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Defense Acquisition Trends 2022: A Preliminary Look

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Abstract

This report is the latest in an annual series examining trends in what the U.S. Department of Defense (DoD) is buying, how the DoD is buying it, and from whom the DoD is buying. Fiscal Year (FY) 2021 proved to be the end of a five-year bounce back in defense contract spending, with contract obligations dropping to \$380.1 billion, a 10% decline from FY2020 but still 28% higher than the FY2015 trough. This year's study focuses on the first year to partially fall under the new administration and examines how present trends align with the newly released National Defense Strategy fact sheet (DoD, 2022). The new administration has maintained a concern with speeding force development and technological adaption that justifies a continued focus on research and development in both contracting and other transaction authority (OTA) agreements. Additionally, this report includes analysis of the topline DoD contracting trends with particular attention to the report on the State of Competition within the Defense Industrial Base.

Introduction

This paper explores trends in defense acquisition in the transition year of Fiscal Year (FY) 2021, the end of a half decade of growth in defense contract obligations and the first to be partially administered by the Biden administration. The paper will look at two overarching questions: How have purchasing priorities shifted? How has the approach to the industrial base shifted? In answering these questions, the paper looks to the 2022 National Defense Strategy (DoD), which was released subsequent to this data and at the time of this writing is only publicly available in two-page factsheet form.

In addition, this analysis is informed by the recent report on the State of Competition within the Defense Industrial Base, which outlines five recommendations for increasing competition within the defense industrial base: strengthening merger oversight, addressing intellectual property limitations, increasing new entrants, increasing opportunities for small business, and implementing sector-specific supply chain resiliency plans (Office of the Under Secretary of Defense for Acquisition and Sustainment, 2022, pp. 1–2).

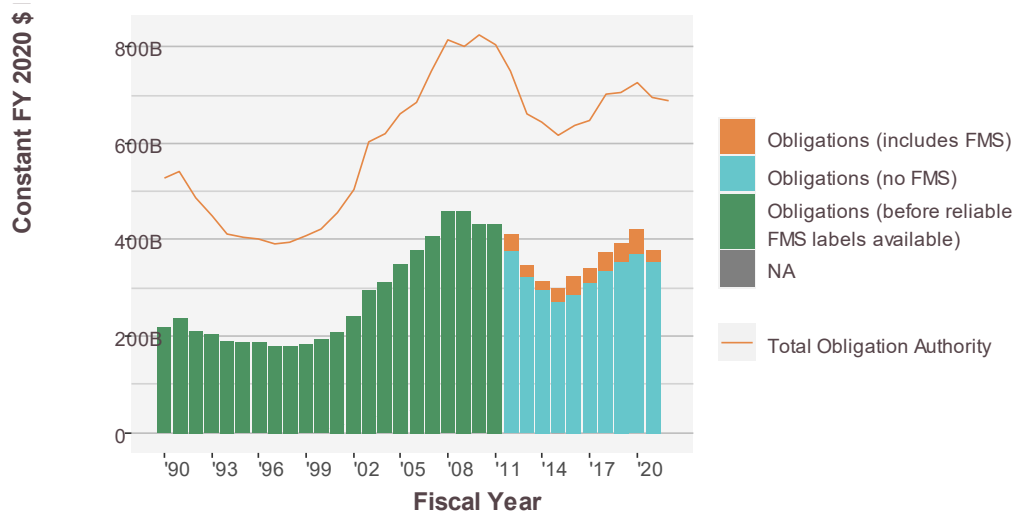
This report uses the methodology employed in a range of CSIS reports on federal contracting. For over a decade, the Defense-Industrial Initiatives Group (DIIG) has issued a series of analytical reports on federal contract spending for national security by the government. These reports are built on Federal Procurement Data System (FPDS) data, which is downloaded in bulk from USAspending.gov, and, for other transaction authority data, from SAM.gov. DIIG now maintains its own database of federal spending, which includes data from 1990 to 2021. This database is a composite of FPDS and DD350 data. All dollar figures are in constant FY2020 dollars, using Office of Management and Budget (OMB) deflators. For



additional information about the CSIS contracting data analysis methodology, see <https://github.com/CSISdefense/Lookup-Tables>.

Budgetary Context

The total obligation authority for the Department of Defense (DoD) declined from \$725.8 billion in FY2022 to \$697.5 billion in FY2021, a 4% reduction. These drops marked the end of a five-year bounce back in both defense budgets and contract obligations that started in FY2016 with the budget cap induced trough in FY2015. As shown in Figure 1, the decline was larger for contract spending with FY2021 with only \$380.1 billion in obligations, representing a 10% drop from the \$421.3 billion obligated in the prior year.



Source: FPDS, FY 2022 DoD Greenb.

