of this funding will go to the departments' budgets. But the defense-wide FYDP, shown in Figure 16, is revealing in that it projects a decline in defense-wide RDT&E funding over the next five years, and much of this funding goes to the Missile Defense Agency and DARPA.

After the FY 2020 budget was released, Secretary of Defense Esper initiated a “comprehensive zero-based review” of the defense-wide portion of the budget. The stated intent of this review was to identify resources (including funding and staff) that could be reallocated to higher priorities in the NDS in time for the FY 2021 budget request.²⁴ In a January 2020 memo, Secretary Esper stated that this review had generated \$5 billion in FY 2021 savings, and it found an additional \$2 billion that could be moved to the military departments' budgets.²⁵ This suggests that the defense-wide budget will see substantial revisions in the upcoming FY 2021 request and a lower overall topline.

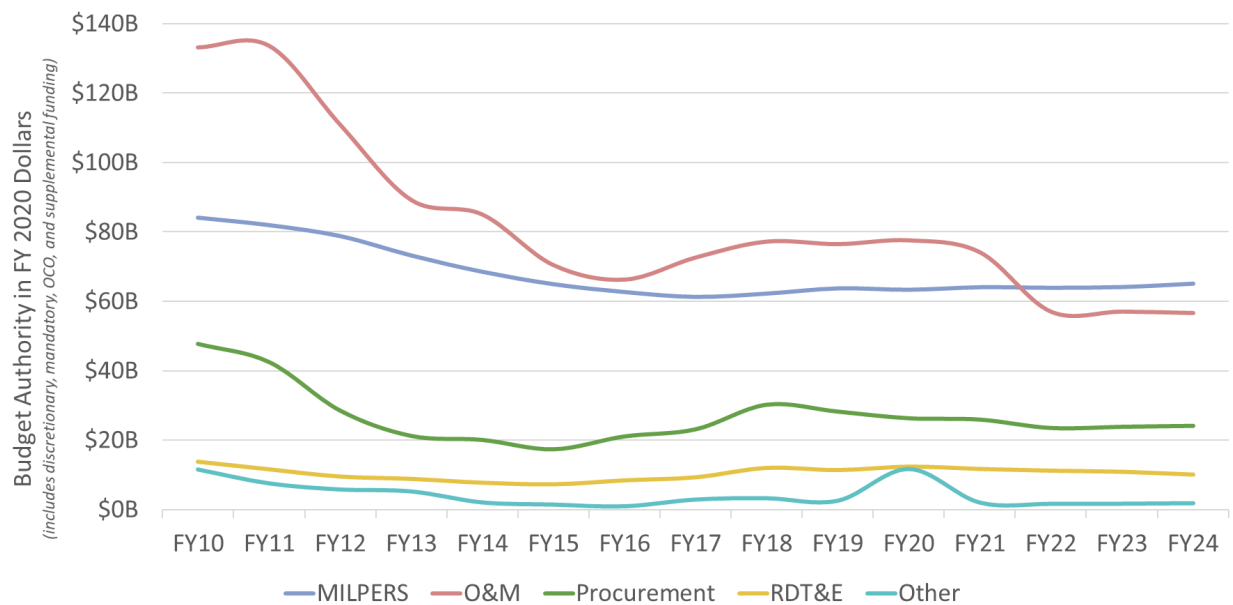
Army

As previously mentioned, the Army received the highest share of the DoD budget throughout the 2000s, yet since FY 2015, it has had the smallest share of the three military departments. This can be attributed to the drawdown of operations in Iraq and Afghanistan which, as shown in Figure 17, led the Army's O&M budget to fall by over 50 percent between FY 2010 and FY 2016. The Army continues to have the largest O&M budget of the departments, although it is projected to fall by 23 percent from FY 2021 to FY 2022. As discussed above, OMB put the OCO placeholder for FY 2022 and beyond in defense-wide funds, thereby distorting the Army's budget. Consequently, O&M funding for the department will not fall as drastically as the FYDP suggests.

²⁴ David L. Norquist to Chief Management Officer of the DoD et al., “Defense-Wide Review,” memorandum, August 2, 2019, https://insidedefense.com/sites/insidedefense.com/files/documents/2019/aug/08052019_dw.pdf.

²⁵ Mark T. Esper to Chief Management Office of the DoD et al., “Department of Defense Reform Focus in 2020,” memorandum, January 6, 2020, https://federalnewsnetwork.com/wp-content/uploads/2020/01/010620_esper_2020_reforms_memo.pdf.

