STEPPING BACK FROM ACQUISITION REFORM:
HOW OUR RESOURCING PROCESSES DRIVE DEFENSE OUTCOMES

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General Herbert "Hawk" Carlisle, USAF (Ret), NDIA President & CEO

As the United States pursues transformative technologies to maintain its competitive advantage, we recognize that resourcing processes will significantly impact our success at delivering these capabilities quickly and efficiently.

We need to take a fresh look at the budget and resourcing process in Congress and DoD, including the Planning, Programming, Budgeting and Execution (PPBE) as it exists today, by describing the resourcing processes, identifying stakeholders, and defining incentives and disincentives in the system. NDIA hopes this report will help stakeholders interested in national security understand current friction points, which can potentially lead to more effective material and ideological support for innovation.

Jon Etherton, NDIA Senior Fellow Emeritus for Acquisition

This report is an exploration of a topic raised on pages five and six of the Introduction to Pathway to Transformation: NDIA Recommendations for Acquisition Reform concerning the budget and program planning process as a so-called boundary condition on the performance of the defense acquisition process. In particular, we examine how it relates to the incentives and the disincentives for the acquisition process stakeholders in Congress, the Executive Branch, and industry. The highly consequential impact of the budget and resource allocation process on the behavior of the players in acquisition has not been given much comprehensive attention in acquisition reform studies of the past few decades. A clearer understanding of this aspect of the process and its effects may lead us to rethink future discussions on improvement or reform in a more effective and sustainable direction. If nothing else, it may foster a higher degree of humility in those who choose to take up the task.

AUTHORS AND ACKNOWLEDGMENTS

EXECUTIVE SUMMARY

- Recent reform efforts under-examined the drivers of cost growth and poor program performance across the acquisition cycle, especially with respect to understanding the positive and negative incentives in the system driving undesirable outcomes. The acquisition reform conversation's limited scope prevents analysts, decision-makers, and reformers from gaining a full picture of all factors contributing to disappointing defense acquisition outcomes.

- The nation's budgeting and appropriations processes impose constraints and restraints on the acquisition system in ways that produce powerful incentives and disincentives for defense resourcing stakeholders. As such, there is a need for those stakeholders and other analysts to step back and evaluate the programming, budgeting, and execution components of processes and how they impact acquisition, with a particular focus on the positive and negative behaviors and externalities that resourcing processes produce.

- This report describes the budgeting and resourcing systems across Congress and the Defense Department. It describes the reality that Congress translates the public's will into budget authority for defense policies and programs, and in response, other institutional actors within the planning, programing, budget, and execution system adapt their behavior to successfully navigate current and future rounds of budgeting and appropriations to ensure successful programming and execution.

- This reality yields significant consequences — some highly effective, and some counterproductive — for managing cost growth, schedule slippage and program performance. Examples of these consequences include the flexibility constraints that congressional time requirements (a "use it or lose it" requirement for funding) impose on the executive branch, as well as full funding requirements that incentivize agencies to over-purchase capabilities up-front.

- As such, different stakeholders have missions and requirements that define their priorities in ways that may compete with other stakeholder requirements.

- DoD's programming process allocates every dollar over the five-year Future Years Defense Program. Without a significant topline increase, resourcing new, emerging technologies requires reductions in or the elimination of existing, legacy programs — essentially trades. This creates an existential competition for resources between existing, legacy programs, funded within the POM, and new capabilities, which require resourcing trades to become reality.

- Because acquisition reform depends on effective resourcing processes, policies, and decisions, we believe that understanding these processes is a key first step in shaping decisions to prioritize the right capabilities for America's national security.

- In the hopes of producing more desirable outcomes such as cost-savings and innovation, NDIA will release a follow-on paper in 2022 which will evaluate achievable policy recommendations that can help re-align incentives and disincentives.

INTRODUCTION

Since the mid-1980's, several major acquisition reform studies and proposals have recommended changes to the resourcing process as part of broader acquisition reform. Several have suggested that Congress shift defense spending authorities to the Executive Branch by passing appropriations bills covering two-year or longer periods, mitigating the impacts of continuing resolutions, providing appropriations to support broader mission portfolios rather than individual acquisition programs, and granting DoD greater flexibility in the transfer and use of appropriated funds. These recommendations also advocate streamlining DoD internal processes in areas such as below-threshold reprogramming of appropriated funds.[1]

These recommendations have generally been intended to increase budget stability and improve the efficiency of the entire process to increase DoD's ability to face the challenges of acquiring rapidly changing technology.[2] With the exception of temporarily enacting biennial defense authorizations for a few years in the late 1980s and early 1990s, which did impact appropriations legislation enacted in the same period, Congress did not adopt any of the proposed reforms nor does there appear to have been any significant effort by the Department of Defense to advocate for them. Other than addressing budget and resource issues in such a general way, the issues of incentives and disincentives arising from the existing budgeting and broader resourcing processes for acquisition stakeholders failed to receive comprehensive attention in these earlier studies. More recently, the Section 809 Advisory Panel on Streamlining and Codifying Acquisition Regulations did attempt to base some of its budget recommendations on an assessment of stakeholder incentives caused by the delayed congressional action on annual appropriations and the impact on the availability of funds.[3] Those recommendations, however, fit within the general justification framework described above, and Congress has yet to implement any of them. It may be the case that previous commissions and groups examining acquisition reform did not view budgeting and resource allocation, as distinct from management reform, to be within the scope of their analysis.

There are recent indications that the focus is shifting. In 2019, Defense Innovation Board issued a report specifically looking at achieving excellence in software acquisition and practices.[4] The report implicitly and explicitly describes how features of the current resourcing processes in Congress and DoD, such as color of money categories and restrictions that were established to support hardware development and acquisition, undercut both demonstrated best practices and stakeholders' incentives for rapidly developing and deploying software.[5] The report recommendations are organized around three basic categories ranging from those that would make the current system work more effectively to radical systemic changes.[6] In this last category, the report recommended Congress "Create a new appropriation category for software capability delivery that allows (relevant types of) software to be funded as a single budget item, with no separation between RDT&E, production, and sustainment."[7] It is notable that in 2020, DoD did formally proposed as part of the FY21 budget request that Congress create "software color of money" for eight pilot programs. Both the authorizing and appropriations committees were persuaded of the need for a significant change due to the unique nature of software, and Congress approved the request to proceed with this new approach in the FY21 appropriations bill.[8] However, this approval is limited to pilot programs with limited duration, and Congress prohibited, in section 8131 of the bill, creation of any additional pilots from other appropriated funds.

Given this increased interest, this report attempts to provide more clarity on the sources, structure, and characteristics of the resourcing processes – from programming, budget request formation to congressional appropriations to execution within the Department of Defense outside of any project for reform. To ensure that we achieve our goal to provide clarity on the process, we have refrained from making recommendations. Instead, in the pages below, we hope to explain, document, and explore the incentives and disincentives for defense acquisition stakeholders that the current resourcing system creates in defense programming and execution noting significant consequences for managing the cost, schedule, and performance of acquisition programs. We invite others to build on this descriptive analysis with further analysis and recommendations of their own.

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1   See, for example: United States Blue Ribbon Commission on Defense Management, *A quest for excellence: final report to the President* (Washington, D.C.: President's Blue Ribbon Commission on Defense Management, June 1986), Chapter 1, 7-30.

    Robert Kadish et al., *Defense Acquisition Performance Assessment Report* (Washington, D.C.: Assessment Panel of the Defense Acquisition Performance Assessment Project, January 2006), 32-35.

    United States Department of Defense Section 809 Panel, *Report of the Advisory Panel on Streamlining and Codifying Acquisition Regulation, Volume 3 of 3*, (Washington, D.C.: DoD Section 809 Panel, January 2019), Section 4, 173-270.

2   United States Blue Ribbon Commission on Defense Management, *A Quest for Excellence*, p. 41.

    Robert Kadish et al., *Defense Acquisition Performance Assessment Report*, p. 33.

3   See especially: United States DoD Section 809 Panel, *Report of the Advisory Panel on Streamlining and Codifying Acquisition Regulations Volume 3*, 195-234.

4   J Michael McQuade et al., "Software Is Never Done: Refactoring the Acquisition Code for Competitive Advantage," 2019, 58.

    Software Is Never Done: Refactoring the Acquisition Code for Competitive Advantage, Defense Innovation Board, May 3, 2019.

5   Ibid., 15-16.

6   Ibid., 29-34.

7   Ibid., 37.

8   *Consolidated Appropriations Act of 2021 Division C – Department of Defense Appropriations Act of 2021*, Public Law 116-260, section 8131 (2021). *See the explanatory language on pages 601-602 of House Committee Print 43-749 (117th Congress, 1st Session).*

SECTION 1: DESCRIBING THE RESOURCING PROCESS

A. Congressional Budget Processes and practices

I. CONSTITUTIONALITY

The Constitution grants Congress sole authority over the Federal budget, as is well-described by the Congressional Research Service:

> *The power to lay and collect taxes and the power to borrow are among the enumerated powers of Congress under Article I, Section 8. Furthermore, Section 9 of Article I states that funds may be drawn from the Treasury only pursuant to appropriations made by law. The Constitution, however, does not prescribe how these legislative powers are to be exercised, nor does it expressly provide a specific role for the President with regard to budgetary matters. Instead, various statutes — as well as congressional rules, practices, and precedents — have evolved over time to meet changing needs and circumstances to establish a complex system in which multiple decisions and actions occur with varying degrees of coordination. As a consequence, there is no single "budget process" through which all budgetary decisions are made, and in any year there may be multiple budgetary measures to establish or implement different aspects of federal fiscal policy."[9]*

Given the concentrated power to create budgets vested in Congress in the Constitution, it may be said that all that remains for the Executive agencies in their processes is exegesis.[10] The implementing systems established in the Executive Branch, including in OMB Circular A-11 and in the DoD Planning, Programming, Budgeting and Execution (PPBE) processes primarily implement and operate within the framework of Congressional requirements and direction. The congressional budget process has grown to address a myriad of political and administrative imperatives in which the objective of efficient defense acquisition management is but one of a large number of considerations.

A detailed description of the congressional budget process is outside the scope of this report. There are however several features of the process based in statute, congressional rules, practices, and precedent that, because of their impact on defense acquisition stakeholder choices and behaviors, merit description. These relevant principles and requirements of the current process are:

- Power granted to Congress in the spending and appropriations clauses of the Constitution;
- Limitation on the obligation of an appropriation for the expressed purpose for which provided the appropriation;
- Anti-deficiency limitation;

- Appropriations provided by Congress on an annual basis;
- Appropriation provided by object account ("color of money");
- Appropriation to be requested by Executive Branch and provided by Congress on a program or line-item basis;
- Limited duration on the availability of an appropriation for obligation;
- Requirement for full funding;
- Rules for budget scorekeeping;
- Apportionment requirements and account end-of-year spending limitations;
- Transfer restrictions;
- Reprogramming requirements;
- Working capital fund requirements;
- Rules and limitations concerning exceptions to the above (Multiyear procurement, advance procurement, block buy contracting)

Annex C describes these elements in greater detail and describes the sources (Constitution, codified statutes, legislative practices, committee report, or practice) for each as well as specific applicable implementation guidance from OMB and DoD. Some general observations:

- For purposes of budgeting for the defense acquisition process, it is the congressional appropriations process that matters. Of the three steps in annual congressional process, the budget resolution process has fallen into disuse. The annual defense authorization process fulfills unique and important functions with respect to national security policy, personnel management and compensation policy and authority and acquisition management organization and policy. However, while the funding authorization decisions reflected in the annual defense authorization are afforded deference in the Department of Defense and the military services, they are not binding on or necessary for funding provided through annual appropriations legislation;

- The principles and requirements listed above did not emerge separately and do not operate in isolation. They exist in a mutually reinforcing relationship. An example is the manner in which the requirements for full funding, annual appropriations and the supporting scorekeeping rules apply to limit long-term leasing authority;

- Congress has not only established in statute the form and schedule in which requests for appropriations may be submitted, but also the requirements for the organizational processes in the Executive Branch for reporting budget apportionment and execution information;

- The congressional budget process assumes Executive Branch agencies will place a high priority on allocating

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9   James V Saturno, "A Brief Overview of the Congressional Budget Process," *Congressional Budget* Office, July 29, 2020, 11.

