DOD'S THREE-FYDP CHALLENGE

by Todd Harrison
Managing Director, Metrea Strategic Insights

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THE PROBLEM

For more than a decade, the Department of Defense (DoD) has anticipated a wave of modernization needs extending from the early 2020s through the 2030s. This modernization "bow wave" is driven by an aging inventory of equipment and delayed modernization programs, which has led to a high degree of overlap in the timing of major acquisition programs.[1] The FY 2023 budget request is arguably the first budget that begins to show the magnitude of these overlapping modernization challenges because the Future Years Defense Program (FYDP) in this budget extends through FY 2027, when the bow wave will be approaching its peak.[2] The FY 2023 budget must balance competing modernization needs with growing personnel costs, readiness challenges, uncertain and evolving inflationary pressures, and an increasingly complex security environment that challenges U.S. military supremacy across domains, geographical regions, and the full spectrum of operations from competition through conflict.

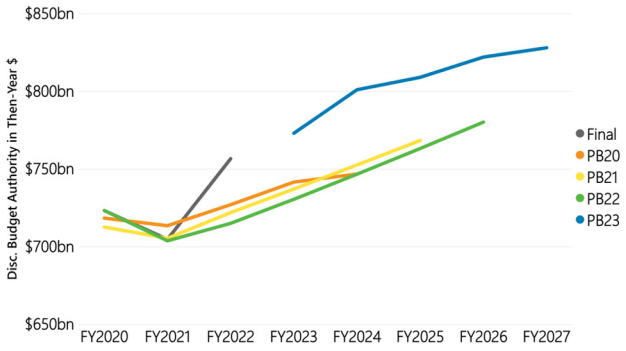
These challenges extend well beyond the FYDP's five-year time horizon, requiring what Deputy Secretary of Defense Kath Hicks has called a "three FYDP approach." In this formulation, defense strategy must balance immediate needs over the first FYDP (FY 2023 to FY 2027) with a force design targeted for the third FYDP (FY 2033 to FY 2037). The immediate needs include countering Russian aggression in Europe and deterring China in the Indo Pacific region, where China aims to have the military capability to take Taiwan by force as soon as 2027.[3] As Deputy Secretary Hicks notes, the challenge is finding a "viable pathway through that middle period" to eventually reach the force envisioned for the future.[4] This paper analyzes the FY 2023 budget request in this context, looking for evidence of a viable pathway to meet the three-FYDP challenge.

OVERVIEW OF THE FY 2023 REQUEST

Two of the most significant features of the FY 2023 request are the increase in the topline budget and the assumptions used for inflation. The topline budget for DoD is 5.9 percent higher than previously projected for FY 2023 at $773 billion in discretionary funding, compared to $730 billion projected for FY 2023 in last year's request. As shown in Figure 1, the five-year budget projection in the FY 2023 president's budget (PB23) is well above the projections in the PB20, PB21, and PB22 requests.

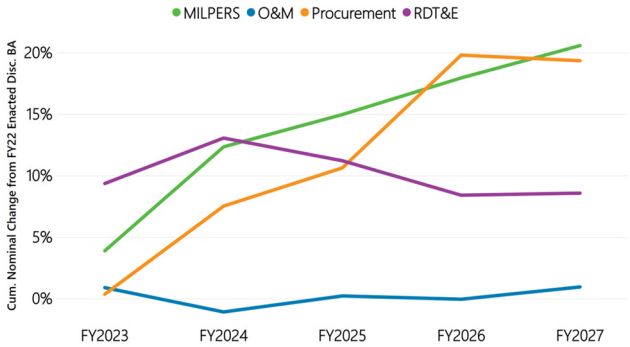
DoD acknowledged that it added "about $20 billion to the FY23 budget and $20 billion to its budgets over the next four years to reflect higher inflation for goods and services and the increased compensation costs for service members."[5] However, the budget only assumed inflation would be 3.9 percent in FY 2022 and 2.2 percent in FY 2023, using the GDP chained price index.[6] According to the Office of Management and Budget (OMB), these assumptions were finalized in November 2021 and do not reflect additional data that has emerged since then.[7] It now appears that inflation will likely exceed 8 percent in FY 2022 and may remain elevated throughout FY 2023.[8] Due to the uncertainty around inflation this year and the reliability of the inflation assumptions used in the request, the

Figure 1: Comparison of DoD Funding in Recent Budget Requests



remainder of this analysis is in then-year (unadjusted) dollars, unless otherwise noted.

