Transforming the Business Model for Defense Research and Development

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BACKGROUND

The Department of Defense has historically worked in partnership with its industrial base, funding research and development for defense-unique systems by reimbursing firms for their R&D expenses incurred directly on the Department's behalf, and also reimbursing firms for some independently initiated R&D as an allowable overhead expense. The Department has believed that firms are unlikely to invest in defense-unique systems and technologies that don't have direct commercial application without some assurance that they will achieve a return on this investment. Direct reimbursement of R&D expenses, with a provision for profit, is a straightforward way of solving this problem. Because a fully reimbursable contract is essentially a no-risk proposition for industry, the rate of profit on these contracts has historically been limited. As the Department has sought to reach out to innovative firms in Silicon Valley and leverage more commercial technology in recent years, the Department's traditional approach to R&D has appeared disconnected from the R&D business models pursued in the high-tech industry. In this market initial R&D is often funded by venture capital, and subsequent R&D is funded out of revenues, with the goal of capturing a position of advantage in global commercial markets that are exponentially larger than the DoD market. Return on investment, when such investments are successful, is substantially higher than profit levels that DoD has agreed to pay. Unsuccessful investments are terminated quickly, sometimes referred to as the "fail fast" model. While it appears self-evident that DoD needs to be open to different business models for R&D, it is much less clear at this point how such business models would work best for weapon systems. DoD has previously attempted multiple times to use fixed price contracts for the development of complex weapon systems in the 1960s and the 1980s. The history of using this approach is littered with expensive failures, as well as outright disasters, and still stands

without a notable success. The failures of fixed price development of the 1980s were so painful that Congress temporarily banned the use of such contracts. The current KC-46 tanker program still has a chance to become DoD's first weapon system fixed-price development contract where massive cost increases are not paid for by DoD, but are instead born by the contractor.

The Senate bill works to create very strong incentives against using cost reimbursable contracts. It would require high-level approval for the use of cost-type contracts, starting with contracts for more than $50 million and eventually covering all contracts over $5 million. If the $5 million approval threshold had been in place in 2015, it would have applied to nearly 7,400 contracts with a total value of nearly $74 billion in that year alone. Under the Senate bill, DoD will also be financially penalized for using cost-type contracts for activities funded out of procurement and research and development accounts. The penalty is 2 percent of the contract amount for contracts funded by procurement, where the use of cost-type contracts is extremely rare, and 1 percent of the contract amount for contracts funded by research and development, where the use of cost-type contracts is common. In related provisions, the Senate bill also requires the use of a fixed price development on the upcoming JSTARS (Joint Surveillance Target Attack Radar System) replacement program, and although it stops short of requiring that the previously awarded cost-reimbursable contract for the development of the B-21 bomber be renegotiated, it establishes a unique Nunn-McCurdy process for the B-21 that requires the Air Force to manage the program like a fixed-price program. The Senate bill also requires DoD to establish new cost accounting standards for cost-type contracts distinct from those currently used for all federal contracts, and requires DoD to align those standards with commercial accounting standards to the maximum extent practicable.

Table 1: Remarks from Congress and Administration

SENATE	HOUSE	SECRETARY CARTER/ ADMINISTRATION
Penalizes the use of cost reimbursable contracts for research and development and procurement and requires the development of defense-specific cost accounting standards as a means to incentivize the adoption of more commercial practices for R&D.	[No corresponding provision.]	Administration objects and includes several of these provisions in its long list of objections in the Statement of Administration Policy.
Senate NDAA 2017 **Bill Summary (Sections 811,826,827):** "The NDAA includes a number of provisions designed to streamline the process for buying weapon systems, services, and information technology by reducing unnecessary requirements. The		**SAP on Senate NDAA:** "The bill includes other troubling provisions affecting the Department. For example, it would rigidly prescribe the use of a wide range of contracting methods in circumstances that history has proven are not appropriate or efficient in meeting the