Figure 17: Army Budget by Title

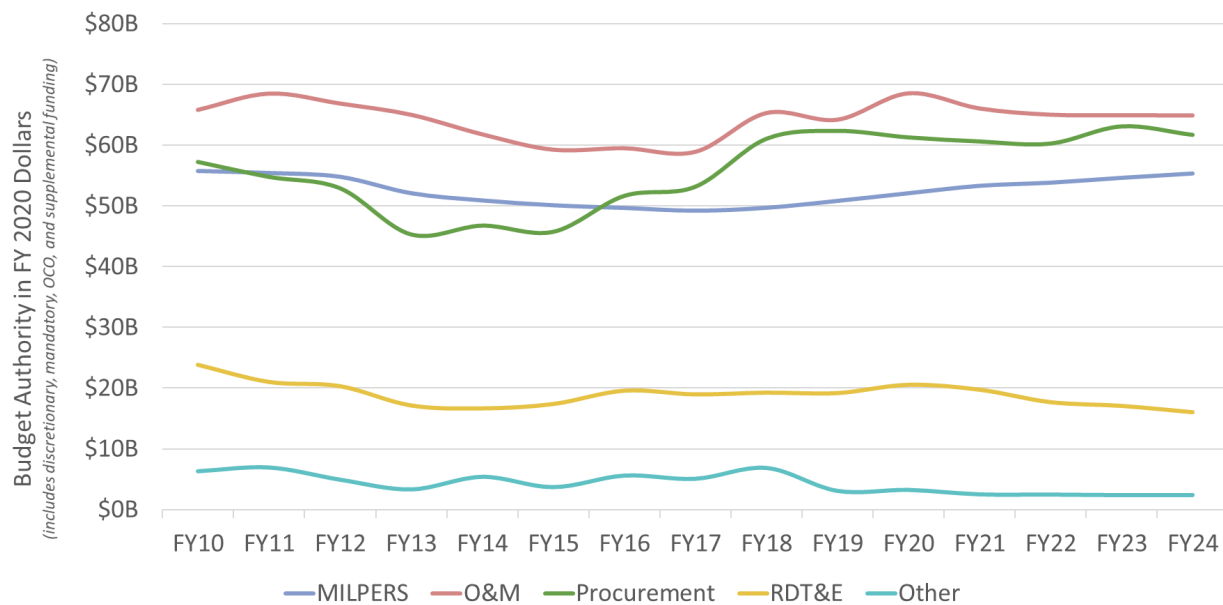


The Army also spends a larger share of its budget on personnel than the other military departments. While MILPERS constituted 33 percent of the Army’s FY 2020 budget request, it accounted for over 40 percent of the department’s funds in FY 2015, a high point for the spending title in recent history. Over the course of the FYDP, MILPERS is projected to grow by 3 percent. However, procurement and RDT&E spending, emblematic of the NDS’s commitment to modernization, is projected to fall by 1 percent and 2 percent, respectively.

Navy

The Navy has had the largest share of the DoD budget since FY 2015. Over the course of the FYDP, however, the Air Force is set to overtake the Navy in FY 2021 and FY 2022 before the maritime military department resumes its top spot in FY 2023 and FY 2024. The Navy also spends a larger share of its budget on procurement than the other two departments. As shown in Figure 18, procurement spending overtook MILPERS as the second-largest account within the Navy’s budget after O&M in FY 2016. Procurement spending has grown 37 percent in real terms from FY 2013 to FY 2019 and is set to increase a further 1 percent over the course of the FYDP.