Figure 2: Cumulative Change from FY 2022 by Title

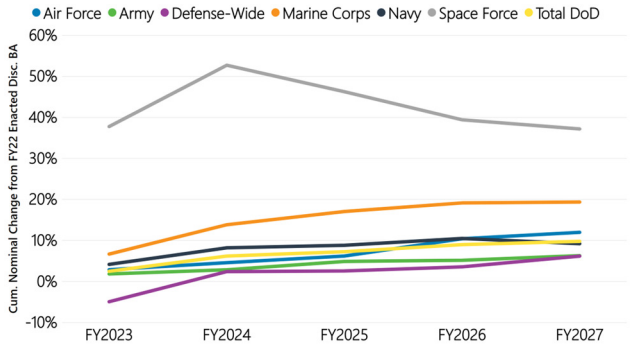


Within the request, the budget shifts funding among accounts and across the military services in several ways. Of the four main titles of the DoD discretionary budget, shown in Figure 2, research, development, test and evaluation (RDT&E) sees the largest percentage increase (9.4 percent) in FY 2023, relative to FY 2022 enacted levels.[9] RDT&E funding is projected to rise further in FY 2024 and then decline over the remainder of the FYDP to just below the FY23 level of funding. The largest cumulative percentage increase over the next five years is in the military personnel (MILPERS) title of the budget (20.6 percent), followed closely by procurement (19.3 percent). Operation and maintenance (O&M) is essentially flat in the budget request, which is a real decline once inflation is taken into account. Separate from the main titles of the budget, the PB23 request sets aside $2.5 billion in an account titled "Reserve for Administration National Defense Priorities" for FY 2024 through FY 2027.

> The budget projects that military personnel costs will be the fastest growing area over the next five years.

While the overall DoD budget grows throughout the FYDP, Figure 3 reveals that such growth is not shared equally across the military services. The Space Force stands out with the largest percentage increase in both FY 2023 and FY 2024, but this is offset in part by the fact that nearly half of this increase is transfers of existing budget lines that were elsewhere within the DoD budget. Notably, the Space Force budget is projected to decline by 10 percent in nominal terms from its peak in FY 2024 through FY 2027. The Marine Corps and Navy increase by 6.6 and 4.1 percent, respectively, in FY 2023, while the Air Force and Army increase by a more modest 2.8 and 1.8 percent, respectively. The defense-wide portion of the budget, which falls under the Office of the Secretary of Defense (OSD) rather than the military services, declines by 5.0 percent in FY 2023 but returns to net growth in FY 2024 and beyond.