Figure 1. Defense Contract Obligations Versus Defense Total Obligation Authority, FY1990–FY2021

Defense contract obligations during this bounce back had steadily grown faster than defense budgets, peaking in FY2020 where the ratio of defense contract obligations to total obligation authority was the highest through the past three decades. This pattern flipped in FY2021, with contract spending falling faster than the budgeted obligation authority. One factor in this rise and fall was contracting for foreign military spending (FMS), which uses the U.S. defense acquisition system but relies on funding by international allies and partners or U.S. security assistance rather than the traditional U.S. defense budget.¹ This measure does overestimate total FMS because the contracts can also include a portion for use by the U.S. government. Nonetheless, it's remarkable that the portion of defense contract obligations with some FMS funding declined from \$50.3 billion in FY2020 to \$24.4 billion in FY2021, a reduction by more than half. One factor in the decline is that FY2020 included major multi-year contracts for systems with international components, most notably the F-35 Joint Strike Fighter. That said, the incoming Biden administration also did place a hold on some transfers to Saudi Arabia and the United Arab Emirates in an attempt to place pressure on those nations to bring an end to the war in Yemen.

The crisis caused by the unprovoked invasion of Ukraine by Russia has helped inspire increases in both the U.S. defense budget and agreements for arms transfers in FY2022, so the

¹ The Federal Procurement Data System provides enough information to identify the vast majority of contracts that include FMS spending, starting in FY2012. This is made possible by a field that directly identifies foreign funding and by reliance on treasury account code reporting that allows for the identification of foreign funding accounts.



FY2021 decline likely does not herald the start of a new drawdown. Moreover, the challenging presidential transition that overlapped with the start of FY2021 also slowed the ability of the incoming administration to put their priorities into action. Thus this FY2021 should be interpreted as an important transition year and reset, but not necessarily indicative of trends to come even before accounting for shifts in response to the war in Ukraine.

Another notable shift in topline spending occurred in FY2021 as the five-year nearly exponential rise in other transaction authority (OTA) spending came to an end. OTA spending has an important role in adaptable acquisition framework reform efforts and was mentioned in the defense competition report alongside commercial solution opening approaches as a means of bringing in new entrants to defense acquisition (Office of the Under Secretary of Defense for Acquisition and Sustainment, 2022, p. 2). As shown in Figure 2 in the blue line, OTA spending dropped to \$15.1 billion in FY2021, a 7% decline from the \$16.22 billion spent in FY2020. That said, the apparent doubling from FY2019 to FY2020 was already misleading, as in both of the two most recent fiscal years, the U.S. government response to Covid-19 drove at least \$10 billion in OTA spending. This is in keeping with pandemics being identified as one of the “transboundary threats” mentioned in the 2022 National Defense Strategy. OTA spending will continue to merit close examination to see whether spending levels have reached a plateau or whether the remarkable rise in base and all options value shown in the orange line presages further notable increases. Because OTA data is only reliably available starting in FY2015, it is not included in the graphs and figures for the remainder of the report except where explicitly noted.

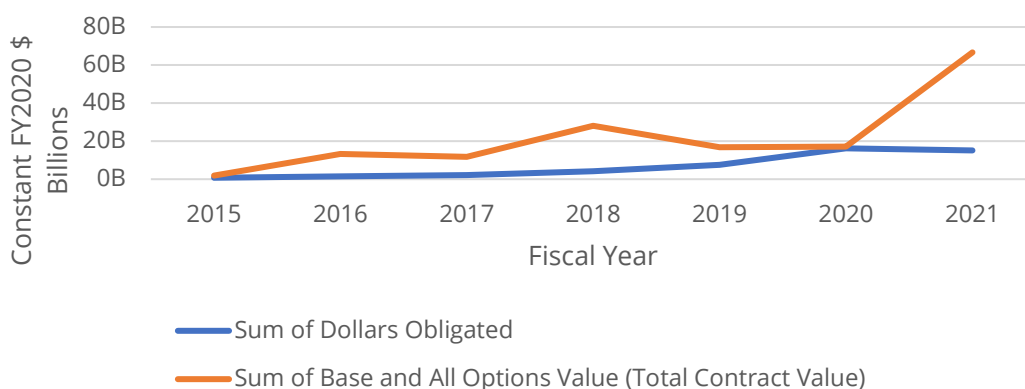


Figure 2. Defense OTA Spending, FY2015–FY2021

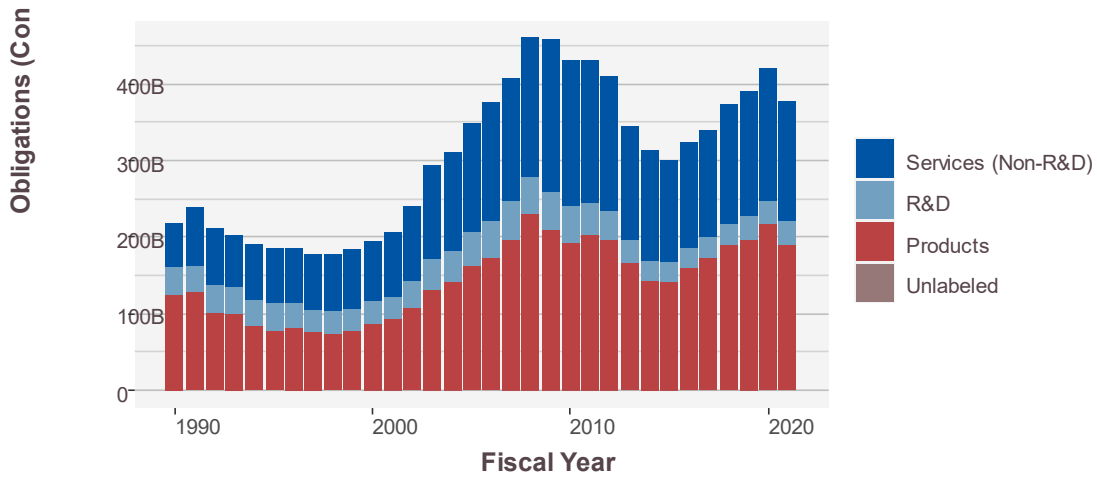
How Have Purchasing Priorities Shifted?