10   Formulation borrowed from Gottfried Benn, "Nietzsche after 50 Years (1950)," *New Nietzsche Studies* 4, no. 3-4 (2000): 127.

management time, attention, and resources at all levels to the process of properly requesting and spending funds;

- The congressionally-mandated principles and requirements combine to create a largely stand-alone annual appropriation that gives members of the House of Representatives two opportunities to direct Federal spending in a manner that does not depend on the further action of a future Congress;

- The budget requirements outlined above assumes a significant degree of predictability of decision outcomes; and

- By the nature of the logical source in the Constitution for all of the elements listed above as well as the Federal agency systems for their implementation and administration, many of which are mandated in statute, the current congressional budget process in all its details is deeply-rooted, resilient, and robust (i.e., resistant to change).

II. THE OFFICE OF MANAGEMENT AND BUDGET & CIRCULAR A–11.

Office of Management and Budget (OMB) Circular A-11 provides guidance to Federal agencies, including DoD, on preparing the annual Executive Branch budget request to Congress as well as instructions to Federal agencies on budget execution. A-11 has been in place since at least the early 1960s and is updated annually. Much of the guidance in A-11 can be mapped directly to statutory requirements, such as those in title 2, chapter 20 and in title 31, chapters 11, 13 and 15, of the United States Code, as well as to direction from the associated congressional committee reports. Within the boundaries of congressional direction, in A-11 OMB provides detailed guidance to Federal agencies limiting acquisition approaches allowed in the budget.

One such example is the detailed guidance on budget scoring rules for lease-purchases and capital leases. OMB is one of the four parties, with the House and Senate Budget Committees and the Congressional Budget Office, who are responsible for determine scoring guidelines as set forth in 1997 in the joint explanatory statement of the committee of conference accompanying conference report 105-217, on the Balanced Budget Act of 1997. Incorporating the full funding requirement, A-11 states the following with respect to lease-purchases and capital leases:

"For lease-purchases and capital leases, budget authority will be scored against the legislation in the year in which the budget authority is first made available in the amount of the estimated net present value of the Government's total estimated legal obliga-tions over the life of the contract, except for imputed interest costs calculated at Treasury rates for marketable debt instruments of sim-ilar maturity to the lease period and identifiable annual operating

expenses that would be paid by the Government as owner (such as utilities, maintenance, and insurance)."[11]

In other words, such agreements are scored largely as an acquisition of a property or service. Operating leases are scored similarly unless the asset is non-governmental in nature and the lessor effectively bears the full risk associated with financing and the probability of the availability of future appropriations.[12] Historically, OMB has taken a conservative approach on what constitutes risks or presumed risks to the government, resulting in scoring prohibitive for long-term leasing of assets.[13]

B. The Budgeting & Resourcing Processes

I. AN OVERVIEW OF PLANNING, PROGRAMMING, BUDGETING, AND EXECUTION (PPBE)

Planning, Programming, Budgeting, and Execution (PPBE) is the annual Department of Defense (DoD) process providing a framework for civilian and military leaders to allocate resources based on Congressional direction, OMB interpretation and guidance and Department strategic objectives.[14] Congress, through statute and policy, directs the timelines, outputs, and formats for DoD resourcing. DoD executes this Congressional direction through a process that is actually four processes run out of four different organizations. Each of these is led by individuals with different types of knowledge, training and experience, each constrained by different timelines and – most importantly – each driven by different incentives and disincentives.

Perhaps most importantly, while DoD organizations execute all four processes, it is Congressional authority, direction and prerogatives that drive and limit DOD's ability to rapidly reallocate resources in them. DoD conducts planning, resourcing beyond the Future Years Defense Program, largely autonomously because planning results are merely recommendations about where to make big trades in programming and budgeting. Programming appears to enjoy similar "autonomy," yet Congress gets the final vote on programming and reprogramming recommendations. Finally, DoD budget requests are just that – requests;" Congress enjoys full authority to adjust those requests to meet political and administrative goals.

Planning, Programming and Budgeting result in products "unique to that phase and year." The planning phase produces the Defense Planning Guidance (DPG), which details force development priorities. The programming phase generates a Program Objective Memorandum (POM), a funding plan for each military service and defense agency covering a five-year period that adjusts programs in the Future Years Defense Program (FDYP). The budgeting phase results in a Budget Estimate Submission (BES), which covers the

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11   Executive Office of the President Office of Management and Budget, *OMB Circular A-11* (2021), Appendix A-Scorekeeping Guidelines, p. 3.

12   Ibid., p. 4.

13   An exception was the temporary policy on scoring of Military Housing Privatization Initiative leases under the so-called Raines Memo in 1997 that allowed the MHPI to go forward. Most of this flexibility was rescinded after 2006, except on a case-by-case basis.

14   Brendan W McGarry, "Defense Primer: Planning, Programming, Budgeting and Execution (PPBE) Process," *Congressional Budget Office*, Updated December 11, 2020.

first year of the POM and converts programs into budget terms for submission to Congress.[15]

When the "E" in PPBE is considered beyond the narrowly defined DoD "execution review,"[16] as generally happens, it encompasses Congressional enactment and execution of Congressional appropriations, creating an interdependent, time-bound Resource Allocation Process outlined in Chart 1. With an annual budget of more than $715 billion requested by the Biden Administration for FY22, all stakeholders impacted by these processes compete to ensure their priorities become resourcing priorities.[17]
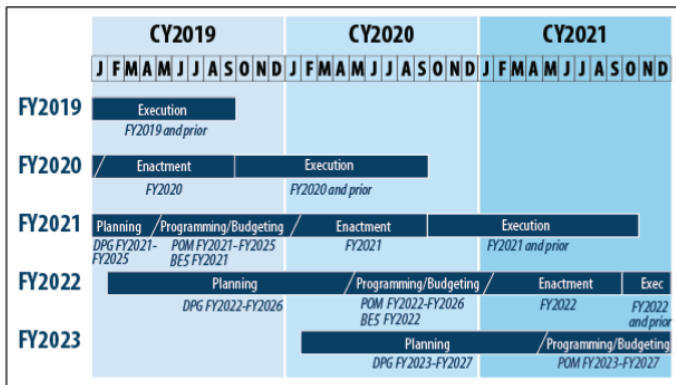
The PPBE Process Timeline Across Calendar Years

Figure 1; Source: Congressional Budget Office[18]

To understand how this timeline (Figure 1) impacts each process, consider February in a year governed by normal order. The Office of the Secretary of Defense (OSD), Service and Agency comptrollers lead execution activities in a normal February. A fiscal year begins on 1 October; by 1 February, DoD is halfway through the 2nd quarter. DoD is also approximately two years from the time it began building the budget it is executing, meaning that adjustments are often needed to accommodate changes that occurred during that period. During February, comptrollers perform two major tasks: program reviews and reprogramming. Program reviews gather DoD stakeholders together to evaluate cost, schedule, and performance of major programs (outputs of the "E" evaluation phase). This includes evaluating the burn-rate of annual Operations and Maintenance accounts and regular reviews of Major Defense Acquisition Programs (MDAPs). These reviews help determine which programs will serve as sources and which will receive reprogrammed funds. The 2015 Financial Management Regulation called the annual reprogramming process, in which DoD requests Congressional approval to move money between programs, "…a necessary, desirable, timely device for achieving flexibility." While DoD enjoys authority to internally reprogram, Below Threshold Reprogramming (BTR), Congress places strict limits on the dollar amounts DoD can

move without formal congressional approval. Anything exceeding statutory thresholds, Above Threshold Reprogramming (ATR), or anything that is a "New Start" must receive approval from authorizers and appropriators. Following from the saying, "money in motion is money at risk," stakeholders working Budgeting, Programming and Planning must pay close attention to DoD reprogramming requests and Congressional responses to those requests because actions taken in reprogramming will ripple back into the other processes.

For example, if MDAP #1 has expiring money which cannot be obligated during the current Fiscal Year (FY), it could become a donor/"source" for MDAP #2, which is ahead of schedule and can obligate expiring funding and the repayment of MDAP #1 in a future FY. Comptrollers appreciate this type of trade because it creates limited "broken glass," or "disconnects" in programs that budgeting and/or programming authorities must fix later. Disconnects, or "broken glass", are resourcing shortfalls, money, personnel, or infrastructure in existing programs that prevents effective execution of the program. Ideally reprogramming actions balance, allowing Comptrollers to keep all programs on track and protecting funding from Congressional recissions. In this example, if MDAP #2 had money in the following FY and stakeholders feel MDAP #1 will be able to execute during the following FY, this process can be closer to an even trade. If, however, a Service requests a reprogramming action that leaves an underperforming program underfunded because there is no viable trade, MDAP #1 might be seen as a "wounded antelope on the edge of the herd" from which other programs might try to pull money.

Reprogramming, by its nature, takes money from some programs/line items and gives it to others – generating impacts to the Budget, the POM and, to a lesser extent, the Defense Planning Guidance (DPG). If a program falls far behind and DOD recommends that Congress should reprogram a significant amount of money from the underperforming program, it can create ripples that flow into the DPG. For instance, if an MDAP is planned to complete procurement in 2028 but encounters problems that pushes completion to 2030, it likely moves two years of procurement dollars, potentially significant funding, to the right. The planners likely had plans for those large dollar amounts and their loss, or a need to find other large donors, likely changes the capabilities and thus the planning contained in the DPG.

As leaders identify and approve trades, stakeholders from across the enterprise must maintain awareness of trades so they can adjust their resourcing products to align with senior leader decisions. Program Managers (PMs) and Program Executive Offices (PEOs) who lose money need to reflow their programs in terms of funding and potentially in terms of time. Loss of funding can impact schedule; a risk leaders may accept to fix another program. Program managers

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15   Ibid.

16   Ibid.

17   "The Department of Defense Releases the President's Fiscal Year 2022 Defense Budget," U.S. Department of Defense, May 28, 2021, https://www.defense.gov/News/Releases/Release/Article/2638711/the-department-of-defense-releases-the-presidents-fiscal-year-2022-defense-budg/.

18   Brendan W McGarry, "Defense Primer: Planning, Programming, Budgeting and Execution (PPBE) Process."

and PEOs who receive money will also reflow their programs and will have to provide plans to put the program back on track to Service Acquisition Executives, Comptrollers and Programmers, so those groups can track progress, adjust budgeting and execution decisions and adjust the POM respectively. Communications between impacted stakeholders must be timely and accurate within compressed timelines or they could inadvertently create "broken glass", potentially resulting in Congressional action misaligned to senior DoD leader intent.

While OSD and Service comptrollers are reprogramming, they are also on Capitol Hill defending the President's Budget (PB). During a normal February, the President will have recently given their State of the Union address and delivered a budget to Congress. Senior leaders will have testified in front of the Oversight Committees: the Senate Armed Service Committee (SASC), the House Armed Service Committee (HASC), the Senate Appropriations Committee-Defense (SAC-D), and the House Appropriations Committee-Defense (HAC-D). Their testimony focuses on justifying and explaining the budget, usually focusing on large changes from previous years' budgets. During testimony, leaders may find themselves answering questions about reprogramming decisions and their impact on the recently submitted budget. DoD sent the BES to the Office of Management and Budget (OMB) in late November or early December, and senior leaders may not know what reprogramming actions DoD would request in the spring. This means Congress always has more accurate program information when debating the budget than DoD had when building the budget, which Congress emphasizes when it makes changes to the PB.