Figure 3: Cumulative Change from FY 2022 by Service

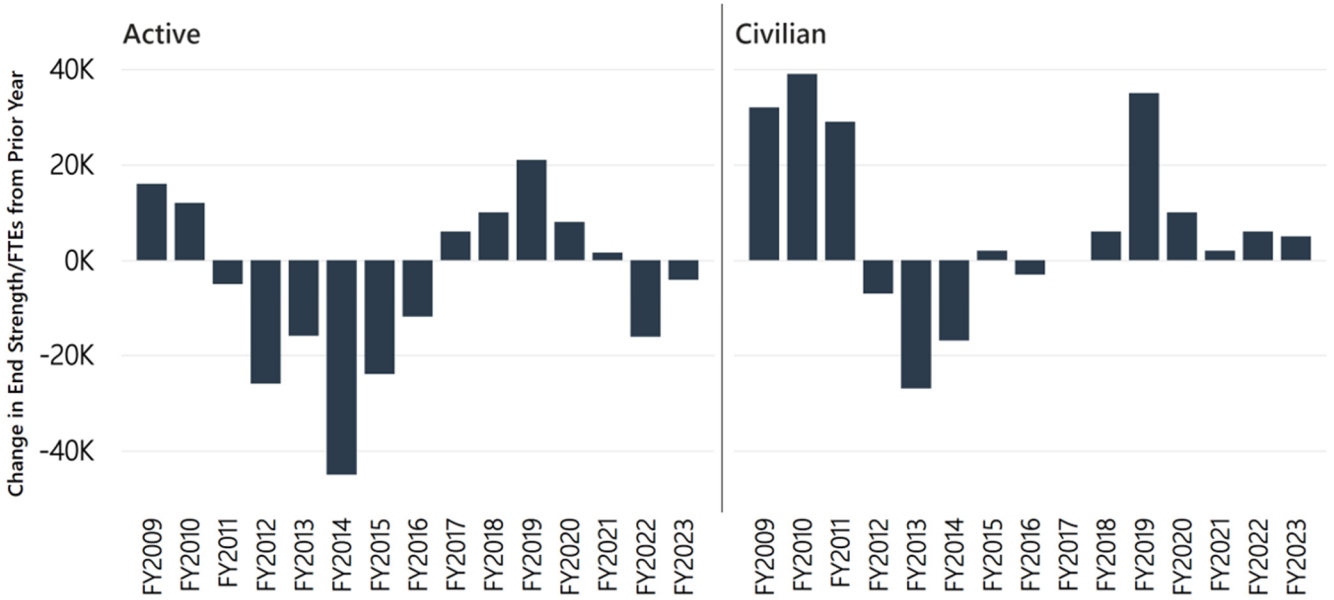


Overall, the FY 2023 request reveals several notable macro-level trends. First, the budget projects that military personnel costs will be the fastest growing area over the next five years, even though military end strength is not projected to grow significantly. It also indicates that O&M funding will remain steady in nominal terms and not keep pace with inflation, which is contrary to the 2.6 percent compound annual growth above inflation experienced over the past seven decades (excluding war-related funding and the defense health program and normalized for the size of the force).[10] Modernization funding is mixed, showing growth in procurement funding—consistent with the anticipated modernization bow wave—yet at the same time projecting that RDT&E funding will peak in FY 2024 and decline in later years. The following sections discuss each of these macro-level trends in more detail, examining some of the drivers behind them and what they portend for the ability of DoD to meet the three-FYDP challenge.

MILITARY PERSONNEL AND O&M FUNDING

Since 2008, the active military (not including full time guard and reserve) has declined by a net of 73,700 personnel while the civilian workforce has risen by a net of 112,000 personnel. As shown in Figure 4, active military end strength is projected to decline while the civilian workforce is projected to grow in both FY 2022 and FY 2023. While DoD does not provide end strength projections beyond FY 2023, current trends in the size

Figure 4: Year-over-year Change in Active and Civilian Workforce



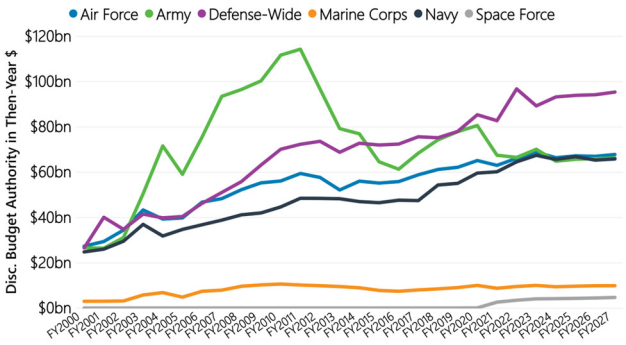
of the DoD workforce are in tension with the budget projections for the remainder of the FYDP. The FYDP projects that MILPERS accounts will grow and O&M accounts (where most civilian personnel are funded) will remain flat, which is a reduction in real terms regardless of the level of inflation assumed.

The projected growth in MILPERS accounts is likely driven by increases in the cost per service member. While this is consistent with long-term trends in personnel costs, the current economic environment suggests that the budget request may *underestimate* the degree of growth likely to occur. For example, the annual pay raise for the fiscal year is set according to the Employment Cost Index (ECI) for the 12-month period ending in September two years prior. For this reason, the ECI's effect on military pay tends to lag behind inflation and overall changes in the private sector labor market. In FY 2023, the pay raise is set by the ECI for the 12-month period that ended in September 2021—which is 4.6 percent (unless Congress intervenes) and will be the highest raise in 20 years.[11] It is unlikely DoD was planning for an even larger pay increase for FY 2024 when it submitted this budget (especially given its optimistic inflation assumptions), but the ECI that will determine the FY 2024 pay raise is already trending higher. For the 12-month period that ended in June 2022 (the most recent data available at the time of this publication), the ECI was 5.7 percent, which suggests the pay raise for FY 2024 may be the highest in nearly 40 years.[12] The final ECI figure used for the FY 2024 pay raise will be for the 12-months ending September 2022, which is scheduled for release by the Bureau of Labor Statistics on October 28, 2022.[13]

In contrast to growing military personnel costs, the FY 2023 request projects a flat O&M budget in nominal terms—which is a declining O&M budget in real terms. Each of the service O&M accounts also appear to be relatively flat over the FYDP, with the exception of 6.8 percent nominal growth in defense-wide O&M from FY 2023 through FY 2027. O&M funding for the Air Force, Army, and Navy are nearly equal in dollar value across the FYDP which, as shown in Figure 5, has not been the case historically. In the past, service O&M accounts have varied significantly from one another due to changes in operational demands, war-related funding, and emergency supplemental funding. Excluding war and emergency supplemental funding, base budget O&M has historically grown faster than inflation due in part to increasing operational costs per unit of force structure.