FY2021 saw a return to a more traditional share of obligations going to products spending, which fell from \$218 to \$191 billion. As will be covered in subsequent sections, much of this decline and FY2020’s heights can be attributed in part to major weapon system contracts that cover multiple years and have uneven spending patterns. Even with the whipsawing, products still accounted for a little over half of DoD contract obligations (50.2%). Service spending also declined, accounting for \$158.2 billion in FY2021, 9% below the prior year’s \$173 billion.

In keeping with the National Defense Strategy fact sheet’s emphasis goal to “accelerate force development,” the one category that increased in FY2021 was R&D, which rose to \$30.9 billion in FY2021, a 2% increase over the \$30.2 billion in obligations in FY2020. While R&D contract spending has still grown slightly slower than defense spending overall since the



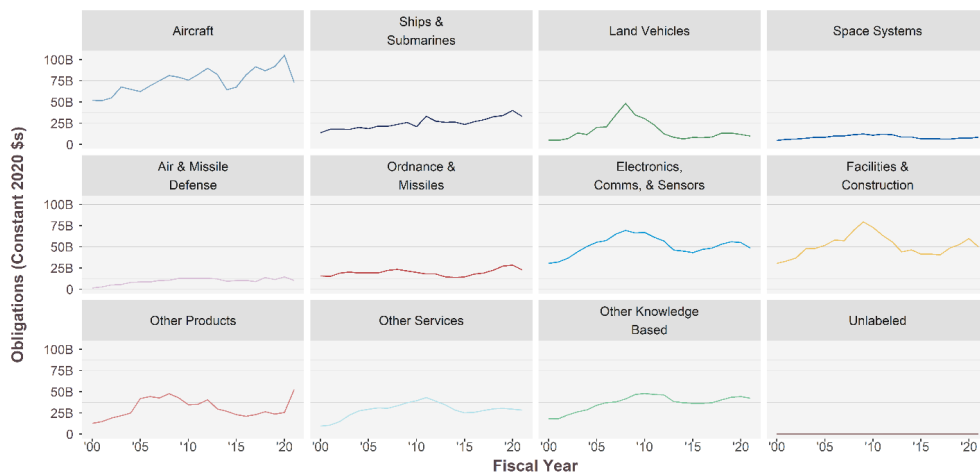
FY2015 trough, 26 and 28% respectively, as is covered in Figure 3, this contract spending is supplemented by significant growth in OTA R&D expenditures over the same period.



Source: FPDS; CSIS analysis

Figure 3. Defense Contract Obligations by Product, Service, and R&D, FY1990–FY2021

The DoD has been making hefty investments across the defense enterprise; however, in FY2021 the overall 10% decline reflected funding decreases across almost all platform portfolios. As seen in Figure 4, over the last several years spending on aircraft and ships and submarines has hit record highs. In 2021, those two leading categories have declined by 30% and 18% respectively, though this reflects that their procurement processes often involve lumpy orders with obligations for contracts lasting multiple years peaking in FY2020 and covering the spending valley FY2021. Given the FY2023 budget, the services modernization priorities, and the war in Ukraine, this decline is unlikely to be sustained. Ordnance and missiles is an important category to watch—even after declining 20% in FY2021 it is still the weapons system category that has grown the most since the trough in FY2015, increasing by 59%. Nonetheless, replacing defense articles given to Ukraine and the development and deployment of hypersonic missiles and other advanced ordnances will likely see the category growing again.



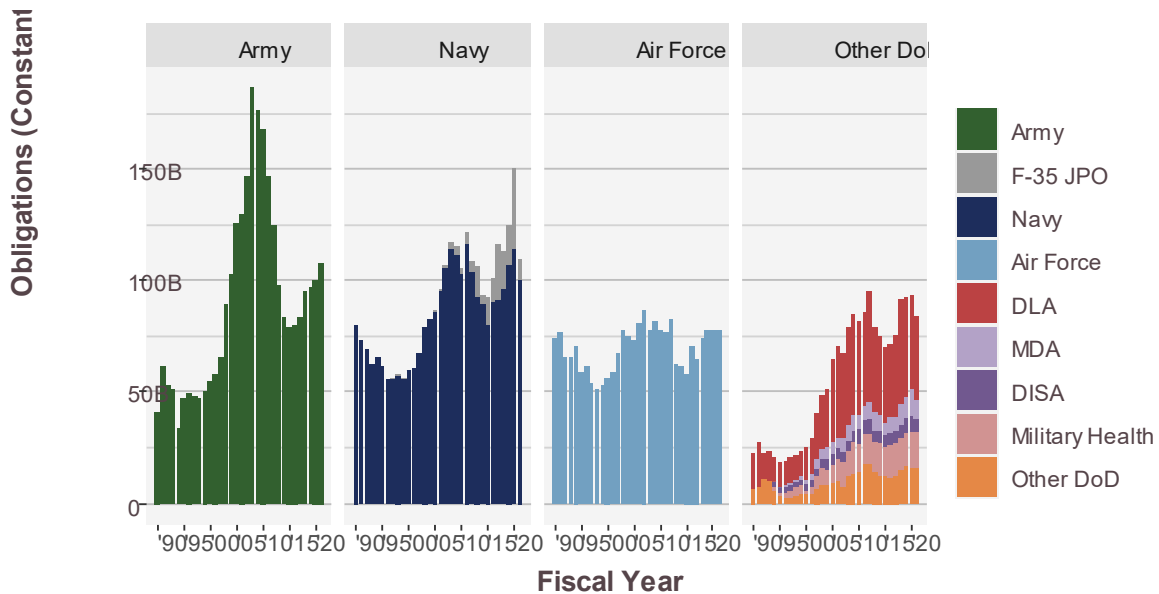
Source: FPDS; CSIS analysis.