As Congress debates and makes changes to the PB, programmers track all actions to integrate budget decisions into the POM. In early February, DoD leadership provides fiscal guidance to the Services and Defense Agencies, providing them with Total Obligation Authority (TOA) by FY across the year Future Years Defense Plan (FYDP). Fiscal Guidance also directs Services and Agencies to prioritize certain capabilities and take risks on others. Services build the POM by retaining the last four years of the previous POM and copying the last year to create the fifth year. Programmers then update the new POM with decisions made during the previous Program Budget Review (PBR), Fact of Life changes. These changes can include the end of procurement for an MDAP, and changes driven by economic factors, such as increases or decreases in the cost of fuel. Services then execute processes that usually see stakeholders submit disconnects, initiatives, and offsets for consideration during POM deliberations. Disconnects occur when: costs increase; requirements change; comptrollers, for a variety of legitimate reasons, must use a program as a donor during reprogramming; Congress makes recissions to a program; program assumptions are wrong; stakeholders make mistakes during previous POM builds; or when the state of the world changes. Initiatives are new programs requesting resources or add-ons to existing programs; initiatives can also flow from changing requirements. Offsets are reductions

or divestitures of lower priority programs to create trade space to resource disconnects and initiatives. Poorly performing programs highlight themselves as reasonable sources for offsets. By the end of the Service or Agency POM process, offsets must equal resourced disconnects and initiatives so POMs balance to zero.

Poor performing programs can also appear to Service Planners when they spend February planning, executing, and evaluating wargames and considering potential threat environments past the end of the five-year FYDP. Planners examine emerging trends and technology and work to determine the most promising capabilities to hedge against threats and to identify legacy capabilities for capacity decreases and divestitures in order to create trade space during future POMs. Ultimately planners produce the Defense Planning Guidance (DPG) which formalizes planner recommendations for priorities, cuts, and divestitures.

Perhaps the most important aspect of PPBE to understand is that its cycles continue inexorably. Programmers begin building a POM in February regardless of whether Congress has begun debating the current budget because any delay on their part simply compresses the timeframe for later parts of the process, such as Program Budget Review (PBR). After all, a fiscal year begins 1 October whether the President has signed Authorization and Appropriation bills or not. Comptrollers and other stakeholders have statutorily defined timelines to obligate and expend appropriated funds and those timelines begin on the first of October of a particular FY and end on 30 September the following year, or at the end of two, three or five years, depending on the restrictions placed on the money. They do not get an extension because the budget was not passed or signed prior to 1 October. None of the stakeholders involved in executing these processes receive additional personnel or time if the cycles are not completed. Thus, Continuing Resolutions (CRs) and other deviations from normal order create significant pressure on stakeholders across the process, hampering their ability to most effectively leverage the resources provided by American taxpayers.

Obligation of funds, performance, and data collection stand at the heart of the final stage of the PPBE process: Execution. This stage seeks to reconcile the programs originally planned for by the Department with the programs ultimately included in the authorizations and appropriations passed by Congress. This stage is also where the data collection and program analysis take place to inform future budget priorities. The execution stage occurs only once Congress has enacted a budget and passed authorizations and appropriation acts for that fiscal year; it is dependent on the timing of the passage of both pieces of legislation. This variability greatly impacts those responsible for this stage of the PPBE cycle.

Following the passage of that fiscal year's appropriations bill, the clock starts on those responsible for obligating appropriated funds. There are certain legislative time periods associated with different categories of appropriations ranging from one to five years for the money to be obligated prior to the authority expiring.[19] Monies falling

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19   United States Department of the Air Force Planning Programming Budgeting and Execution System Training Program, *Reference Manual*, Washington, D.C.: USAF

into these appropriation categories may only be obligated during the corresponding legislative period.

Once obligated, program managers and comptrollers produce periodic status reports that senior leaders evaluate to ensure proper execution of funds are in line with the schedule or burn-rate. Budget managers must constantly monitor spend plans and burn-rate to prevent misallocation or expiration of funds, which could make those funds targets for reprogramming. Spending plans, program reviews, burn rates, budget obligations, and evaluation are all part of the continuous PPBE cycle, but often occur on various schedules and under different time constraints. If Congress appropriates funds outside of the standard timeline calendar in Figure 2 below, contracting officers and comptrollers will face compressed timelines for obligation and execution. This is especially problematic for one-year appropriations such as operations and maintenance funds, military personnel, and military family housing expenditures. Although appropriation of defense resources is often on-time relative to other appropriation bills, there remains a certain level of uncertainty and churn when DoD operates under continuing resolutions instead of under annual appropriations and authorizations laws.

PPBE Timeline Calendar in A Given Year[20]

Figure 2; Source: U.S. Department of the Airforce[21]

During the execution phase, comptrollers can deviate from Congressionally-approved appropriations within strict parameters. This process, referred to as reprogramming, allows the SECDEF to incorporate the advice of those providing evaluation services to move funds to programs that are unfunded or under-funded. This resourcing flexibility provides a modicum of agility during year of execution, allowing DoD to react to operational requirements or rapidly changing technology.

While specific parameters have changed over time, General Transfer Authority (GTA) allows the SECDEF, with the approval of OMB to transfer up to $4 billion of "funds made available in this Act…".[22] These Below Threshold Reprogramming (BTR) authorities also limit reprogramming within specific budget activities. Thus, between the general transfer authority, which is approximately .5% of the FY21 DoD budget, and caps on movement within budget activities, DoD's organic authorities greatly limits its unilateral ability to rapidly make resourcing adjustments.[23] It should be noted that the limits of GTA change from one budget cycle to another. This change is generally dependent on the nature of the relationship between the Administration and the congressional Appropriations Committee.

Once authorized, the "change in the application of funds" must follow a predetermined procedure. Reprogramming elevates the status of budget executors because of their impact on the ability to adjust appropriated funds and use the performance data they collect to fund and defund well performing programs. Budget programming also plays a role in future year budget requests. If an obligation authority was reprogrammed in the previous year to fund a better performing line item, that might increase the likelihood that the original obligation receives less or no funding the next year. In this way, budget execution has a major impact on the overall PPBE process.

II. THE FIVE–YEAR POM

DoD's annual programming cycle begins when the Office of
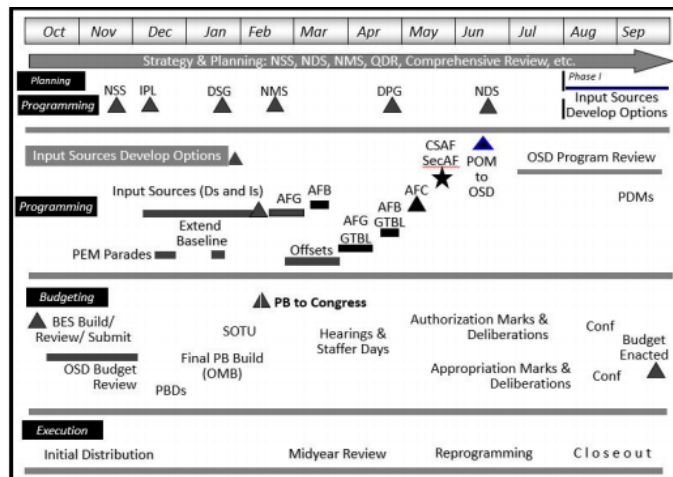
Management and Budget (OMB) provides fiscal guidance, usually in the February timeframe. This guidance is commonly referred to as DoD's "top-line". The Office of the Secretary of Defense (OSD) uses OMB guidance to define fiscal guidance for DoD organizations tasked with building a Program Objective Memorandum (POM), primarily, but not exclusively, the Services. The Director of the Cost Assessment and Program Evaluation (DCAPE) Office leads the programming phase of PPBE on behalf of OSD. DCAPE fiscal and programming guidance recommendations provide organizations with their topline funding, Total Obligation Authority (TOA), by fiscal year and directs areas for the Services to emphasize and in which to take risk as they build their POMs.

As mentioned earlier, Services and DoD begin the POM cycle by moving forward the last four years of the previous POM to make them the first four years of the new POM. Because the fifth year of the new POM begins as a copy of the fourth year of the previous POM, any resources provided to a program in the final year of a POM automatically double when the following year's POM is created, the baseline extension, unless programmers deliberately make a change to the database to prevent the doubling. Programmers do

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Headquarters (produced by Science Applications International Corporation), (updated Spring 2016), 64, https://afacpo.com/AQDocs/PPBE.pdf.

20 Ibid., 11

21 Ibid., 11

22 Brendan W McGarry, "Defense Primer: DOD Transfer and Reprogramming Authorities," *Congressional Budget Office*, January 22, 2021, 1.

23 United States Department of Defense Office of the Comptroller, *Summary of Reprogramming Requirements Effective for FY 2021 Appropriation* (Washington, D.C.: January 6, 2021) https://comptroller.defense.gov/portals/45/documents/execution/reprogramming/reprogramming_overview.pdf, accessed October 12, 2021.

make changes to the database but in a POM with more than $130 billion, programmers struggle to tightly track every dollar in every program. Most programmer changes at the beginning of a POM are "big rocks," reflecting decisions made during the previous Program Budget Review (PBR) and any Fact of Life Changes, such as the end of Full Rate Production (FRP) of a new, or retirement of an old Weapon System. Programmers also try to begin to implement fiscal guidance provided by OMB and CAPE to create an initial database.

Stakeholders throughout the Service or Agency go through a "Corporate Process" to identify and define programmatic disconnects, initiatives and offsets. These proposals are consolidated and briefed through multiple levels, to ensure accurate context and numbers. The Service Secretaries and Chiefs make the final Service POM decisions, which are usually significant trades to reflect the strategic direction the leaders believe the Service must take.

Once Service leaders have made final POM decisions, the programmers and comptrollers work to ensure the database balances to zero. They then submit their database to Cost Assessment and Program Evaluation (CAPE), and to the Comptroller's office, to begin the Program Budget Review (PBR).

CAPE leads the DoD-wide POM evaluation process known as PBR. The Comptroller contributes especially to the budgetary portions of the review. All DoD organizations, those who build POMs and those who depend on funding through other organizations' POMs, can submit "Issue Papers" to identify risk or areas of disagreement. CAPE analysts examine programs and assumptions to identify any issues of fact with Service and Agency submissions. During PBR, service programmers and comptrollers defend their programming decisions, especially their proposals to cut capacity or divest legacy capabilities.

One significant problem that emerges at this stage: CAPE frequently lacks data to judge the effectiveness of emerging technologies. CAPE analysts who are largely data-driven experts, can struggle to find "past performance" for emerging technologies, making it difficult for CAPE to support trades of legacy systems for new technologies unproven in military applications. For instance, it can be hard to evaluate the impact of Artificial Intelligence (AI) on warfighting requirements if CAPE lacks data on AI effectiveness overall to justify the change in spend. Lack of data drives risk into trade decisions. And trade decisions are not simply about Research, Development, Testing and Evaluation (RDT&E) and procurement, they also take into account operations, sustainment and personnel funding, which can comprise up to 75% of the total lifecycle cost of any program. The pressure for CAPE to get the analysis right is significant, especially when analysts know they will need to justify DoD's decision to legislators during the budget process.

It's important to note CAPE and senior DoD leaders look at the entire FYDP during PBR but their critical task is determining how to prioritize assets during the most important year of the POM, the first or forthcoming budget year. The budget year is the most important year because it is the closest to execution, thus making decisions

about the budget year the closest to being 'real.' The budget year is also the year Congress will evaluate and change, adding to the impetus to get it right.

III. CONGRESS'S ONE-YEAR BUDGET TIMELINE

Within their respective processes, Congress and DoD make decisions in the context of different budget time horizons. The congressional authorizations and appropriations decisions are made within a one-year process primarily enacted for the following fiscal year. Since each Congress has a two-year duration with no unenacted legislation carrying over to the next Congress, there is great pressure to ensure that an annual process affords each member of the House of Representatives the ability to meet the political imperative to act with some effect on two sets of annual appropriations bills during their term. The issue of long-term budget and program impacts from decisions within the annual process is somewhat addressed by the requirement for full upfront program funding, and the related practice of avoiding decisions that would assume or require a future Congress to take further action to enable full execution. Decisions in the annual appropriations process for DoD are also subject to a larger annual process of budget top-line tradeoffs among the appropriations for agencies across the Federal government, which also may require making decisions primarily to keep appropriations for the fiscal year within budget authority and outlay targets.