Included within the flat projection for total O&M funding is an estimate for future war-related costs. While the budget does not request separate Overseas Contingency Operations (OCO) funding, it incorporates future war-related costs in the defense-wide O&M base budget. Roughly $5 billion annually is included in the "Overseas Contingency Operations Transfer Fund" plus an additional "War Outyear Placeholder," which together total $42.7 billion for FY 2024 through FY 2027.[14]

Figure 5: O&M Funding Trends by Service



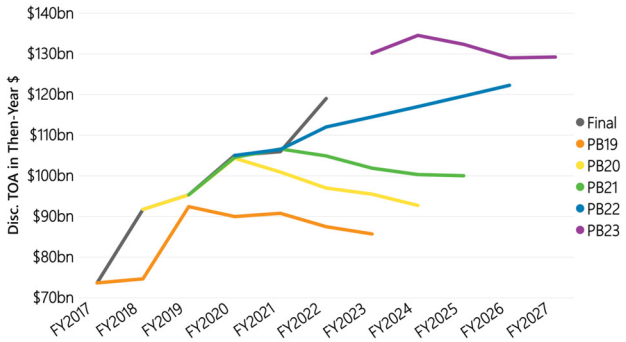
A detailed FYDP projection for O&M is not publicly released with the budget, so the precise reason for the anticipated departure from historical trends in the outyears is not readily evident. Civilian personnel costs are a significant component of total O&M. The budget grows the civilian workforce in FY 2023, and it projects that civilian payroll costs will increase by a total of nearly 15 percent over the FYDP.[15] Proposed retirements of legacy platforms could be partially responsible for lower-than-expected O&M in the outyears, but these reductions are balanced by continued procurements of new platforms that often have higher operating costs than the platforms they replace. Moreover, the O&M projection appears to be inconsistent with the priority the 2022 NDS places on campaigning, which DoD defines as "day-to-day activities and actions, overseas operations, readiness training and exercises, and continuous engagement and collaboration with our Allies and partners." These campaigning activities are largely funded through O&M.

RDT&E FUNDING

The unclassified fact sheet for the 2022 National Defense Strategy (NDS) identifies three main ways to achieve its stated goals, one of which is to build enduring advantages by investing in innovative capabilities and, as Defense Secretary Lloyd Austin has noted, "acquiring the technology that our warfighters need."[16] RDT&E funding is a key component of the three-FYDP challenge DoD faces because a new force design intended to be operational by the third FYDP requires investments in new technologies and capabilities through RDT&E funding in the current FYDP. These new capabilities will need time to mature and be fielded in quantity using a combination of RDT&E and procurement funding in the second and third FYDPs.

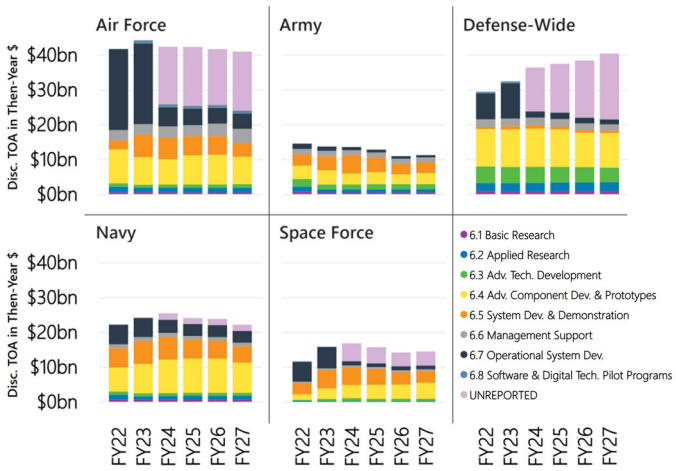
RDT&E funding in the FYDP has followed a predictable trend in recent budget requests, as shown in Figure 6. In each request from PB19 to PB23, total RDT&E was predicted to grow in the first year or two of the FYDP and then decline throughout the remainder of the FYDP. The exception is PB22 because the Biden administration did not submit a detailed FYDP and instead included a straight-line projection for total RDT&E that grew with inflation.

Figure 6: RDT&E Projections in Recent Budget Requests



The PB23 request continues this trend, as shown in Figure 7, requesting significant growth in Air Force, Navy, Space Force, and Defense-wide RDT&E for FY 2023, while Army RDT&E declines slightly. Despite these initial increases, RDT&E funding is projected to decline for each of the military services in the outyears. Each of the services would have less RDT&E funding in FY 2027 than is requested for FY 2023—which translates into a significa nt decline in purchasing power when adjusted for inflation. The exception to this is defense-wide RDT&E, which is projected to grow substantially each year through FY 2027.