Figure 4. Defense Contract Obligations by Platform Portfolio, FY1990–FY2021



Only two portfolios experienced notable growth: other products which more than doubled, increasing 106% largely to cover expenditures relating to the government’s Covid-19 response. More pertinent to traditional defense acquisition, space system obligations increased by 19% in FY2021, growing from \$7.2 to \$8.6 billion. In previous years, CSIS had noted that this category was growing slower than the overall defense spending increases despite being one of the categories emphasized in the prior national defense strategy, likely partially because the space spending is thought to have a significant classified component.

Spending across the services remained largely flat, as shown in Figure 5. The 8% FY2021 increase in Army spending was driven largely by the Covid-19 response effort, which the Army contracted. Additionally, Army spending air and missile defense as well as ordnance and missiles decreased in FY2021, which does not align with the predicted shifts in spending as the service works to operate in a higher-level threat environment. Air Force spending has remained largely flat, with a decline that rounds to a 0% change, despite sizeable investments in the B-21 program and Ground Based Strategic Deterrent. Air Force spending on classified programs (including NGAD in FY2021) may have resulted in an overall increase in spending. Despite flat topline spending, the Air Force does seem to be making sizable investments in order to return to an era of great power competition.



Source: FPDS and CSIS

Figure 5. Defense Contract Obligations by DoD Component, FY1990–FY2021

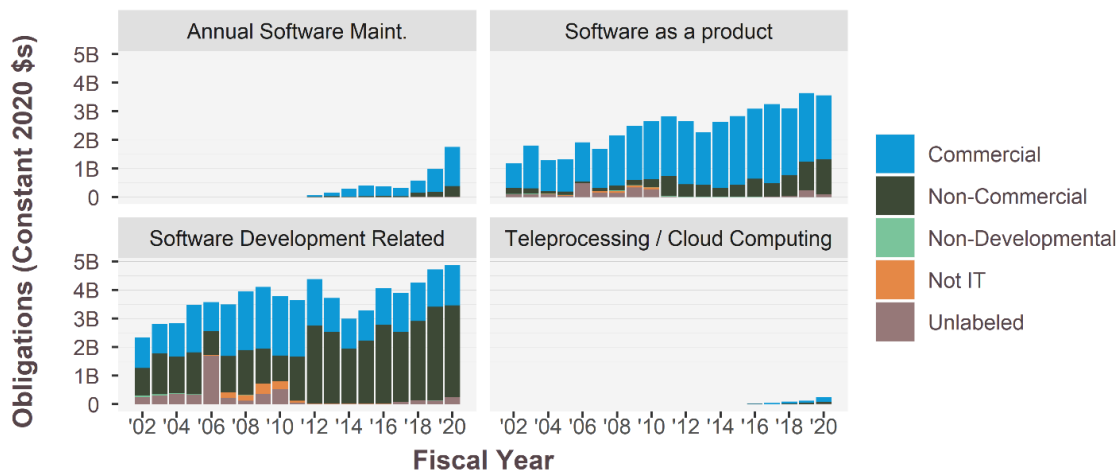
Turning to other defense agencies, the Defense Logistics Agency is the largest contract spender and declined to \$38.5 billion in FY2021, an 8% drop. The military health agencies, including Tricare and the Defense Health Program, were an exception to the larger decline, growing to \$15.7 billion in FY2021, a 2% increase. In contrast, in FY2021 the Missile Defense Agency fell to \$8.7 billion and the Defense Information System Agency fell to \$5.9 billion, declines of 30% and 23% respectively, both faster than the overall decline.

Navy spending declined in FY2021 for a variety of reasons, though that decline in spending does not necessarily mean that the Navy is seeing cuts to its capabilities, operational tempo, or readiness. First, in FY2020 the F-35 JPO placed an order for a low rate initial production lot of F-35s, an order that happens every few years. That order, which covers



several years of procurement, did not repeat in FY2021, resulting in a one-year spending drop from \$35.1 to \$9.7 billion. The decrease in Navy spending that is not related to the F-35 JPO is more complex. In FY2021 Navy spending on ships and submarines decreased. This is in part because the Navy authorized long lead time procurement on several submarines and ships in FY2020 that covered multiple years of procurement, meaning the cost that covers multiyear procurement will show up unevenly in FY2020. Across all other platform portfolios spending remained largely flat, making it probable that “lumpy” contracting is largely to blame for the Navy’s decline in spending, and not a strategic decision to underinvest in the service despite renewed focus on the Indo-Pacific region.