On the other hand, DoD makes budgeting, programming, execution decisions under the PPBE in the context of a rolling five-year time horizon of the FYDP. Ideally, budget decisions in this process are driven by holistic national security strategy and mission considerations across this longer timeframe. The PPBE naturally allows for a much wider timeframe for tradeoff decisions. Improved threat intelligence, information about individual program performance, and other factors, allow for constant tradeoffs both in and outside of the budget year. The other effect of this longer time horizon, however, is the inertia that can emerge around decisions involving funding for larger programs and activities.

As will be discussed in greater detail, these different time horizons, and the political and administrative imperatives flowing through them, create very distinctive incentives and disincentives for Congressional and Department of Defense decision-makers and other stakeholders subject to their decisions. The sharp difference between making funding tradeoff decisions made 'in time' versus 'over time' is what drives what gets measured, and how. It also drives the capacity for the rapid integration of emerging and innovative technology capabilities within an orderly process. This point is discussed in further detail in Section 2.

IV. THE ROLE OF FULL FUNDING PROGRAM REQUIREMENTS

Congressionally-mandated full-funding program requirements play a major role in Planning, Programing, Budgeting, and Execution (PPBE) processes. These requirements originated in Congress in the 1950s

and have remained crucial to the vast majority of defense budgeting by the legislative branch since then. The requirement states that the full cost of procuring a new item or weapon be paid at the time of procurement, rather than on a per-purchase basis that would limit Congress's power of the purse on issues of military resourcing.

However, full funding does not preclude challenges.[24] When an MDAP gets off-track in terms of cost or schedule or whose capabilities are eclipsed by technological advancement, system incentives can make it difficult to terminate the program.

Non-classified MDAPs usually flow from a lengthy, rigorous requirements development and approval process, where the Services, the Joint Staff, DoD and Congress agree on the need to resource a major program. In most cases, difficulty in program execution does not indicate warfighters no longer need the capability.

Thus, Nunn-McCurdy critical breaches, which are a legal provision designed to force cancelation of troubled programs as early as possible, have instead frequently resulted in the Department re-validating their requirements and Congress allowing a program to continue instead of directing cancelation and pursuit of other options. Between 2009, when the Weapon Systems Acquisition Reform Act (P.L. 111-23) directed programs with critical breaches "...to be presumed terminated unless the Secretary of Defense certifies the program" meets four defined criteria, and 2015, only three of 20 programs were canceled, and one was canceled after a second critical breach.[25] This tendency to overrule Nunn-McCurdy likely stems from several disincentives including the time required to establish another MDAP to meet the requirement, as well as the interests of the many defense companies performing under the existing contract.

Similarly, when technology outpaces an MDAP, program managers, PEOs, Comptrollers, Programmers and DoD leaders face disincentives in terminating the program, even knowing upon delivery it will be behind the latest technology, because current processes mean program termination and reallocation of the resources to a new program of record require substantial time and approval from a broad array of stakeholders. Those who benefit from the current program will fight cancelation and it can be difficult to clearly demonstrate the value, cost versus benefit, of emerging, unproven technologies.

V. THE COLORS OF MONEY

Full-funding requirements are not the only set of restrictions placed on the Defense Department by the budgeting process. Congress requires money to be used "only for the purposes and programs for which the appropriation was made."[26] The five primary appropriation categories, or "colors", to which almost all money is allocated are Military Personnel (MILPERS), Operation & Maintenance (O&M), Procurement, Research, Development, Test & Evaluation (RDT&E), and Military Construction (MILCON).[27] This means that dollars allocated in the budget for a particular purpose – such as Research, Development, Test & Evaluation – cannot be 'repurposed' (reprogrammed) by resourcing authorities within the Pentagon for another purpose, such as aircraft procurement or military construction.[28]

As such, dollars must remain within their budgetary category, and this is another method by which Congress exercises its 'power of the purse' and oversight authority over the Executive Branch: Certain dollars can be allocated to one aspect of a political goal, such as modernization research, while other dollars can be allocated towards modernizing procurement decisions.[29]

These usage restrictions restrain the reprogramming of funds within a major project if such a transfer would involve dollars crossing from one category into another, and this can prevent intra-Department transfers of funds that might better achieve individual program objectives with the dollars that Congress already appropriated. DoD program managers rely on a formal and lengthy process to approve such a transfer. As such, when program managers consider seeding unplanned technology innovation, they face high barriers-to-entry at best or no available money to reallocate at worst.

From one perspective, flexibility that would allow DoD program managers the ability to categorize or reprogram money as they see fit would dilute congressional oversight by allowing program managers to make decisions that may not be in-line with Congressional intent in providing the appropriation. From this view, it follows that Colors of Money requirements provide a necessary control on unfettered spending within a program that might move the program away from Congress's intent. From the other perspective, though, Colors of Money restrictions reinforce a "use it or lose it" mentality amongst military leaders.[30] If some funding within one category of money is

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24 Ronald O'Rourke and Stephen Daggett, "Defense Procurement: Full Funding Policy -- Background, Issues, and Options for Congress," *Congressional Budget Office*, June 15, 2007, https://sgp.fas.org/crs/natsec/RL31404.pdf, 17.

25 For more information, see: Moshe Schwartz, Heidi M. Peters, Charles V. O'Connor, "The Nunn-McCurdy Act: Background, Analysis, and Issues for Congress," https://www.everycrsreport.com/reports/R41293.html#_Toc450834790, June 21, 2010 – May 12, 2016, accessed October 15, 2021.

26 Greg Martin, "Colors of Money," Defense Acquisition University, June 27, 2018, https://www.dau.edu/Lists/Events/Attachments/106/06-27-2018%20Color%20of%20Money_GMartin1.pdf, 3.

27 Ibid

28 Ibid

29 John Dillard and Steve Stark, "Understanding Acquisition: The Colors of Money," Army ALT Magazine, March 25, 2021, https://asc.army.mil/web/news-understanding-acquisition-the-colors-of-money/

30 Col Thomas O. Pemberton, "Editorial: The Color of Money: Why It Is Important to Complete Annual at and IDT Requirements," Air Reserve Personnel Center, February 17, 2015, https://www.arpc.afrc.af.mil/News/Article-Display/Article/567220/editorial-the-color-of-money-why-it-is-important-to-complete-annual-at-and-idt/.

unnecessary, then this color of money's funding may be reduced in future years. Rather than allocating excess funds towards a different color of money, which is difficult, program managers are incentivized to spend all money available within a given category, even when each passing dollar is providing diminishing returns to capability development, preparedness, and the warfighter.

SECTION 2: INCENTIVES AND DISINCENTIVES IN THE RESOURCING PROCESS

A. Congress

All-in-all, Congress is the institution that sits at the core of resourcing; it alone has the power to control every aspect of budgeting, lawmaking, and the agenda-setting process. If policymakers chart a different economic, political, or strategic path for the U.S. Armed Forces and the DoD, the ramifications of even small changes will be felt throughout all Planning, Programming, Budgeting, and Execution (PPBE) processes.

I. CONGRESSIONAL STAKEHOLDERS

a. The Budget Committees

The House and Senate Budget Committee role in the budget process has ceased to function in a manner that is meaningful for the defense acquisition process. It is important to recall, however, that the budget committees in Congress are responsible for overseeing the rules for budget scorekeeping along with OMB and CBO, and that either of the House or Senate Budget Committees can veto any proposed change to them. As noted above, these rules matter for how activities and funding must be accounted for in the annual budget process and limit the approaches that are affordable each year. Additionally, the committees have played a role in setting the total spending limits for Congress under section 302(a) of the Congressional Budget Act of 1974 , and although appropriators are not required to adhere to these toplines, establishing them has provided a framework for discussion and negotiation. Finally, the Budget Committees has played a role historically in crafting broader budget agreements, such as the Ryan-Murray agreement that led to passage of the Bipartisan Budget Act of 2013, effectively eliminating budget sequestration in 2014 and 2015.

b. The Armed Services Committees

The Armed Services Committees exert influence on DoD programming and spending decisions through provisions relating to funding authorizations in the annual defense authorization acts. DoD is generally deferential to the oversight direction of the Armed Services Committees in the authorization of bills and in the accompanying committee reports and conference committee statements of managers. In the end, however, agencies in the Executive Branch cannot obligate funding on an authorization alone and limitations or requirements in an authorization bill concerning defense program spending can legally be set aside or modified by Congressional action in an appropriations act.

c. The Appropriations Committees

For decisions on budget and resource allocation in the defense acquisition process, the appropriations committees are the congressional stakeholders who matter. The annual appropriations are the vehicles which satisfy the Constitutional requirements in Article 1 allowing Executive Branch agencies to obligate funds. The elements and requirements of the congressional budget process for defense acquisition described in Section 1 of this report are embodied and enforced through the appropriations process.

II. CONGRESS'S INCENTIVES AND DISINCENTIVES

The congressional appropriations process deriving from the appropriations clause in the Constitution and the supporting processes and organizations in OMB and DoD establish Congress's "supremacy over public funds".[31] The primary incentive for the appropriations committees is defending the integrity of Congress's constitutional prerogatives and power in this process and of Congress's ability to use it to oversee effectively and in detail Executive agency programs and operations, including those of the Department of Defense. In executing its appropriations responsibilities with respect to the Department of Defense, Congress is incentivized to:

- Ensure that elected congressional members are given the ability to influence the allocation funding to reflect local and national interests in each year of a two-year Congress;

- Formalize and limit instances of appropriations for programs, such as multiyear procurements, proposed to be funded outside of the general principles and requirements of the appropriations process to only exceptional cases that must satisfy special, rigorous approval criteria, and

- Ensure execution of spending by the Department of Defense reflects Congressional expectations, and direction with respect to programs and activities for which appropriations are provided.

Many statements motivated by these concerns are in the reports accompanying the House, Senate and House-Senate conference versions of the annual appropriations bills. One example is from the conference report to accompanying the most recent defense appropriations act for FY21 (Schedule C of P.L. 116-260) around the software "color of money" RDT&E pilot program appropriation (pages 601-602 of the House Appropriations Committee Print for Schedule C):

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31   Sean M. Stiff "Congress's Power Over Appropriations: Constitutional and Statutory Provisions," *Congressional Research Service*, Library of Congress, R46417, June 16, 2020.

SOFTWARE AND DIGITAL TECHNOLOGY PILOT PROGRAMS

The agreement includes a modified version of the new general provision submitted with the fiscal year 2021 President's budget request for Software and Digital Technology Pilot programs funded in a new Budget Activity Eight within the Research, Development, Test and Evaluation accounts. The agreement acknowledges the Department's rationale regarding the incremental technical challenges posed by modern software development, including implementing technical fixes to existing code, addressing cyber vulnerabilities, and integrating incrementally developed new capabilities. However, the agreement modifies the general provision under the premise that objective quantitative and qualitative evidence is needed to evaluate potential expansion of the approved pilot programs. Further, seeking additional flexibility in the execution of appropriations should not be a solution to internal accounting and guidance issues that challenge the Department's ability to execute these programs. The agreement encourages the Secretary of Defense to execute the recommended pilot programs through fiscal years 2021 and 2022, while performing a detailed analysis of the Department's accounting and financial management process for such pilot programs as compared to existing software and digital technology programs.

The Secretary of Defense is directed to submit a report to the congressional defense committees, not later than 90 days after the enactment of this Act, which details the Department's assessment plan for each of the programs recommended in the general provision. This report shall include, at a minimum: quantitative and qualitative metrics; identification of eight similar programs, with representations from each Service, funded through traditional appropriation legislation to assess concurrently for comparison; and a plan to assess each pilot program against their own historical performance when funded through traditional appropriation legislation. Following submission of the assessment plan prescribed above, the Secretary of Defense is directed to provide quarterly reports on the status of each pilot program to the congressional defense committees.