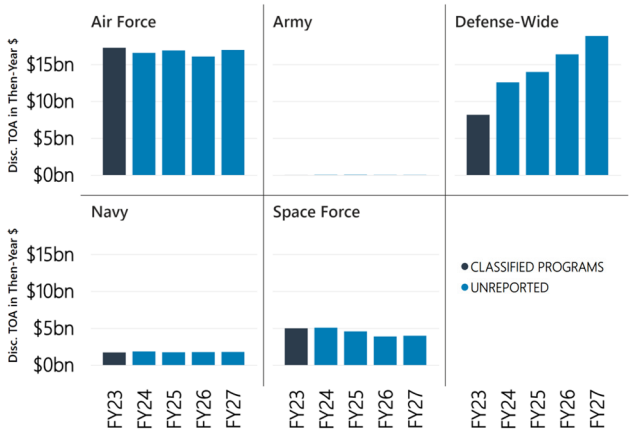
Figure 7: PB23 RDT&E Funding by Service and Budget Activity



The projected growth of defense-wide RDT&E is of particular interest because the areas of growth are not shown in the detailed budget justification (the R-2 documents) provided in the request. The "unreported" category in Figures 7 and 8 represents the difference between the total funding reported for this account in the OMB Public Budget Database and the sum of the details reported in the R-2 budget documents.[17]

Much like dark matter in physics, the existence of this budgetary dark matter can only be inferred from what is missing in the calculations. As shown in Figure 8, the unreported RDT&E "dark matter" for the Air Force, Navy, and Space Force for FY 2024 and beyond generally correlates with the "Classified Programs" funding lines for FY 2023—a generic name included in the budget for unnamed classified programs. These unnamed classified program lines only show f unding for FY 2023 and earlier in the budget documents and do not report any outyear funding or other details.[18]

Figure 8: PB23 Unnamed Classified Programs and Unreported Funding by Service



For defense-wide RDT&E, however, the unreported "dark matter" for FY 2024 ($12.5 billion) is much higher than the unnamed classified program funding for FY 2023 ($8.2 billion). Moreover, defense-wide unreported funding escalates across the FYDP, reaching $18.8 billion in FY 2027.[19] This suggests that a significant portion of defense-wide unreported RDT&E funding is either for new or expanded classified programs or is being reserved for other, unspecified purposes. One possible explanation for this large increase in unreported funding—especially considering the projected decline in RDT&E funding for each of the military services—is that OSD may have created a "bishop's fund" in the outyears of the FYDP.[20] In other words, this could be a wedge of funding being held aside in the outyears of the FYDP (FY 2024 to FY 2027) whose specific purpose has not yet been decided. Other initiatives like this already exist, such as the Accelerate the Procurement and Fielding of Innovative Technologies (APFIT) and the Rapid Defense Experimentation Reserve (RDER) programs administered by Office of the Under Secretary of Defense for Research and Engineering, but the difference here is the scale of the funding involved. While APFIT and RDER receive $100 million and $70 million, respectively, in the FY 2023 request, the unreported funding in question here is orders of magnitude larger.[21] The fact that the funding wedge is in a defense-wide account means that it remains under the control of OSD and could be allocated out to the services according to OSD priorities as the services develop their FY 2024 requests—similar to the "Reserve for Administration National Defense Priorities" allowance discussed earlier. This approach would be entirely consistent with—and perhaps an important component of—a three-FYDP strategy because it sets aside funding for RDT&E in future years while maintaining flexibility and optionality for senior leaders in how that funding is allocated. If certain technologies mature faster than expected, if new technologies emerge, if high priority programs overrun cost estimates, or if threats evolve in unanticipated ways, OSD could fund these efforts without being forced to raid other accounts.

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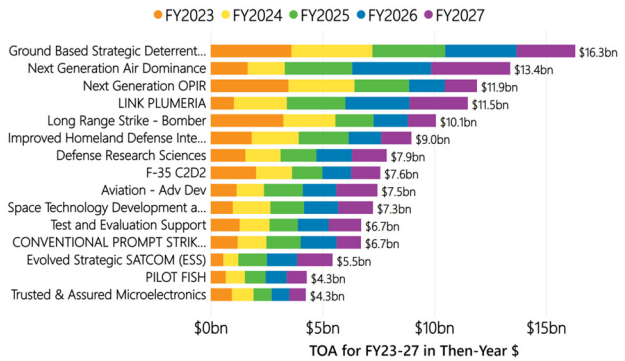
The magnitude of this unreported funding wedge is strategically and budgetarily significant. If the defense-wide unnamed classified program funding is assumed to remain constant across the FYDP at roughly $8.2 billion annually, as appears to be the case for similar funding in the other services' accounts, the extra funding in the defense-wide RDT&E unreported category would total roughly $28 billion over the FYDP.