Reflecting the report’s emphasis on rapidly deploying technology to military operators, spending on software specifically is worth a closer look. Figure 6 shows prime contract spending for software, which will predominantly fall in the electronics, comms, and sensors platform portfolio. This represents only a portion of total DoD software spending, as much of the effort goes towards software embedded in larger weapon systems that is not broken out in separate contracts. Nonetheless, software acquisition has been a perennial challenge for the DoD and it is worth taking a closer look at changes in the extent of direct purchase and forms of acquisition.



Source: FPDS; CSIS analysis.

Figure 5. Defense Contract Obligations for Software by Commercial Status, FY2002–FY2020

Unsurprising, in FY2020 spending on prime contracts for software continued to increase across the DoD, growing to \$10.4 billion, a 11% increase. Two increases in spending are critical to understanding the future of IT acquisition: annual software maintenance and cloud computing. Historically, the DoD has bought much of its commercial software, shown in sky blue, as a product that included a permanent license but would need to be replaced as it went obsolete. In FY2020 the DoD spent \$3.6 billion on software as a product, a 1% decline from FY2019. Annual software maintenance is equivalent to the commercial software as a service model. Contracting software as a service allows agencies to upgrade their capabilities, patch vulnerabilities, and better manage costs. The DoD spent \$1.75 billion on annual software maintenance in FY2020, less than the software as a product or paying for software development directly, but an 81% increase over the prior years. FY2020 spending on teleprocessing and cloud computing still has a low baseline of only \$0.26 billion dollars in FY2020, but this amount represents a doubling over the previous year. While this is not evidence of a new acquisition approach, it demonstrates that the department is serious about developing cloud solutions for



both warfighters at the tactical edge and support agencies managing vast data and physical enterprises. For more on these information technology issues, see *Leveraging Networks in Future Operations* by Gregory Sanders and Rhys McCormick (2022).

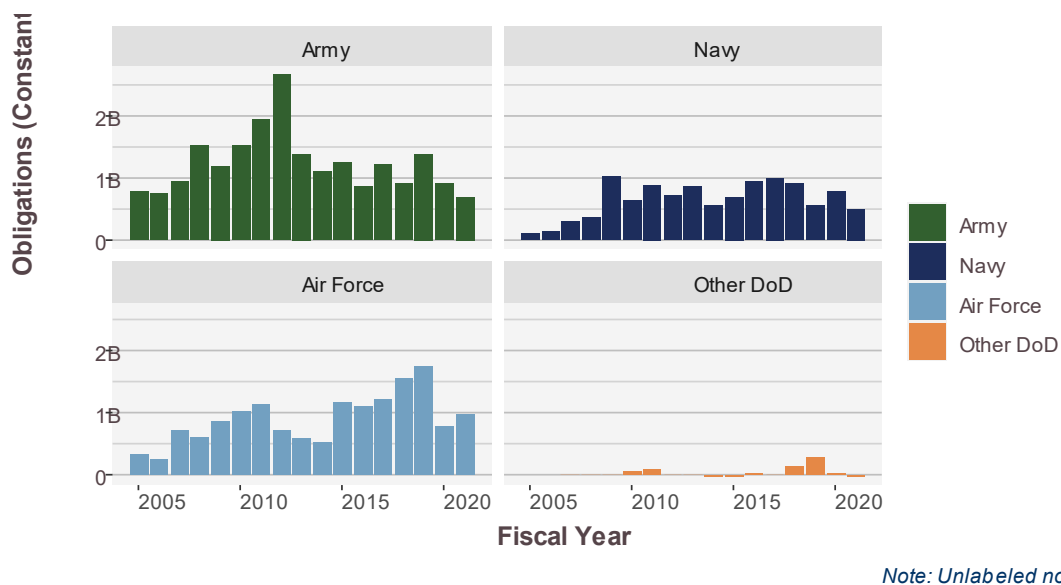


Figure 6. Defense Contract Obligations for Remotely Crewed Systems, FY2005–FY2021

Remotely crewed systems have long offered operation advantages to the department and to operators. These advantages, which include decreased operational costs and lower risks to personnel, have led the department to spend billions on the systems. Remotely crewed systems are difficult to track in FPDS, but Figure 7 is a first attempt to bring more transparency to this category. Unlike other systems that the DoD buys, uncrewed systems often include a higher level of commercial components. Sustained DoD spending over the last decade is partially indicative of greater acceptance of commercial solutions for defense applications that feature significant amounts of emerging technologies. That said, the comparatively flat spending in recent years, with only \$2.5 billion in FY2021, indicates that to the extent new spending is happening, it is often either taking place in the classified space or is poorly captured by existing product or service classifications that focus on aerial systems as a product.² For a broader discussion on remotely crewed systems see *Reaching Farther, Risking Less*, a CSIS report by Rose Butchart and Gregory Sanders (2021).

How Has the Approach to the Industrial Base Shifted?