B. The Executive Branch's Incentives and Disincentives

DoD's Programming process "…begins with the heads of each military service and defense agency developing a POM, which describes proposed resource requirements (forces, manpower, and funding) for programs…" over the five-year Future Years Defense Plan (FYDP).[32] The process is designed to provide information and analysis to senior decision makers so they can determine "…what to fund and what not to fund."[33] There are four significant characteristics of developing a FYDP that make it difficult to agilely

resource emerging capabilities: time horizon differences, total lifecycle costs, trades versus new funding, and trust.

I. THE ROLE OF TIME HORIZONS

Different timelines between the processes create disconnects in information available to make effective resourcing decisions at the end of these processes, and Congress always gets the final vote. These time horizon differences make developing a POM difficult for a few reasons:

DoD agencies program across the Future Years Defense Program (FYDP), creating and displaying, in programmatic level detail, resourcing decisions over five years, the budget year and the following four years. Congress, on the other hand, authorizes and appropriates on an annual basis. And Congress' budget deliberation cycle occurs as the Services are building the next POM, meaning when Congress directs programmatic changes, programmers must adjust on the fly.

This timing disconnect misaligns the budget and POM under-development driving programmatic churn. Programmatic churn occurs when DoD agencies believe they have stable funding, but Congress makes changes in the budget year. This forces programmers and program managers to revisit decisions made in the previous POM and recompete for funding during the current, and potentially, future POM builds. This known churn incentivizes program managers to build resourcing margins into their programs, to allow them to fix programs internally if Congress reduces funding. Every additional dollar a program manager obtains for her program is a dollar the Service cannot use to seed new technology or fix another program. Additionally, CAPE uses funding of existing programs as a template for what future programs should cost; risk management funding embedded in programs leads to baseline cost increases in future programs. Stakeholders throughout the process know program managers request funding above the minimum requirement to deliver an effective capability but without program manager transparency, other stakeholders are forced to make educated guesses about how much funding they can remove without damaging the program.

Programmatic churn can also result from Congressional program funding adds. As mentioned, Representatives are incentivized by political and administrative imperatives and may work to add to a program to benefit their district or state, or to fulfill their view of what is in the national interest. However, one-year Congressional plus-ups can drive "must pay" bills in future years if increases drive requirements for personnel and/or sustainment funding. Unless the additions are self-contained within a singular budget year, for a discrete purpose, they will create disconnects programmers will need to fix by trading other capabilities or capacity in future years,

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32   Brendan W. McGarry, "Defense Primer: Planning, Programming, Budgeting and Execution (PPBE) Process," Congressional Research Service, https://fas.org/sgp/crs/natsec/IF10429.pdf, accessed May 5, 2021

33   John Whitley and Gregory Pejic, "Senate Commission to Fix Defense Budgeting is Right on the Mark," *War on the Rocks*, September 24, 2021, https://warontherocks.com/2021/09/senate-commission-to-fix-defense-budgeting-is-right-on-the-mark/, accessed September 30th, 2021.

unless OMB and Congress signal permanent increases over longer time periods.

Poor timing also creates competition between the Services and the Combatant Commands (COCOMs). Because the Services "Organize, Train and Equip" and the COCOMs "deter, defend, defeat," they operate on different time horizons. An Air Force programmer explained it using the number 2030. COCOMs need capabilities and capacity to fight "at" 2030, so COCOMs advocate for accepting risk in future capabilities and capacity to fund capabilities and capacity required to fight tonight. Services need capabilities and capacity to fight "in" 2030, so Services advocate for accepting risk in current capabilities and capacity to fund the programs needed to fight future threats.

Finally, Congress' position of making all final decisions provide it with timing advantages in addition to its primacy in U.S. government resourcing. The President delivers a budget to Congress almost exactly one year after Service programmers began work on their POM. During the six-month POM build and the four-month Program Budget Review (PBR), the world changes. DoD tries to adjust the FYDP in real time, with particular focus on the budget year, the first year of the FYDP. DoD focuses on the budget year because Congress passes budget bills, not FYDP bills. While some appropriations remain valid over multiple years, by law most DoD appropriations expire after one year. As such, budget year funding is "real," making the budget year the most important year of Service POMs and the FYDP. DoD is incentivized to get the budget year as correct as possible because Congress, with better information, use more recent information to justify resourcing decisions that don't align to DoD priorities.

Additionally, because Congress begins its resourcing deliberations 12 months after the Services begin building the POM and two months after DoD sends its final recommendation to the Office of Management and Budget (OMB), Congress enjoys more recent, accurate information about the world and DoD programs. For example, if a Service thinks a Major Defense Acquisition Program (MDAP) is struggling to meet its milestones, it may consider trading procurement funding programmed in the budget year to another priority because it will not be able to obligate and execute the funding. However, if there are penalties for not having the funding available, and if the contractor might make the milestones, the Service may hesitate to make the trade. However, by the time the budget arrives in Congress, it may become clear the contractor will not meet its milestones and Congress can use that procurement budget year funding for its priorities. This Congressional action creates a disconnect in the program in future years, but Congress is not executing oversight of future years when it passes authorization and appropriations bills. This leaves the Service and DoD programmers to address the new FYDP disconnect in the POM, limiting resources for other priorities.

II. THE ROLE OF TOTAL LIFECYCLE COST REQUIREMENTS

Why does DoD program over a five-year time horizon, instead of programming one year at a time, which would align it with Congressional processes and seemingly provide more flexibility to make year-to-year changes? In short, DoD uses a five-year time horizon because of the complexity of funding total lifecycle costs; DoD needs to ensure it does not buy more capability than it can own and operate.

"For a defense acquisition program, life-cycle cost consists of research and development costs, investment costs, operating and support costs, and disposal costs over the entire life cycle. These costs include not only the direct costs of the acquisition program but also indirect costs that would be logically attributed to the program."[34] While total lifecycle costs for a program vary based on many factors, it is more important to ensure the Services have the personnel and funding to operate capabilities in the way Congress expects based on its authorizations.

One example is Congress' Military Construction requirement. When Congress authorizes funding for a new building, the Services must ensure they have programmed funding for everything the building needs, from computers to furniture, to ensure the building is "fit for use and purpose." So, if Congress authorizes a new Headquarters building, the Service cannot change the purpose of the building to a Child Development facility if it baulks at funding the building fit out. Similarly, if Congress authorizes the Navy to build a new carrier, Congress expects the Navy to operate the carrier in accordance with understood procedures, which means the Navy must have the sailors and support material and equipment to own and operate the carrier. The Navy and other Services manage these types of mid-range requirements through FYDP programming. Programming personnel is particularly important because personnel resourcing is a function of both funding and end strength. Even if the Services have funding they would like to use to pay for additional billets, they cannot fund billets beyond Congressional end strength caps. Additionally, the Services cannot hire personnel with certain specializations, particularly combat specializations, from the public. The lead time to recruit and train personnel, and the need for programs to retain qualified personnel, to operate the Services' specialized equipment and capabilities requires programming over a five-year time horizon to ensure the resources to operate programs as Congress intended when it appropriated funding for the program. Thus, the POM must deliver programmatic detail over five years to ensure effective resourcing of program operations and sustainment.

Because stakeholders see allocation of every dollar for five years, they are incentivized to fight for maximum resources for their program, through every POM cycle. Once resources are allocated to a program, a senior leader must decide to decrease

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34   Bill Kobren "Life Cycle Costs (LCC) and Total Ownership Costs (TOC) - A Study in Contrasts," Defense Acquisition University, March 3, 2014, https://www.dau.edu/training/career-development/logistics/blog/Life-Cycle-Costs-(LCC)-and-Total-Ownership-Costs-(TOC)---A-Study-in-Contrasts, accessed Sep 28, 2021.

or eliminate those resources during future POM and budget deliberations. Once a program has resources, inaction means they retain their resources. DoD's topline in FY21 was $719B; allowing for modest inflation, programmers and Comptrollers were discussing $3.6T across the FYDP. DoD lacks the comptroller and programmer personnel to scrub every program for every dollar. Thus, stakeholders are incentivized to fight for as many resources as possible.

III. TRADED FUNDS VERSUS NEW FUNDING

Generally, DoD does not fund new programs – it trades resources from existing or legacy programs to resource emerging or new programs.

At the start of the POM cycle, the administration sets spending limits, Total Obligation Authority (TOA), for each year of the FYDP.

The Office of Management and Budget (OMB) plays the key role in this process because, in addition to determining DoD TOA levels by year, it provides all Executive departments and agencies with guidance and direction on what their submissions must look like as well as timing for submissions. OMB direction and guidance flows from its interpretation of the format and timeline Congress wants. OMB must also support the President's priorities, apportioning money to DoD and the other agencies in ways that support and implement the President's agenda. This plays out in different ways across different administrations. For instance, the current administration has prioritized fighting climate change. DoD stakeholders are thus incentivized to link their programs to fighting climate change to demonstrate to OMB their contribution to the President's policy agenda.

Upon receiving TOA from OMB, DoD, usually in early February, provides each Service and DoD operating agency fiscal guidance, including its TOA by year. This fiscal guidance can also include "strategic areas of emphasis", programs and capabilities where Services should consider investing, and areas where the Service can "accept risk," signaling to the Service where it could make cuts to fund emerging priorities.

Ideally, fiscal guidance tells Service leaders and programmers where they should find trade space to fund new programs. New funding is referred to as "'trade' space", and not simply as direction to fund new programs and priorities, because almost every dollar the Services expect to receive over the next five years is already assigned against a program when the POM process begins and must be traded to a new program.[35] When a Service opens its POM, 20 months prior to the start of budget year execution, existing programs claim most resources, funding, and personnel for the 60 months that follow the start of POM's budget year of execution. Of note, the most difficult trade space to create is trade space for personnel. Exacerbating normal trade space challenges, emerging capabilities frequently include specialized training, so if a legacy program must relinquish personnel to an emerging program, it must do so on a timeline to allow for this training.

Additionally, at the start of the annual POM process, the Pentagon "re-prices" significant portions of the program based on economic conditions. Repricing almost always results in a Service beginning a POM cycle negatively unbalanced from the start. The DoD Comptroller may forecast cost increases, creating disconnects, or cost decreases, creating assets. Categories in which the DoD Comptroller reprices annually include fuel costs, personnel costs, and health care costs. If the DoD Comptroller forecasts increasing costs, Service programmers must integrate those increases into their programs, and ultimately reduce or eliminate other programs, find offsets, to pay for the increases.

Unless DoD receives an increase in TOA, provided through OMB by Congressional appropriators, funding new programs and capabilities requires decreasing or eliminating funding in existing programs and capabilities. Further, if Congress increases TOA without appropriators increasing end strength authorizations, competition for billets becomes harder because Services now have funding for new programs but do not have the personnel to execute the programs or own and operate the new capability.

Overall, this means that the programming process of the PPBE focuses on trades, incentivizing providers of new capabilities to advocate for divesting legacy capabilities to create trade space, and incentivizing stakeholders who operate, sustain, support, or depend upon existing legacy programs for professional, economic and financial benefits to argue passionately for their retention.

This creates what can be an existential competition for resources between existing, legacy programs, funded within the POM, and new capabilities, which require resourcing trades to become reality.

Stakeholders who benefit from an existing program, either through their position in government, industry, or the political arena, are incentivized to do everything in their power to prevent their program from becoming trade space for emerging priorities and capabilities. For government personnel, military and civilian, reduction or elimination of a program can lead to reduced opportunities for bonuses, promotions, or opportunities outside of government. For industry personnel, reduction or elimination of a program can reduce or eliminate opportunities to grow revenue, and usually leads to reduced revenue, which can ultimately result in job loss. For politicians, reduction or elimination of a program can create negative economic impact in their state or district including job losses and could also make a military installation more vulnerable to future Base Realignment and Closure (BRAC) actions. Stakeholder collective action opposing reductions or elimination almost always poses a significant obstacle to creating trade space across the FYDP for new priorities.