In comparison, Figure 9 lists the largest RDT&E programs projected across the FYDP, excluding unnamed classified programs and unreported funding. The largest of these is the Ground Based Strategic

Deterrent (GBSD) program, a replacement for the existing Minuteman III intercontinental ballistic missile (ICBM), followed by the Air Force's Next Generation Air Dominance (NGAD) program to build a 6th generation fighter. The Space Force owns the third largest program in RDT&E, a follow-on missile warning satellite constellation known as Next Generation Overhead Persistent Infrared (OPIR). The Navy's Link Plumeria, a named classified program (in contrast to the unnamed classified programs previously discussed) ranks as the fourth largest program element in RDT&E over the FYDP, but no other details are provided.

Figure 9: Top RDT&E Program Elements Over the FYDP



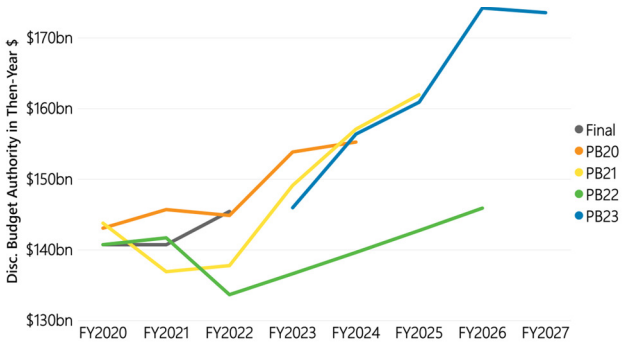
Several of the top RDT&E programs are planned to transition into procurement over the FYDP, such as GBSD, which reports detailed FYDP procurement plans for the first time in the FY 2023 request. Programs that are transitioning from development to procurement are generally funded in budget activity 6.5 (System Development and Demonstration) of RDT&E. Total funding for budget activity 6.5 is projected to decline from a peak of $24.1 billion in FY 2024 to $15.7 billion in FY 2027. While the transition from development to procurement is consistent with addressing the three-FYDP challenge, it leaves a gap in the development pipeline because there are not sufficient programs in earlier stages of development to fill the void left by these transitions.

The intent of DoD may be to fill this development gap in future years with the unreported defense-wide "dark matter" noted earlier. If this is the plan, however, it does not appear to be sufficient in magnitude. Even including this funding, overall funding and programs are transitioning out of RDT&E over the first FYDP faster than new programs and funding are being added, as is evidenced by the overall decline projected for RDT&E in the later years of the FYDP.

PROCUREMENT FUNDING

A key component of the three-FYDP challenge is to balance near-term (first FYDP) procurements needed to recapitalize aging equipment and meet capacity shortfalls with the desire to field innovative new capabilities to enable the force design envisioned for the third FYDP. As one would expect, the procurement budget in the PB23 request places a high degree of emphasis on building weapon systems to meet immediate needs.

Figure 10: Procurement Projections in Recent Budget Requests



Successive budget requests have projected escalating procurement funding in future years, as shown in Figure 10. The exception to this was the PB22 budget, which requested a cut in planned procurements for FY 2022—a move Congress ultimately rejected—and included a straight-line projection for procurement funding increasing at the rate of inflation. The PB23 request projects that procurement will stay roughly flat in FY 2023 at the FY 2022 enacted level and grow steadily to a peak in FY 2026. Growth in the later years is driven by several major new programs ramping up production, particularly the B-21 and GBSD.

Figure 11: Top Procurement Line Items Over the FYDP

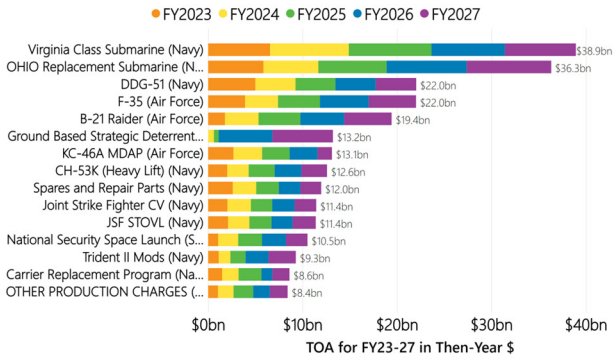


Figure 11 lists the top procurement line items over the FYDP, excluding unnamed classified programs and unreported funding. The top three funding lines are