Figure 18: Navy Budget by Title



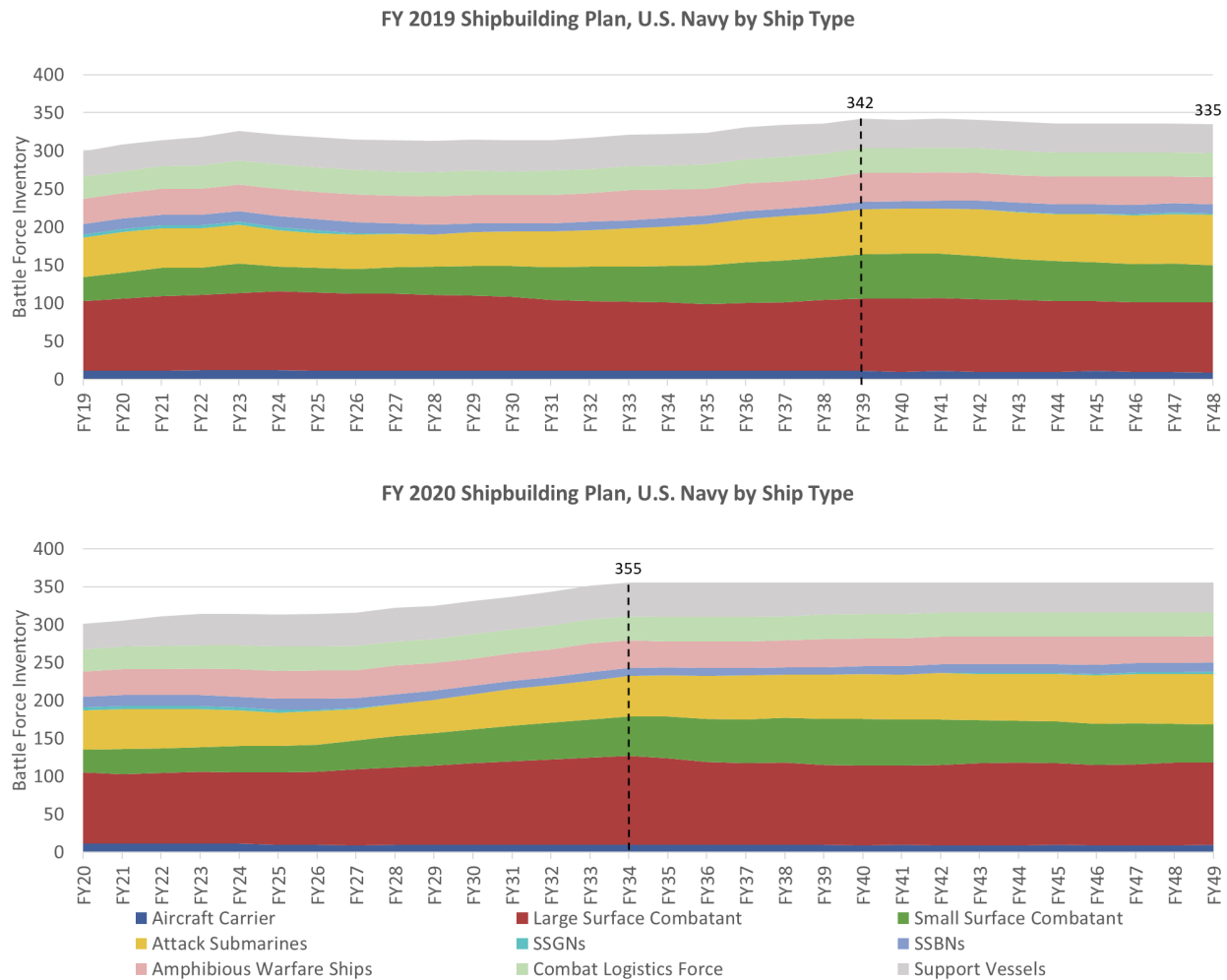
The Navy’s plan to build and maintain a 355-ship navy has persisted since the December 2016 Force Structure Assessment (FSA) first announced the target number. Subsequent shipbuilding plans have altered the makeup of that fleet, as well as the timeline for reaching 355 ships. Figure 19 compares the shipbuilding plans released with the FY 2019 and FY 2020 budget requests. Notably, the FY 2020 plan reaches 355 ships by FY 2034, while the FY 2019 plan did not anticipate meeting this goal until the early-2050s. The fleet under the FY 2019 shipbuilding plan peaked at 342 ships in FY 2039 and FY 2041 before falling to 335 ships in FY 2048. By contrast, the FY 2020 plan maintains 355 ships from FY 2034 through the end of the 30-year plan in FY 2049. This accelerated timeline stems from the Navy’s decision in April 2018 to extend the service lives of the DDG-51 destroyers to 45 years.²⁶

The Navy is currently in the process of developing a new FSA, known as the Integrated Naval FSA (INFSA), in conjunction with the Marine Corps. Although the FSA was originally planned to be completed by the end of September 2019, subsequent announcements have delayed its delivery until spring 2020. Questions have been raised over the size and makeup of the fleet in the new FSA in the development of the FY 2021 budget—including whether uncrewed ships should be included in the count—particularly following leaked Navy memos detailing significant proposed cuts in force structure. Yet Navy leadership has responded that 355 crewed ships remains the target.²⁷ With flat topline across DoD and the Navy’s budget, the dedication to 355 crewed ships poses concerns as to when the Navy can feasibly reach that target and whether it aligns with the NDS.