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35   Brendan W. McGarry and Heidi M. Peters, "Defense Primer: Future Years Defense Program (FYDP)," Congressional Research Service, December 14, 2020, https://fas.org/sgp/crs/natsec/IF10831.pdf, accessed May 10, 2021

For example, Program Managers (PMs) and Program Executive Officers (PEOs) are recognized, rewarded, and promoted based on a successful program, a program that performs as designed on a well-defined timeline, at the cost determined at program start. PMs and PEOs buy down program risk with schedule and cost because additional time and money provide opportunities to adjust and fix unanticipated problems. PPBE resourcing processes create disincentives for PMs or PEOs to offer excess resources to fix other programs or to seed new technology or innovation within their programs because "money in motion is money at risk."

Most MDAPs contain "risk management dollars," which are excess resources to create conditions for program success. However, there are no incentives for PMs and PEOs to surrender their program's excess resources to fund emerging capabilities, because any indication a program is over-resourced is likely to draw unwanted attention from programmers and comptrollers, the stakeholders incentivized to create trade space. Even if a PM or PEO believes they can spare resources in the budget or execution year, they likely do not want to give up resources across the FYDP and once programmers and comptrollers see any movement from a PM or PEO saying they do not need all of their program's resources, programmers will examine the entire program across the FYDP to find additional trade space.

For similar reasons, PMs and PEOs lack incentives to seed or exploit technology innovation in MDAPs because doing so can make their program look over-resourced. Funding innovation which is not part of the original program or requirements puts money in motion by using it for new capabilities. PMs and PEOs also risk running afoul of Congress if they use funding for something Congress did not specifically authorize or appropriate.

When programmers see a PM or PEO willing to surrender resources or funding a capability not in the original program, it incentivizes the programmers to look very carefully at the program to find the excess resources to fund senior Service and DoD leader priorities. Once a PM or PEO highlights resourcing flexibility, programmers and senior leaders may decide to harvest more resources than the PM or PEO offered or intended, essentially accepting risk in the donor program to resource emerging priorities. PMs and PEOs buy down programmatic risk with time and money, and they are incentivized to hide these resources to give their program the best possible chance of success.

PMs and PEOs are not alone; during the POM build and PBR, very few DoD stakeholders are incentivized to propose large, multi-year offsets to create trade space for new programs. Participants in the service programming process, which includes operators, programmers, senior leaders, comptroller personnel, and acquisition personnel, from the O-3 level through to the highest level of civilian political appointee, fight to gain or maintain resources for their new or existing program or capability. Outside of programmers and comptrollers, there are few incentives for other participants to offer legitimate, reasonable offsets because PPBE processes do not reward, and frequently punish, individuals who lose resources. Instead, when forced to identify potential trades, stakeholders tend to offer "gold watches,"

capabilities or capacity they believe senior leaders will hesitate to take or approve, either because the capability or capacity is too important to the Service or because leaders do not want to risk the political fight inside the Pentagon or on the Hill to gain approval from the offset.

This leads to very few personnel working to identify trade space in the FYDP. Programmers (the "Service 8s"), know they must provide offset options to senior leaders because leaders will want to resource emerging capabilities. Comptrollers help identify offsets because they need programmers to build flexibility into the budget year to enable them to fix resource issues during year of execution, including unplanned contingencies and emerging President and SECDEF priorities. Additionally, execution begins approximately 20 months after the POM build starts; the world changes between planning and execution and comptrollers need flexibility to respond so they are incentivized to work with programmers to build trade space, especially in the budget year.

Because offsets cause stakeholders to lose resources, programming deliberations usually occur in access-controlled stovepipes, to limit opportunities for stakeholders invested in potential trade space to marshal forces against these trades. Service Secretaries and Chiefs, who bear ultimate responsibility for POMs submitted to OSD, strongly prefer to retain maximum maneuver space within their stated TOA when evaluating potential trades, driving the impetus to limit access to POM deliberations. Service leaders do not want to highlight potential trade space, because it could weaken their argument to retain the capability or capacity if they chose a different trade option. Whatever trade the Service decides to make will be second guessed by donor program stakeholders, including operators, industry and local, state, and national politicians negatively impacted by the trade, and these stakeholders are incentivized to offer alternatives to the trades made by Service leaders. It is easier to offer alternatives when granted access to the full range of options a Service considered during its POM build.

This makes it nearly impossible to conduct a free and open discussion about options for big trades during the POM build and PBR. Between February, when OSD provides fiscal guidance, and July, when services and agencies finalize their POM submissions, and thereafter the following February, when DoD's budget arrives on Capitol Hill as part of the President's budget, service programmers and comptrollers spend a great deal of time talking internally about program performance, emerging capabilities, and legacy system operations and sustainment costs. However, almost no time is spent talking about their deliberations and decisions to Combatant Commands or OSD, or Congressional or industry stakeholders because they want to give themselves the best possible chance to defend their POM as the "best" or "only" POM. This lack of transparency reduces the time available to truly analyze and debate alternatives. It also leads Service trade space proposals to surprise other stakeholders, including Congress, contributing to the chronic lack of trust between stakeholders.

The lack of collaboration during the POM building process also usually leads to Combatant Commands disputing proposed service capacity cuts and divestitures during PBR, which runs from late summer through early December. Again, Combatant Commands' missions are to operate today and on a very short time horizon, while Services, who program across the FYDP's five-year time horizon and conduct wargaming and planning beyond five years, tend to focus on operations in the mid-to-long term. The Services' focus on "organize, train, and equip" missions incentivize them to seriously consider trading legacy capabilities and capacity for innovative technologies. Services want to ensure they field the forces, equipment, and logistics support necessary to dominate future conflicts. This focus on future threats can create tension with Combatant Commands, which engage in daily operations to defend the homeland, deter and dissuade potential adversaries and ensure common domains remain open and free.[36]

During PBR particularly, but throughout the rest of the year as well, organizations within OSD work to deliver a force structure to meet both current and future requirements with the lowest possible operational and economic risk.

The offices of the Undersecretary of Defense for Acquisition and Sustainment (A&S) and the Undersecretary of Defense for Research and Engineering (R&E), lead Joint Staff and Service teams to prioritize emerging capabilities and ensure warfighters receive the best capabilities at an affordable cost to the nation. These offices balance the imperatives created by resource scarcity, getting the best capabilities and most capacity at the lowest cost, with the need to sustain a healthy, robust innovative Defense Industrial Base (DIB). A&S and R&E participate in PBR as the experts on requirements, threats, and program performance and can significantly impact the final content in the FYDP.[37][38]

The Director of Cost Assessment and Program Evaluation (DCAPE) provides senior DoD officials including SECDEF with independent cost estimates (ICE), program evaluation, and analysis of alternatives and as part of their duties, leads PBR.[39] Working with other OSD agencies and the Services, CAPE's priority is to deliver a force structure in the budget year and within the FYDP to meet requirements and reduce risks. CAPE's Analysis of Alternatives (AoAs) provides senior leaders with assessments about emerging Service requirements, outlined in an Initial Capabilities Document (ICD). CAPE determines whether the information in the ICD is sufficient to make a decision about a new program, and if sufficient, whether or not the information supports the decision in the ICD. In preparation for (MDAP) milestones, CAPE will provide an ICE, verifying or challenging the Service's cost estimate as part of the milestone decision.[40]

It can be difficult, though, for CAPE to analyze and accurately price emerging technologies without existing baselines. It can also be difficult for CAPE to accurately determine program risk, or the risk that new technologies will deliver capabilities to help US forces maintain competitive advantage across the spectrum of conflict, and risk that companies can deliver the performance on the timeline and at the cost projected. These challenges increase the difficulty of trading legacy programs for the uncertainty of a new but promising capability. CAPE is structured to do good analysis and make the best recommendations and trades for the nation, but the lack of technologists within CAPE coupled with Congressional pressure to fund programs that succeed disincentivize CAPE analysts to support resourcing unproven technologies.

The Comptroller's office, A&S, R&E and CAPE's programmers, like the Service's programmers and comptrollers, are incentivized to find trades to pay for the Secretary of Defense's and President's priorities. The OSD Comptroller's team focuses primarily on the budget year, since they will have to defend the budget and subsequently oversee execution and want to ensure they maintain the flexibility to do so effectively. CAPE tends to focus more on the latter years of the FYDP and ensuring the Services have effectively programmed out-year resources, money, and personnel, to avoid broken or underfunded programs in later years.

CAPE also works to resolve disputes between the Services and between the Services and the Combatant Commands by conducting analysis to help them balance requirements and risk across the FYDP. Additionally, CAPE analysts and leaders are among the very few in the Pentagon who will publicly advocate for trades between Service portfolios. Service Chiefs want to hold on to their percentage of the budget and there is a Gentlemen's Agreement between them preventing the Service Chiefs from trying to grow their TOA by recommending reductions in another Service's TOA. During PBR, CAPE programmers evaluate relative value of programs between the Services to determine trade space.

After the DEPSECDEF's Deputies Management Action Group (DMAG) makes final budget and FYDP decisions, Services integrate the decisions, and programmers and comptrollers take their budget defense, and to a lesser extent their FYDP defense, to Capitol Hill. Congressional oversight occurs during the budget process in the spring, where representatives and their staff can closely analyze proposed service trades, legacy for new, and support, overturn or change. Representatives are incentivized to support programs that bring resources and strongly oppose submissions that decrease or

36   Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge*, https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf, 6, accessed May 11, 2021.

37   "Department of Defense Office of the Undersecretary of Defense for Acquisition and Sustainment", https://www.acq.osd.mil/, accessed October 4, 2021.

38   "Department of Defense Office of the Undersecretary of Defense for Research and Engineering", https://www.cto.mil/, accessed October 4, 2021.

39   Director of Cost Assessment and Program Evaluation, *DoD Directive 5105.84,* August 14, 2020, https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/510584e.pdf?ver=2020-08-14-122443-813, accessed October 3, 2021.

40   Director of Cost Assessment and Program Evaluation, *DoD Directive 5105.84,* August 14, 2020, https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/510584e.pdf?ver=2020-08-14-122443-813, accessed October 3, 2021.

eliminate resources to their district or state. Their political survival frequently hinges on their success in this area.

Finally, Congress requires the Services to provide the final four years of the FYDP, despite Congressional action solely taking place for the budget year. With the exception of classified Special Access Program funding, this requirement gives access to Service resourcing in the mid-term, allowing stakeholders to see planned reductions and begin marshalling arguments against the cuts. It also provides business intelligence to the defense industry, who gain a good understanding of what the Department expects to pay for programs, capabilities and services. And operationally, it signals to potential adversaries U.S. resourcing priorities, providing critical information about emerging technologies and capabilities.

IV. THE ROLE OF TRUST – OR LACK THEREOF

The final significant challenge within resourcing processes is trust. Permanent resource scarcity leads to winners and losers in every DoD resource competition. Because the stakes are so high for everyone, government, industry and political stakeholders, each group is highly incentivized to fight "to the death" for their programs and their priorities. In some cases, "to the death" is only a small exaggeration. If Congress decides to reduce or eliminate funding for a program, it can jeopardize one or more companies' existence. Similarly, if the Services do not request or Congress does not fund an emerging technology or capability, it can have the same result.