Increasing the speed of modernization and technological adoption is the most clear-cut objective for the acquisition system in the strategy. This is a continuation of the objectives of the larger adaptable acquisition framework. One way to measure speed is to look at the speed of individual projects, as Morgan Dwyer (2020) has done in an examination of cycle time and the centralization or decentralization of the acquisition system. Her findings, along with those of David Tate (2016), do raise questions about how achievable attempts at speed will be and the way they could be undermined in the absence of effective oversight or by setting ambitions such as ambitious software goals that may be incompatible with moving fast. Much of this literature

² There is a single product or service category for Unmanned Aircraft (1550), but no codes for R&D or services related to remotely crewed systems or for the purchase of ground or maritime remotely crewed systems.



focuses on major defense acquisition programs (MDAPs), both because these are the largest and typically most ambitious weapon systems but also because there is a wealth of reporting on the cost and schedule of these efforts. The middle tier of acquisition, which emphasizes the ability to deliver results in less than five years, does not have such rigorous reporting requirements, and is especially difficult to track using publicly available data. This is in part an intentional effort to avoid replicating some of the negative dynamics of the MDAP system, but it also makes it challenging to evaluate how the acquisition system is performing with regard to the strategy's objectives.

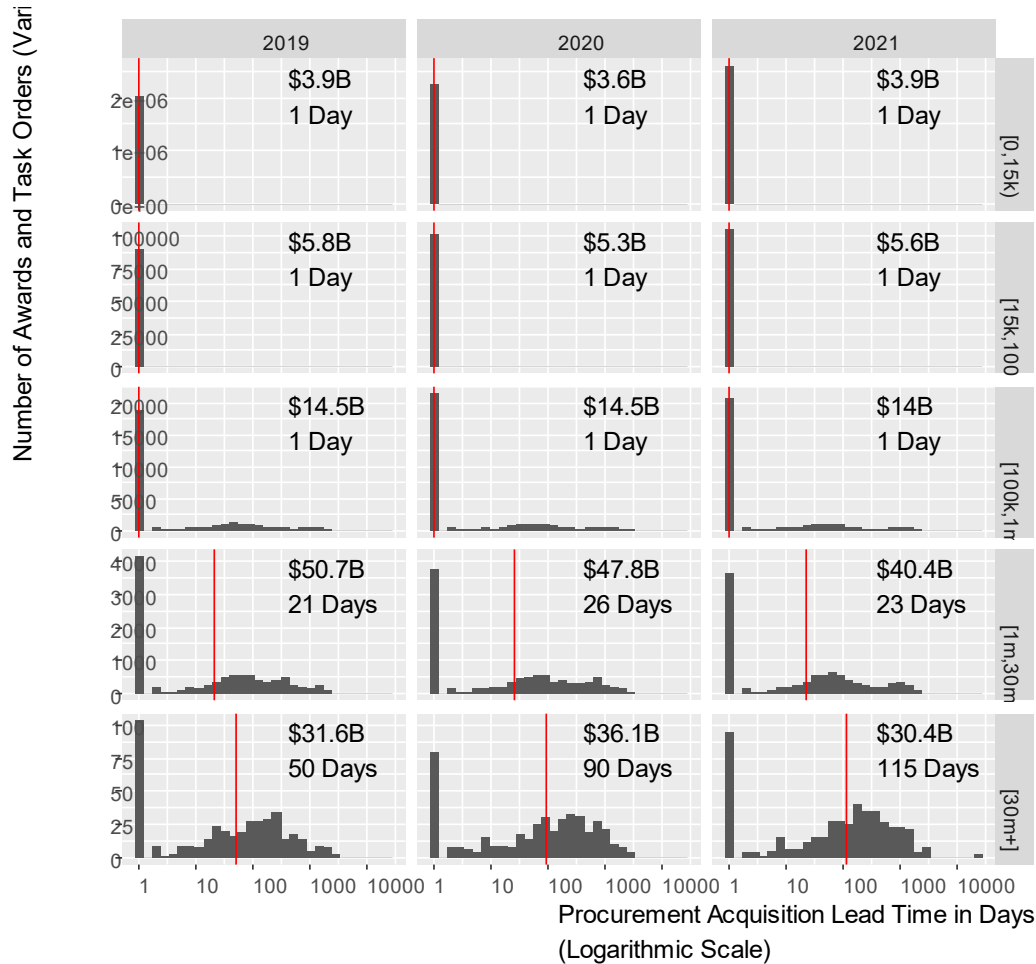


Figure 7. PALT by Start Year for Single-Award and Initial Contract Ceiling, FY2019–FY2021

Happily, reformers have provided another way to measure the speed of the acquisition system by mandating the development and reporting of a consistent definition of procurement award lead time (PALT; Berteau, 2018). PALT captures part of the lead time for the contracting system, the amount of time between the initial solicitation date and the award date for contract. PALT is not all encompassing; much time can pass between the desire for a good or service and solicitation, and of course delays can occur during the contracting process. Nonetheless, by establishing a consistent definition and then mandating the reporting of solicitation dates for DoD contracts above the simplified transaction threshold, reformers created a valuable tool for evaluating the agility of acquisition system and the magnitude of hurdles to getting projects



under way (Assad, 2018).³ One vivid example of why PALT matters is that the space launch industry will sometimes have unused capacity as launch time approaches, offering a chance at a dramatically cheaper way to put a ready satellite into space, but only if the contracting can be complete in advance of the launch date.