²⁶ Congressional Research Service, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress* (Washington, DC: January 2020), <https://fas.org/sgp/crs/weapons/RL32665.pdf>.

²⁷ Sam LaGrone, “CNO Gilday Calls for Budget Increase to Reach 355 Ship Fleet; New Battle Force Count Won’t Include Unmanned Ships,” USNI News, January 14, 2020, <https://news.usni.org/2020/01/14/cno-gilday-calls-for-budget-increase-to-reach-355-ship-fleet-new-battle-force-count-wont-include-unmanned-ships>.

Figure 19: Changes in Navy Shipbuilding Plans



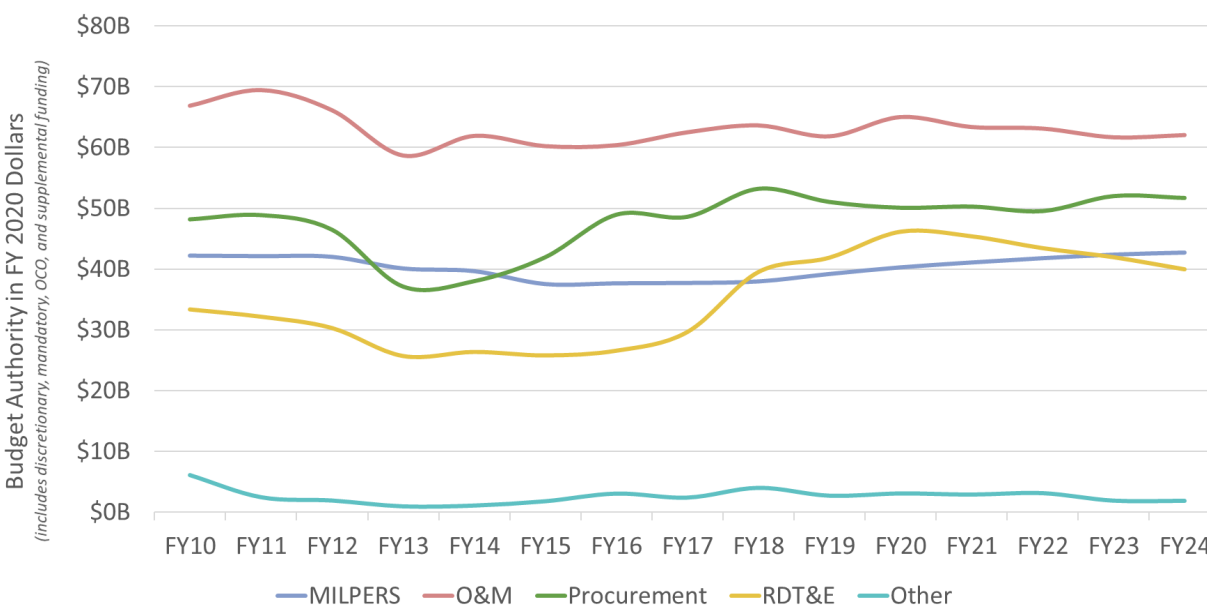
Air Force

The Air Force spends a larger share of its budget on RDT&E than the other military departments, although roughly \$18 billion of this is classified RDT&E funding, some of which may pass through to other agencies. As shown in Figure 20, from FY 2015 through the FY 2020 request, the Air Force's RDT&E budget grew by 79 percent in real terms. Within this, classified funding lines grew proportionately less than unclassified lines. However, the FYDP submitted with the request would reduce RDT&E funding by 13 percent in real terms from FY 2020 to FY 2024. Procurement funding is projected to stay relatively flat over the same period, even as the F-35A and KC-46A are expected to be at full-rate production and the B-21 is expected to enter production.

The challenge for the Air Force over the FYDP is to maintain its existing force structure while increasing RDT&E and procurement funding to support the growing demands of the modernization programs it has in the pipeline. In the FY 2020 request, the Air Force asked for a 5 percent real increase in O&M funding over FY 2019 while also projecting that the number of flying hours supported by that funding

would decline by 9 percent. Likewise, it requested a 2.8 percent real increase in MILPERS funding but only a 0.9 percent increase in the number of military personnel. The FYDP projects that O&M funding will stay relatively flat, but the Air Force MILPERS budget is projected to grow by six percent in real terms over the next five years.