Navy shipbuilding programs while the next four largest line items are for Air Force programs. What is notable in this list is that the top procurement programs are recapitalizing existing weapon systems with newer platforms intended to perform largely the same missions in the same manner as previous generation platforms. For example: the Virginia-class attack submarine is replacing the Los Angeles-class attack submarine; the Columbia-class ballistic missile submarine is replacing the Ohio-class ballistic missile submarine; the Flight III DDG-51 destroyers are replacing earlier versions of the DDG-51 and Ticonderoga-class cruisers; the three variants of the F-35 fighter are replacing a combination of A-10, F-16, F/A-18, and AV-8B fighters; the B-21 bomber is replacing B-1 and B-2 bombers; the GBSD ICBM is replacing the Minuteman III ICBM; the KC-46A tanker is replacing KC-10 and KC-135 tankers; and the CH-53K is replacing older versions of the CH-53.

For these reasons, the PB23 procurement budget appears to focus more on recapitalization of existing platforms rather than procuring innovative new capabilities. This is to be expected in the first FYDP of a three-FYDP plan because new technologies being developed now are not likely to be sufficiently mature to transition into procurement programs until the second or third FYDP. However, many of the major procurement programs in progress or ramping up over the first FYDP are projected to continue into the second FYDP and beyond, which could create funding challenges for new capabilities in the future.

Unlike RDT&E, there does not appear to be an unusual wedge of unreported funding set aside in procurement accounts beyond what is typical for these accounts. This means that it could be difficult to fund new capabilities currently in development that do not already have procurement funding allocated in the outyears or new capabilities that may emerge or mature faster than expected. DoD may be forced to raid other accounts, fight for a higher topline budget, or delay the procurement of innovative new capabilities.

FINDINGS

In the absence of an unclassified NDS, it is difficult to assess whether or not the budget adequately supports the strategy and future force envisioned by the Biden administration. Insights into the strategy have largely been provided through public comments by senior defense leaders. As this analysis has shown, the three-FYDP construct offered by Deputy Secretary Hicks is particularly useful in this respect because it provides a framework and timeline through which the budget can be considered.

Overall, this analysis finds that the MILPERS and O&M projections in the PB23 request may not be realistic in the outyears. This is because military and civilian pay are likely to increase at a higher rate than anticipated for FY 2024—possibly at the highest rate seen in 40 years. O&M costs have also historically grown faster than inflation rather than staying flat in nominal terms as the budget projects. If the strategy calls for maintaining a similar size force in the coming years and prioritizes "campaigning," the budget will likely require a higher level of MILPERS and O&M funding than is currently planned in the outyears.

Modernization funding is perhaps the most significant element of the three-FYDP challenge DoD faces. While RDT&E funding increases in FY 2023 and FY 2024, it is projected to decline in the later years of the FYDP—a trend that does not appear to be consistent with the stated focus in the strategy on innovation. However, within the overall decline in RDT&E funding, defense-wide unreported funding is increasing. While it cannot be determined with certainty what this budgetary "dark matter" is intended for (since it is by definition unreported), if it is being used as a "bishop's fund" for new and emerging technologies it would be consistent with a three-FYDP approach to modernization (if not fully sufficient). At first glance, the procurement side of the modernization budget appears to be consistent with the three-FYDP approach by focusing on near-term recapitalization needs in the first FYDP. But much depends on what comes next in the second FYDP of procurement funding. It is not yet clear that DoD has charted a viable pathway for making the transition from recapitalization of existing systems to fielding innovative new capabilities.

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Overall, the budget attempts to strike a balance among investments in modernization, force structure, and readiness. This inherent tension within the budget forces compromise and often results in issues being pushed into the outyears rather than being resolved in

the year of the request. As noted in this analysis, it appears that many such issues have been deferred, such as how to accommodate O&M costs rising at their historical rate and how to fund the procurement of innovative new capabilities while continuing to recapitalize existing capabilities. However, deferring choices can be a prudent strategy if it is done in a way that maintains options until additional information becomes available. For example, creating large unallocated outyear funding wedges in RDT&E and procurement accounts would be one way to preserve the flexibility to invest in new and emerging technologies as they mature rather than committing funding to programs and technologies prematurely. The effectiveness of this approach, however, depends on scale and process—having sufficient funding set aside and a framework through which technology readiness, strategic priorities, and funding requirements can be assessed.