To evaluate efforts to speed the defense acquisition system, Figures 8 and 9 look at the distribution of PALT by contract start year, with each year being its own column, and by initial contract ceiling, with each bucket of range of contract ceilings reported in a separate row. Each row of these graphs uses a different y-axis scale, because there are orders of magnitude more smaller contracts than larger contracts. That said, as the dollar figures in each cell show, even though contracts with a ceiling above \$1 million (shown in the bottom two rows of each graph) account for only thousands of the millions of awards and task orders given in these years, they also account for the majority of the obligations.

These graphs evaluate PALT by looking at the median number of days from solicitation to signed contract in each cost ceiling category for each start year.⁴ Figure 8 reports on task orders for single-award indefinite delivery contracts (IDCs) as well as IDCs of unknown type. These vehicles are examined separately because these vehicles often pre-specify almost all aspects of a contract, allowing for straightforward award of awarding within a single day.⁵ Single-award IDC task orders can include very complex tasks subject to significant negotiation, witness the wider range of PALTs in the lower rows of Figure 8; however the starting conditions of an existing contract with a single vendor makes them different enough to merit separate consideration from other contract types.

For single-award IDCs, the typical contracts with a ceiling under \$1 million is executed in a day and the average PALT is less than 10 days. Higher ceiling single-award IDCs are more concerning, as both average and median PALTs are higher in FY2021 than in FY2019 and on the average PALT for task orders with ceilings of \$30 million or higher rising to over a year and the median task order taking 115 days, an increase of 28% from FY2020 contracts.

For other contract types including definitive award and a range of multiple-award vehicles, PALT is getting worse for large contracts, but there are signs of improvements for some contracts with ceilings below \$1 million. The signs of improvement for smaller contracts is corroborated by the competition report's finding that the DoD significantly improved on meeting the required 90-day notification to small businesses of decision to award as well as the Small Business Administration's recommended contract award times of 180 days from the close of the initial SBIR/STTR solicitation" (Office of the Under Secretary of Defense for Acquisition and Sustainment, 2022, p. 15). The speed of awarding contracts with ceilings above \$1 million had shown improvement in FY2020, only to backslide to longer median and mean value in FY2021, with contracts between \$1 million and \$30 million having a median PALT of 81 days and those above \$30 million having a PALT of 241. The changes for contacts with ceilings between \$15,000 and \$1,000,000 showed more consistent progress, with lower median and mean times, all now below 90 days.

³ Reporting was required as of June 19, 2018. This means that complete reporting is not available for FY2018 and thus Figures 8 and 9 start with contracts issued in FY2019 for greater comparability.

⁴ The authors chose to use the median in part because of concerns over outlier solicitation dates. Over 200 contracts had solicitation dates that were at least 10 years old, and those included ranged back to October 1, 1957. Those prior to the establishment of DoD in 1947 were treated as input errors and removed from the data set.

⁵ This may happen when "the action is the award of an order using existing pre-priced line items under an indefinite-delivery contract where no proposal is required (i.e. there are no elements to delivery or performance to negotiate)" (Assad, 2018, p. 1).



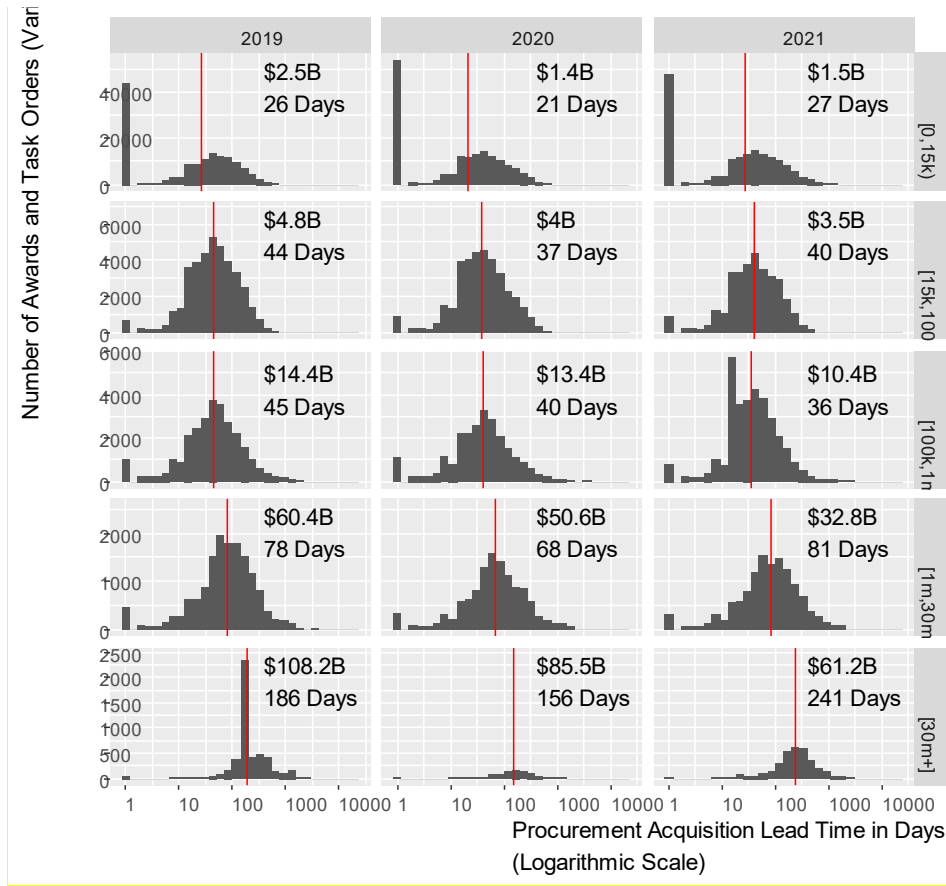
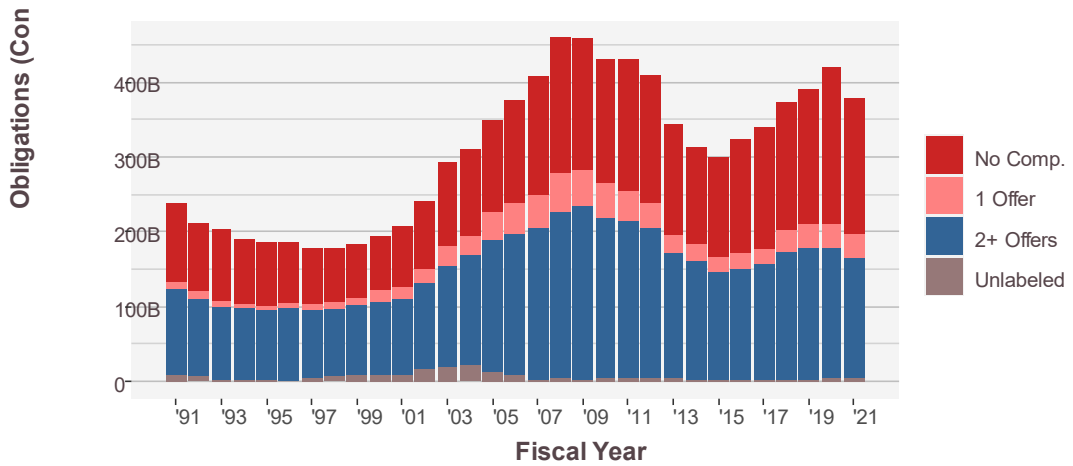