Political disagreements also play a contributing role. A recent example is the controversy around the transfer of $6 billion in DoD funding for southern border wall construction in FY2019 and FY2020 using the counterdrug funding assistance authority in 10 USC 284. "The White House is putting DoD's positive relations with their authorizing and appropriating committees at risk by making DoD the piggy bank for the president's [border] wall," said Kori Schake, deputy director-general of the International Institute for Strategic Studies in London at the time. "DoD needs Congress' trust on the budget and using DoD to fund the wall collapses that trust."[41] The controversy led to consideration of severely reducing DoD transfer authority in the FY2020 process.[42]

Congress exercises oversight and drives resourcing because the Constitution and statute give it the authority and responsibility to do so. Delivering resources to their state or district helps representatives sustain political power and influence. This imperative leads Congress to impose significant paperwork and reporting requirements on DoD, to ensure adherence to Congressional direction and intent. Congress also imposes time limits for oversight and to prevent

large accumulations of funding that could be used for "...purposes unapproved by Congress."[43]

The history behind this chronic lack of trust has made it difficult for senior DoD leaders to convince Congress to provide more resource flexibility. Senior leaders appear to recognize this and currently emphasize keeping Congress fully informed when Congress is willing to provide added flexibility. The Commander of Air Force Materiel Command, when talking about a pilot program giving the Services access to two-year "colorless" money for software development said "…getting Congress's assent for that kind of flexibility comes back to trust — another reason to make sure the software color of money pilots stay scandal-free." He went on to say, "For those organizations that have that authority to use colorless money — please, we need radical transparency. We have got to do this right so that we can expand this out later on."[44] If Congress, through the appropriations committees, believes that DoD abuses flexible authorities such as the colorless software funding, it will likely halt the software pilot programs and refuse to consider other recommendations, such as programming by portfolio instead of line item, that DoD has proposed to streamline PPBE.

CONCLUSION

Those hoping to reform the defense budget and resourcing processes need to begin with a comprehensive understanding of the roots of the current system and the incentives and disincentives it creates for defense acquisition stakeholders as a prelude to venturing recommendations for further acquisition reform. As such, the NDIA team has sought to describe these dynamics by demonstrating how they play out through Congress, the Department of Defense, and other executive branch agencies. It is our hope that stakeholders and other policymakers may take this analysis forward as they seek to improve and/or reform the acquisition process.

41   Joe Gould, and Aaron Mehta "House Dems threaten to block Pentagon's money-moving authority in border wall fight" Defense News, March 6, 2019 https://www.defensenews.com/smr/federal-budget/2019/03/06/house-dems-threaten-to-block-pentagons-money-moving-authority-in-border-wall-fight/, accessed October 15, 2021

42   See the statement by the House Defense Appropriations Committee in House Report 116-84, page 4.

43   889 Periodicity document bottom page Vol 3, page 199.

44   Serbu, Jared, "For DoD, new flexibility for IT spending is a test of trust with Congress," September 24, 2021, https://federalnewsnetwork.com/defense-main/2021/09/for-dod-new-flexibility-for-it-spending-is-a-test-of-trust-with-congress/, accessed October 4, 2021.

There seems to be broad agreement among most stakeholders the US needs "better, faster, affordable" development and acquisition of emerging technologies that will drive competitive advantage during potential future conflicts with peer adversaries. Despite thorough analyses and implementation of wave upon wave of acquisition reform proposals over the last 75 years, many in the national security enterprise remain frustrated and concerned with the inability to fix issues in costs, schedules, and performance in the delivery of new capabilities to the warfighter. There appears to be an emerging consensus among stakeholders that we must examine the PPBE resourcing authorities and processes as means to drive more dramatic and sustained change.

As we have sought to demonstrate, the resourcing processes in the Executive Branch, including the PPBES, have to a great extent been defined in detail by Congressional action over the last two hundred years in its quest to secure and sustain its prerogatives in Article 1 of the Constitution. OMB Circular A-11 and the DoD's PPBE processes interpret Congressional guidance and direction to ensure Executive Agency budget requests meet specific format and content requirements and our executed consistent with Congress's direction, primarily through annual appropriations legislation. Future proponents of acquisition improvement or reform could better realize their objectives by beginning their efforts with a recognition of this constant and its impact on those who must work in, and with, the process.

APPENDIX A: CROSS-NATIONAL RESOURCING – THE AUSTRALIAN CASE

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A. THE ROLE OF PARLIAMENTARY PROCESSES AND PRACTICES

I. Constitutional Foundations

Australian Parliament has the "power to make laws for the peace, order, and good government of the Commonwealth," including those regarding "the naval and military defence of the Commonwealth and of the several States, and the control of the forces to execute and maintain the laws of the Commonwealth." Proposed laws "appropriating revenue or moneys" come from the House of Representatives.[45] This is the legal foundation to the Australian defense resourcing process and the ensuing standardized frameworks.

II. Legal Framework for Australian Defense Procurement

Australia uses a series of rules and instructions to standardize government procurement (see Figure 3 attached below). The Commonwealth Procurement Rules (CPRs), issued by the Minister for Finance, govern how Australian government officials and agencies purchase things under section 105B(1) of the Public Governance, Performance and Accountability Act 2013 (PGPA Act).[46] All defense related procurement falls under these rules.

Below the overall procurement policy framework of CPRs and Public Governances, there are three sequential tiers of defense procurement policies and guidance: Mandatory Defence Policy (containing the Defence Accountable Authority Instructions and Defence Procurement Policy Manual), Mandatory Group Policy (wherein lie Service Specific and Defence Group Specific Instructions) and Guidance and Tools (procurement guides and processes, best practices, the contracting handbook and templates).

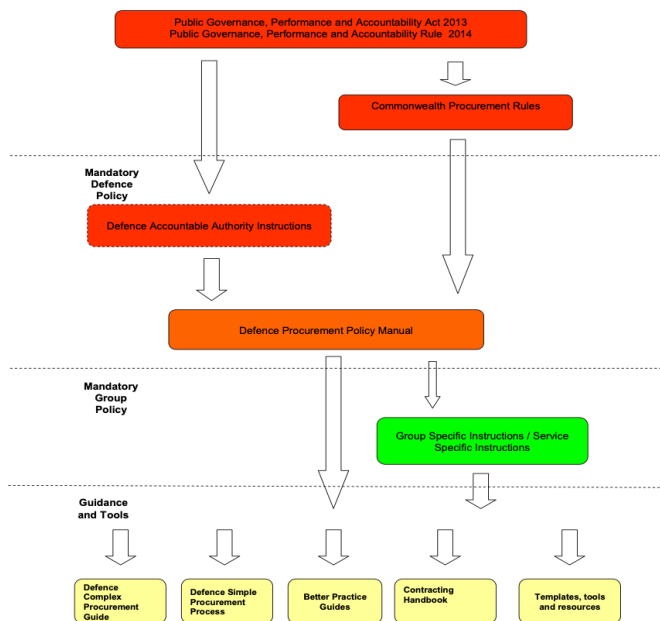### Australian Procurement Policy Framework

Figure 3; Source: Australian Department of Defence[47]

The Australian Department of Defence (ADoD) maintains the Defence Procurement Policy Manual (DPPM) as a principal compliance document for conducting procurement. This document must be complied with by all ADoD officials when conducting procurement operations.[48]

Annual Defence Portfolio Budget Statements (referred to as PB Statements) serve as the annual defense budget document produced for Australian Parliament by the Minister for Defence and the ADoD. These PB Statements aim to "provide detailed explanations and justifications of the proposed appropriations to Defence in Appropriation Bills."[49]

III. Budgetary Reporting Requirements of the Australian Department of Defence

Each Financial Year, ADoD is required to produce three documents. Portfolio Budget Statements, Portfolio Additional Estimates Statements (additional funding requirements wanted by ADoD, accompanied by explanations of selection) and the Annual Report. The Annual Report is a joint account from the Chief of the Australian Defence Forces (ADF) and the Secretary of Defence that reviews the performance of ADoD.[50]

45 "Powers of the Parliament," The Australian Constitution, Parliament of Australia, accessed October 13, 2021, https://www.aph.gov.au/About_Parliament/Senate/Powers_practice_n_procedures/Constitution/chapter1/Part_V_-_Powers_of_the_Parliament.

46 "Defence procurement in Australia: understanding the framework," Corrs Chambers Westgarth, last modified March 5, 2021, last accessed October 13, 2021, https://www.corrs.com.au/insights/defence-procurement-in-australia-understanding-the-framework#_ftn2.

47 Australian Government, Department of Defence Capability Acquisition and Sustainment Group, *Defence Procurement Policy Manual,* Version 1.9, 26 February 2021, 9, https://www1.defence.gov.au/sites/default/files/2021-04/External%20DPPM.pdf.

48 Department of Defence Capability Acquisition and Sustainment Group, *Defence Procurement Policy Manual.*

49 Australian Government, Department of Defence, *Portfolio Budget Statements 2020-21,* Budget Related Paper No. 1.3A, https://www.defence.gov.au/Budget/20-21/2020-21_Defence_PBS_00_Complete.pdf.

50 "Defence Budget Home Page," Department of Defence, Australian Government, accessed October 13, 2021, https://www.defence.gov.au/Budget/.

B. HOW PARLIAMENT, DEFENCE AND THE PPBE PROCESS INTERACT WITH ADOD TO RESOURCE PER–SONNEL, CAPABILITIES AND INFRASTRUCTURE.

I. Australian Resourcing

Defense strategies are identified and updated by ADoD in the form of white papers. The most recent of these was the 2016 Defence White Paper, which was replaced by the 2020 Defence Strategic Update (DSU).[51] The DSU is accompanied by the 2020 Force Structure Plan (FSP)[52], which lays out a blueprint for how ADF will adjust and invest to implement new strategic objectives and to build on other strategy and long-term planning documents. Needs identified by the FSP are funded by the PB statements. The ADoD procurement life cycle is shaped into three phases: Planning, Sourcing and Managing.[53]

When a new capability is identified as needed, ADoD looks to its Defence Science and Technology Group (DST). "Providing support throughout the genesis, development, acquisition and introduction to service of major capability projects" is one of DST's core missions. DST uses a "whole-of-government role" to coordinate science and technology for national security.[54]

When a capability is past RDT&E, the Capability and Sustainment Group (CASG) takes over as "the key delivery agency for Defence capability."[55] The Australian Standard for Defence Contracting (ASDEFCON) provides tendering and contracting templates pre-made for acquiring goods and services.

II. Working with Domestic Industry

The Australian government procures from international partners but has a stated focus on ensuring a strong AIC (Australian Industry Capability). In 2020 the Minister for Defence, Sen. Linda Reynolds and Minister for Defence Industry Melissa Price MP, announced an effort to strengthen the ties between AIC and Defence. The announcement also indicated a review of ASDEFCON to see where Australian business could be better placed in competitive defense markets.[56]

ADoD works with the Centre for Defence Industry Capability (CDIC) to help grow Australian defense industry, particularly small to medium enterprises. CDIC goes about this by leveraging a network of defense industry facilitators and business advisors.[57]

C. COMPARING AUSTRALIA WITH THE UNITED STATES

I. Compare and Contrast Overview

As a parliamentary democracy, the Australian government is organized differently than the United States government under the American Constitution, affecting its approach to the organization of its national defense. Australia's executive leaders come from Parliament and so do the checks on executive power. With respect to the organization of defense, this means the senior civilian leadership of ADoD are members of the houses of Parliament, and the Chief of the Defence Force sits under them in the defense organization (unlike the US, where DoD and the Joint Chiefs exist totally separate from the legislative). As such, there are fewer separations of powers or degradations in trust between the Legislative and Executive. Additionally, Australian governmental conventions and traditions exist in place of written law in some cases, translating to fewer constitutional limitations.

51 Australian Government, Department of Defence, *2020 Defense Strategic Update*, 2020, accessed October 13, 2021, https://www1.defence.gov.au/about/publications/2020-defence-strategic-update.

52 Australian Government, Department of Defence, *2020 Force Structure Plan*, accessed October 13, 2021, https://www1.defence.gov.au/about/publications/2020-force-structure-plan.

53 Department of Defence Capability Acquisition and Sustainment Group, *Defence Procurement Policy Manual,* 10.

54 "Our Role," Defence Science and Technology Group, Australian Department of Defence, accessed October 13, 2021, https://www.dst.defence.gov.au/discover-dst/our-role.

55 "Capability and Acquisition and Sustainment Group," Department of Defence, Australian Government, accessed October 13, 2021, https://www1.defence.gov.au/about/capability-acquisition-sustainment-group.