Figure 20: Air Force Budget by Title



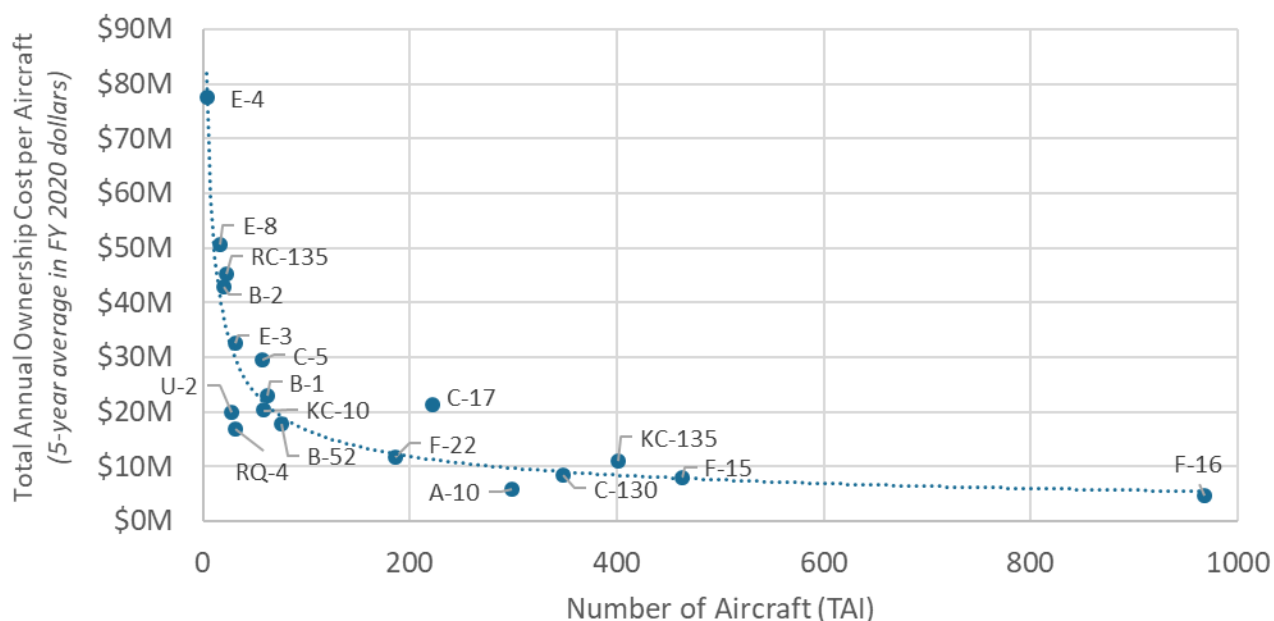
This trend is not unique to the FY 2020 budget request. Further analysis of the Air Force’s budget over several decades reveals that its O&M costs per plane and MILPERS costs per active duty service member have been growing faster than inflation. Over time, this has eroded the Air Force’s buying power and necessitated force structure cuts even when the budget was growing.²⁸ The Air Force’s budget request for FY 2020 is the second highest in its history, but the size of the Air Force in terms of personnel and the number of planes in the inventory is near the smallest. This is a trend that is unsustainable in the long run and inconsistent with the NDS.

While there are many possible reasons for the Air Force’s rising O&M and MILPERS costs, one explanation stands out because it is within the military department’s control. Analysis of the total ownership costs of Air Force aircraft indicates that the cost per plane varies inversely with number of planes of a given type in the inventory. In other words, aircraft types that are maintained in smaller numbers (generally less than 150) tend to cost more per plane to operate than aircraft types that are maintained in larger quantities. As shown in Figure 21, the correlation in the data suggests that the total annual ownership cost of an aircraft fleet is proportionate to the square root of the total active

²⁸ See Todd Harrison, *The Air Force of the Future*.

inventory (TAI) of that aircraft.²⁹ As of 2017, the Air Force has 34 different aircraft types that have fewer than 50 aircraft each—and 22 of these have less than 20 aircraft each.