bill also places a premium on limiting the use of cost contracts that have required expensive government unique processes to manage and focusing on a transition to more commercial like fixed price contracts and accounting systems and methods. The NDAA requires the secretary of each military department and the head of each of the defense agencies to pay a penalty for some uses of cost-type contracts that are awarded over the next five fiscal years. These funds would be used to support innovative prototyping programs. The bill also established a preference for fixed-price contracts and established an approval mechanism for the use of cost-type contracts over $5 million in value. The effect of the overuse of cost-type contracts is the narrowing of the industrial base as commercial firms make a choice not to invest in the unique accounting and financial systems necessary to compete for a cost contract. This expensive barrier to entry has resulted in a smaller pool of defense-unique companies that can comply with government-unique requirements necessary to execute a cost contract. Commercial companies that choose not to invest in expensive government-unique accounting systems are often deterred from doing business with the Department when it chooses to use cost contracts. The provisions in the NDAA are designed to limit the use of cost contracts in the future and focus the Department on achieving greater value and innovation through accessing commercial, non-traditional, and small business contractors that are nimble enough to operate in a fixed-price environment."[1]		military's needs. . . . The Administration objects to the provision in section 811, which would create a new Defense-specific CAS [Cost Accounting Standards] Board to create standards addressing the measurement, assignment, and allocation of contractor costs. . . . The Administration objects to section 826, which would require the Secretary of each military department and the head of each of the defense agencies to pay a penalty for some uses of cost-type contracts that are awarded over the next five fiscal years. Section 826 would unnecessarily constrain flexibility to tailor contract types for a given requirement. It also creates a complex financial transaction process that, to be auditable, will require extremely burdensome procedures. The Administration also objects to section 827, which would require higher level approval for the use of other than fixed-price contracts. This requirement is unnecessary and would result in the Department experiencing increased costs in situations where a cost-type contract would have been more appropriate. Acquisition officials and contracting officers should have the full range of contract types available to structure business arrangements that achieve a reasonable balance of risk between the Government and the contractor, while providing the contractor with the greatest incentive for efficient and economical performance. There is extensive history that demonstrates conclusively that fixed-price development is not in the Government or industry's interest in many circumstances."[2]

[1] U.S. Senate Armed Services Committee, *National Defense Authorization Act for Fiscal Year 2017*, http://www.armed-services.senate.gov/imo/media/doc/FY17%20NDAA%20Bill%20Summary.pdf.
[2] Executive Office of the President, "Statement of Administration Policy: S. 2943-National Defense Authorization Act for Fiscal Year 2017," June 7, 2016,

ASSESSMENT

The Senate bill operates from the premise that DoD will continue to use cost-type contracts for activities such as research and development unless presented with powerful incentives against their use. It further operates from the premise that the use of these contracts discourages participation by commercial firms and other non-traditional contractors. Both of these premises may well be correct; however, it does not seem likely that DoD's painful past experience with fixed price development contracts can simply be dismissed. There are important reasons why fixed price development contracts have led to substantial cost growth in the past, and also important reasons why DoD has ended up paying the lion's share of these cost overruns in almost every case. While the Senate report makes a strong case for the need for a new business model for defense R&D, it is less persuasive that DoD's traditional model is so outdated that it must be strongly discouraged from future use, and it does not provide a clear alternative. The requirement for DoD to develop new cost accounting standards more closely aligned with commercial accounting standards may be a promising step toward defining a new business model for defense R&D, but DoD is given no grace period to accomplish this task before penalties set in, and it is not clear that any new business model developed and implemented by the new cost accounting standards would be exempt from the penalties even if successfully developed.

RECOMMENDATION FOR WAY FORWARD

Because the Senate bill correctly identifies the need for an alternative business model for defense R&D in at least some cases, but does not implement a comprehensive near-term practical alternative to the current approach, the way forward is to retain a mandate for DoD to develop an alternative R&D business model or models but not to assume immediate success in this effort. The onerous approval requirements and financial penalties for the use of cost reimbursable contracts for R&D imposed in the Senate bill should be removed, or at a minimum, substantially delayed until DoD and Congress can assess whether clear and comprehensive alternative business models for defense R&D exist.

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https://www.whitehouse.gov/sites/default/files/omb/legislative/sap/114/saps2943s_20160607.pdf.