NEXT STEPS IN CONGRESS

The FY 2023 request was submitted seven weeks late on March 28, 2022, ostensibly due to delays in Congress enacting FY 2022 appropriations and final coordination of the NDS, among other factors. However, Congress moved ahead with consideration of defense appropriations and the defense authorization bill largely in line with its typical schedule. As of this writing, neither defense appropriations nor the National Defense Authorization Act (NDAA) has been signed into law. Since FY 2010, the delay in passing defense appropriations has averaged 117 days past the start of the fiscal year (late January) and the NDAA has averaged 69 days late (early December).

Importantly, DoD has never gone a year without regular appropriations (i.e., it has never had a full year continuing resolution). The latest defense appropriations have been enacted was May 5, 2017 for the FY 2017 budget—216 days or nearly 60 percent of the way into the fiscal year.[22] As in FY 2017, the current budget request is being considered during an election year in which polling suggests that at least one chamber of Congress may switch party control. This could create an incentive for the party that gains power in the election to delay all appropriations bills, including defense, until the new Congress is seated in January 2023. Thus, it is possible that when the current continuing resolution expires on December 16, 2022 it could be extended into February or March of 2023, depending on the outcome of the election.

While appropriations remain in limbo pending the election, progress on the FY 2023 NDAA continues at pace. The House Armed Services Committee passed its version of the bill on June 23, 2022, and the full chamber passed it on July 14, 2022.[23] The Senate Armed Services Committee passed its version of the NDAA on June 16, 2022, but the full Senate has yet to vote on the bill. While the Senate Majority Leader has said that there will be no votes until after the election, the senate began consideration of the NDAA on October 11, 2022 so that it can act on the bill in November or early December.[24]

Despite delays in getting the defense bills passed, there appears to be some consensus in Congress for increasing the FY 2023 defense budget above the requested level. The House-passed version of the NDAA has an implied level of funding that is $37 billion more than the request, and the Senate Armed Services Committee-passed bill has $45 billion in implied funding above the request.[25] While the NDAA sets policy and provides a good sense of Congress when it comes to the budget, funding is ultimately set by appropriations. The Senate majority released a draft defense appropriations bill in July that is similar to the House authorization bill with $37 billion more than the request. The House appropriations committee is the outlier in this budget cycle, with a bill that is roughly in line with the requested level of funding. This is similar to the FY 2022 budget cycle in which the other committees passed bills with increases ranging from $24.7 to $26.5 billion above the request, while the House appropriators' bill was only $1.5 billion higher. The final appropriations bill for FY 2022 ended up being $41.8 billion more than the request, including emergency and supplemental funding.[26]

While a higher top-line budget will ease many of DoD's problems, it does not address the three-FYDP challenge DoD faces.

While a higher top-line budget will ease many of DoD's problems—particularly the effects of inflation, higher labor costs, and immediate operational needs—it does not address the three-FYDP challenge DoD faces. A higher budget in FY 2023 could make the problem worse if that funding is used to hold on to legacy weapon systems longer than necessary or support

acquisition programs that are not well aligned with the strategy. One of the greatest areas of uncertainty in the current budget request is how DoD will chart “a viable path” through the second FYDP (FY 2028 to FY 2032) while balancing competing pressures to field innovative new capabilities, replace existing platforms with newer systems, maintain readiness, and support a force of sufficient size to execute the strategy. The FY 2024 request, with a FYDP that extends through FY 2028, should provide better insight into how DoD plans to meet these looming challenges.

ABOUT THE AUTHOR

Todd Harrison is the Managing Director of Metrea Strategic Insights. Prior to joining Metrea in May 2022, Mr. Harrison was a senior fellow and the director of Defense Budget Analysis and the Aerospace Security Project at the Center for Strategic and International Studies (CSIS). He joined CSIS from the Center for Strategic and Budgetary Assessments (CSBA), where he was the senior fellow for Defense Budget Studies. At both CSIS and CSBA, Mr. Harrison authored numerous publications on trends in the defense budget, military space systems, threats to space systems, civil space exploration, defense acquisitions, military compensation and readiness, and military force structure, among other topics. Before joining the think tank community, Mr. Harrison worked as a consultant to Air Force Space Command while at Booz Allen Hamilton, as a program and product manager at space startup AeroAstro Inc., and as a management consultant at Diamond Cluster International. Mr. Harrison served in the U.S. Air Force Reserves and is a graduate of the Massachusetts Institute of Technology with both a B.S. and an M.S. in aeronautics and astronautics. He is currently a non-resident senior associate at CSIS, a member of the National Security Space Association Board of Advisors, and an adjunct faculty member at the Johns Hopkins School of Advanced International Studies where he teaches classes on the defense budget and military space systems.

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