Figure 21: Higher Ownership Costs for Small Fleets



This relationship is particularly instructive for the Air Force as it plans its acquisition strategies for future modernization programs, such as the Next-Generation Air Dominance Fighter. The “digital century series” approach for the next-generation fighter calls for recompeting every few years for a potentially new aircraft, even if it means buying just 72 aircraft of a given type before moving on to a new design. This could leave the Air Force with more costly small fleets of aircraft and ultimately limit its ability to maintain force structure. For example, using the historical cost correlation from Figure 21, five separate fleets of 72 aircraft each (for a total of 360 aircraft) would cost roughly the same to operate and sustain as 1,800 aircraft of a single type. While changing designs every few years may help maintain competition and speed the introduction of new technologies into the force, this approach would likely lead to higher operation and sustainment costs and a smaller force than the Air Force could otherwise afford.

²⁹ Ibid., 9-10.

5 | Conclusion

Despite being touted as a “masterpiece,” the FY 2020 defense budget request did not represent a fundamental shift from prior budgets. While it included some new initiatives, it continued many of the same trends seen over past decades: the O&M costs of force structure continued to rise, and the cost per service member grew faster than inflation. At a macro level, the FY 2020 FYDP appears to be inconsistent with the NDS in several respects. Despite the NDS calling for a rebalancing of capabilities to focus more on great power competition and the threats posed by Russia and China, the acquisition budget does not reflect such a shift. It projects relatively flat procurement funding in the future, mainly going to programs that were already in production before the NDS was written, and a declining RDT&E budget. Moreover, the budget projects that military personnel costs will rise as a share of the budget in future years even though the size of the force is not expected to increase commensurately. If these trends are not mitigated, they will force the military to make difficult trade-offs between modernization and force structure and constrain its ability to implement the NDS.

In the coming weeks, the Department will release the FY 2021 budget request for congressional consideration. This request will provide additional insight into the Department’s priorities and how it plans to make trades between modernization and force structure. The military departments have already begun to preview proposed reductions in force structure intended to free up resources for modernization priorities, but Congress will have the final say in these decisions. The request will also be the first detailed look at the results of Secretary Esper’s defense-wide zero baseline review, which will reportedly save \$5 billion in FY 2021. Again, Congress will have the ultimate say in cuts to defense-wide programs and activities, which could reduce the savings and limit the Department’s ability to refocus its priorities.

Among other items to watch in the FY 2021 request is how the budget is allocated by title and among the military departments. The strategic refocus in the NDS implies a greater emphasis on new technologies and weapon systems and a relative shift toward the capabilities needed for great power competition. This could lead to a greater share of the budget going to RDT&E and procurement and a shift in budget share among the military departments. In anticipation of a potential shift, some military leaders have begun making the case publicly that their service should receive a greater share of the overall budget.

The BBA 2019 budget deal set the topline for the base national defense budget and the expected level of OCO funding for FY 2021. Enforcement of the budget caps still applies to the base budget for FY 2021, meaning if Congress appropriated more funding than the cap, it would trigger an automatic across-the-board sequester. But the level of OCO funding in the budget deal does not have a similar enforcement mechanism. It is possible that the administration could request additional OCO or

emergency supplemental funding for other priorities, such as the border wall. This would not violate the budget caps, but Congress would still need to approve the additional funding.

As Congress begins to consider the FY 2021 request, much of DoD's attention will turn to developing the FY 2022 request. Secretary Esper has already announced that each of the military departments will conduct their own zero baseline review as part of the FY 2022 budget cycle. Like the defense-wide review he just completed, the intent of the military department reviews is to find savings from cuts to low-priority programs and activities that can be reinvested in higher priorities that better support the strategy. This means that major shifts within and among the departments' budgets may not come until this review is finished. And depending on the results of the 2020 presidential election, the FY 2022 budget request could be handed over to a new administration and subject to revision before it is submitted to Congress next year.

| About the Authors

Todd Harrison is the director of Defense Budget Analysis and the director of the Aerospace Security Project at CSIS. As a senior fellow in the International Security Program, he leads the center's efforts to provide in-depth, nonpartisan research and analysis of defense funding, space security, and air power issues. He has authored publications on trends in the overall defense budget, military space systems, civil space exploration, defense acquisitions, military compensation, military readiness, nuclear forces, and the cost of overseas military operations.

He frequently contributes to print and broadcast media and has appeared on CNN, CNBC, NPR, Al Jazeera English, C-SPAN, PBS, and Fox News. He teaches classes on military space systems and the defense budget at the Johns Hopkins School of Advanced International Studies. He is a member of the National Oceanic and Atmospheric Administration's Advisory Committee on Commercial Remote Sensing and a member of the Defense News Advisory Board.

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