56 "Strengthening how Defence does business with Australian industry," Minister for Defence, Australian Government, last modified September 18, 2020, https://www.minister.defence.gov.au/minister/melissa-price/media-releases/strengthening-how-defence-does-business-australian-industry.

57 "Who we are," Centre for Defence Industry Capability, Australian Department of Industry, Science, Energy and Resources, last accessed October 13, 2021, https://business.gov.au/cdic/about-cdic-and-defence-innovation/who-we-are#centre-for-defence-industry-capability.

APPENDIX B: TABLE OF ACRONYMS

A&S: Acquisition and Sustainment

ADoD: Australian Department of Defense

AI: Artificial Intelligence

AoAs: CAPE's Analysis of Alternatives

ATR: Above Threshold Reprogramming

BES: Budget Estimate Submission

BRAC: Base Realignment and Closure Actions

BTR: Below Threshold Reprogramming

CAPE: Cost Assessment and Program Evaluation

CBO: Congressional Budget Office

CICA: Competition in Contracting Act

COCOMs: Combatant Commands

CRS: Congressional Research Service

CRs: Continuing Resolutions

DCAPE: Director of the Cost Assessment and Program Evaluation

DEPSECDEF: Deputy Secretary of Defense

DIB: Defense Industrial Base

DMAG: DEPSECDEF's Deputies Management Action Group

DoD: Department of Defense

DPG: Defense Planning Guidance (DPG),

FFRDCs: Federally Funded Research and Development Centers

FMR: Financial Management Regulation

FRP: Full Rate Production

FY: Fiscal Year

FYDP: Future Years Defense Program

GTA: General Transfer Authority

HAC-D: House Appropriations Committee-Defense

HASC: House Armed Service Committee

ICD: Initial Capabilities Document

ICE: independent cost estimate

MDAPs: Major Defense Acquisition Programs

MILCON: Military Construction

MILPERS: Military Personnel

NDIA: National Defense Industrial Association

O&M: Operation & Maintenance

OMB: Office of Management and Budget

OSD: Office of the Secretary of Defense

OTAs: Other Transaction Authorities

PB: President's Budget

PBR: Program Budget Review

PEO: Program Executive Office

PL: Public Law

PM: Program Managers

POM: Program Objective Memorandum

PPBE: Planning, Programming, Budgeting, and Execution

R&D: Research & Development

R&E: Research and Engineering

RDT&E: Research, Development, Testing & Evaluation

SAC-D: Senate Appropriations Committee-Defense

SASC: Senate Armed Service Committee

SECDEF: Secretary of Defense

TOA: Total Obligation Authority

USC: US Code

APPENDIX C: CONGRESSIONAL BUDGETING PRINCIPLES

Principle	Requirement	Constitution	Codified Statute	Legislation
Congressional Budget Authority	No money may be drawn from the Treasury, but in Consequence of Appropriations made by Law.	Article 1, section7, section8		
Express Purpose	Appropriations may only be obligated for the purposes specified by Congress		31 USC 1301	Titles I-VII in annual defense appropriations bills
Annual Appropriation	Agencies annually request and are provided appropriations to be obligated		31 USC 1105	
Authorization for an Appropriation	Appropriations are only available for activities authorized in law		10 USC 114, 10 USC 2802 (MilCon)	Annual National Defense Authorization Acts
Anti-deficiency requirement	Agencies may not make or authorize an expenditure or obligation exceeding an amount available in an appropriation or fund for the expenditure or obligation.		31 USC 1517	
Scorekeeping	Enforcment for requirement that new legislation changing governmental receipts or mandatory spending or collections must be enacted on a "pay-as-you-go" basis; that is, that the cumulative effects of such legislation must notincrease projected on-budget deficits.			Budget Enforcement Act of 1990 (Title XIII of P.L. 101-508)
Full Funding	Requires the entire procurement cost of a weapon or piece of equipment to be funded in the year in which the item is procurd. The rule applies to all weapons and equipment that DOD procures through the procurement title (title III) of the annual DOD appropriations act.		31 USC 1341(a)(1) 40 USC 11	
Apportionment and account spending limitations	OMB tasked with apportioning apprpropriations available to Federal agencies before they are obligated or expended. Annual defense appropriations prohibited DoD from obligating more than than 20% of appropriated funds in the fourth quarter of a fiscal year.		31 USC 1513 (b)	Sec. 8004 of annual defense appropriations bills (20% spending limitation).
Funding by program and line item	31 USC 1104 Requires the annual budget request include with the budget and proposed appropriations information on personnel and other objects of expenditure in the way that information was included in the budget for fiscal year 1950.		31 USC 1104 with 31 USC 1108, 1109, and 1112.	
Color of Money	Funds are appropriated annually one of five accounts (MilPers, O&M, Procurement, RDT&E, and MilCon)			Purposes ("Object" per 31 USC 1301(a)) specified in respective title of annual Defense and MilCon/VA approriations bills
Duration of Appropriation	Appropriated funds are only available for new obligation for a limited period of time (MilPers - 1 year; O&M - 1 year; Procurement - 3 years (Ships - 5 years); RDT&E - 2 years; MilCon - 5 years)			Specified in annual defense (titles I-IV) and MilCon/VA appropriations bills
Working Capital Funds	A defense working capital fund (DWCF) is a revolving fund intended to operate as a self-supporting entity to fund business-like activities (e.g., acquiring parts and supplies, equipment maintenance, transporting personnel, research and development) for the DOD.			10 USC 2208. Amount limited to appropriations provided in title V of the annual defense appropriations bills. Operation subject to general provisions with specific transfer authority limitation in the annual defense appropriations bill (sec. 8008 of the FY21 Defense Appropriations Act (Schedule C of P.L. 116-260)).
Multiyear procurement Funding	For a prgram meeting specified criteria, MYP authority is an exception to the full funding requirement, which allows DoD to enter a contract to purchase of a weapon system or equipment over multiple years with only one year of funding available for obligation. Requires an authorization separate from an appropriations act for any MYP contract above $500 million.		10 USC 2306b (Authority for MYP of goods) and 10 USC 2306c (Services)	Provision(s) in title I of the annual National Defense Authorization Acts. General Provision in Annual appropriations bills (sec. 8010 of the FY21 Defense Appropriations Act (Schedule C of P.L. 116-260))

Source: NDIA

Other	OMB	DoD	Notes
	A-11, part 1, section 15		
	A-11, part 1, section 15		
	A-11, part 1 and 2		
"House Rule XXI, clause 2 (does not apply to Continuing Resolution Appropriations). Senate Rule XVI, paragraph 1 (Applies to all Appropriations legislation)."			Requires sustaining a point of order on the House or Senate floor for enforcement. According to the Government Accountability Office (GAO), "as a general proposition, the appropriation of funds for a program whose funding authorization has expired ... provides sufficient legal basis to continue the program during that period of availability, absent indication of contrary congressional intent."
	A-11, part 4, section 120	DOD 1400-R, Finanacial Management Regulation, Volume 14	
Balanced Budget Act of 1997 (H.Rept. 105-217, pp. 1007-1014	A-11, section 21		Any changes to these guidelines must be agreed to by the House and Senate Budget Committees, OMB, and CBO.
	A-11, section 31.4	DOD Directive 7000.14-R,	Exceptions for programs funded in title III include: 1) advance procurement funding for components or parts have long production leadtimes; 2) advance procurement funding for economic order quantity (EOQ) procurements in programs that have been approved for multiyear procurement; 3) Multiyear procurement using a single contract to procure multiple copies of a given item that are scheduled to be procured across a series of years. In addition, incremental funding has been permitted for auxiliary ships funded through the National Defense Sealift Fund and other individual ship construction programs.
	A-11, part 4	DOD 1400-R, Finanacial Management Regulation, Volume 3, chapter 2	
Direction in report to accompany annual defense appropriations bills.	A-11, part 2, part 6; Capital programming guide supplement	DOD 1400-R, Financial Management Regulation, Volume 2B, Chapter 4	Per 31 USC 1104(b), this requirement may only be waived or changed by joint action of the Committees on Appropriations of the House and Senate.
		DOD 1400-R, Finanacial Management Regulation, Volume 2A and 2B	Congress limits reprogramming of funding between accounts without committee approval. Drives requirement for annual reprogramming omnibus in the spring. See Transfer Limitation
	A-11, part 4		
		DOD 7000.14-R, Financial Management Regulation	
		DOD 7000.14-R, Financial Management Regulation (FMR), Volume 2A, Chapter 1	Requires future Congresses to provide funding to complete the contract or risk contract termination and payment of cancellation fees.

Principle	Requirement	Constitution	Codified Statute	Legislation
Advance Procurement	Authority provided in an appropriations act to obligate and disburse funds during a Fiscal Year (FY) before that in which the related end item is procured. Exception to the policy of full funding for end items.		10 USC 2218a (National Sea-Based Deterrence Fund)	AP funding specified as line items for prcurement programs in funding tables in report to accompany annual appropriations bills. Notification requirement for AP contracts greater than $20 million in general provision in annual appropriations bills (sec. 8010 of the FY21 Defense Appropriations Act (Schedule C of P.L. 116-260))
Transfer Limitation	No transfer of appropriation from one account to another unless authorized in law	31 USC 1532		General Provision in Annual appropriations bill for general transfer authority up to $4 billion (sec. 8005 of the FY21 Defense Appropriations Act (Schedule C of P.L. 116-260), Sec. 1001 of the annual National Defense Authorization Acts provides similar authority for authorizations.) For OCO up to $2 billion special transfer authority (sec. 9002 of the FY21 Defense Appropriations Act (Schedule C of P.L. 116-260), Sec. 1512 of the FY21 National Defense Authorization Acts provides similar authority for authorizations.)
Reprogramming thresholds and approval process	Requires notification of Congress of any shift of funding above an established threshold between program, project or activity within a budget account for which an appropriation has been enacted.	10 USC 2214		Section 8007 of the FY2021 defense appropriations act directs DOD to submit a report (DD Form 1414) to the congressional committees within 60 days after enactment to establish a baseline against which the department can transfer or reprogram funds.
Termination of an MDAP for a critical Nunn-McCurdy breach	In the event of a critical breach, the Secretary of Defense is required to conduct a root-cause analysis to determine what factors caused the cost growth that led to a critical breach, and, in consultation with the Director of Cost Assessment and Program Evaluation, assess 1. the estimated cost of the program if no changes are made to the current requirements, 2. the estimated cost of the program if requirements are modified, 3. the estimated cost of reasonable alternatives to the program, and 4. the extent to which funding from other programs will need to be cut to cover the cost growth of this program. After the reassessment, the program must be terminated unless the Secretary of Defense certifies in writing no later than 60 days after a SAR is provided to Congress that the program will not be terminated because it meets certain requirements. A certification, which uses the exact wording as found in 10 U.S.C. Section 2433a(b), certifies that 1. the program is essential to national security, 2. the new cost estimates have been determined by the Director of Cost Assessment and Program Evaluation to be reasonable, 3. the program is a higher priority than programs whose funding will be reduced to cover the increased cost of this program, and 4. the management structure is sufficient to control additional cost growth. A certification must be accompanied by a copy of the root-cause analysis report.33 A program that is not terminated must 1. be restructured in a manner that addresses the root cause of the cost growth, 2. have its prior milestone approval rescinded, and 3. receive a new milestone approval before taking any contract action—including signing new contracts or exercising options—without approval from the Milestone Decision Authority. DOD must also (1) notify Congress of all funding changes made to other programs to cover the cost growth of the program in question and (2) hold regular reviews of the program.		10 U.S.C. Section 2433a(b)	FY2009 Weapon Systems Acquisition Reform Act (P.L. 111-23)

Source: NDIA

Other	OMB	DoD	Notes
		DOD 7000.14-R, Financial Management Regulation (FMR), Volume 3, Chapter 6	
Notification threshold with prior approval direction specified in the report accompanying annual appropiations bills. $10 million for each of MilPers, Procurement, RDT&E, and O&M in FY21.		DOD 7000.14-R, Financial Management Regulation (FMR), Volume 3, Chapter 6	

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