Figure 9. PALT for Other Awards and Task Orders by Start Year and Initial Contract Ceiling, FY2019–FY2021

While not covered directly in the strategy, competition has been an area of focus for the Biden administration and FY2020 had been a low point in competition shares for this century, driven by the procurement of major weapon systems such as the F-35 (Sanders et al., 2022).



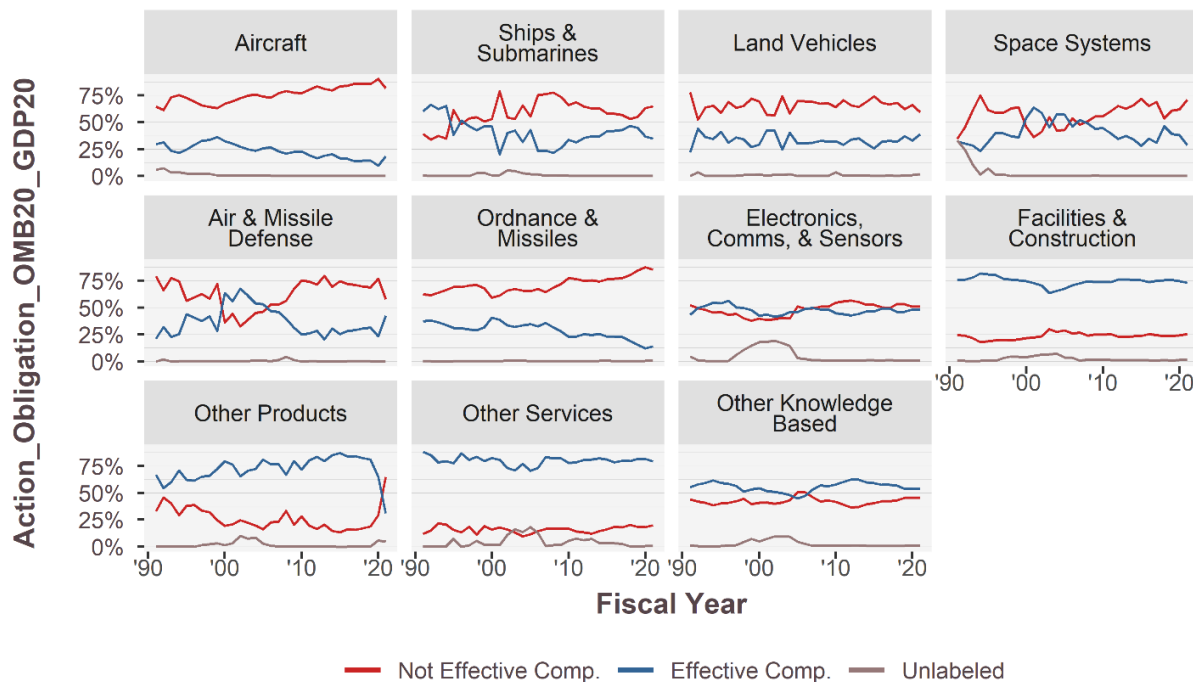
Source: FPDS; CSI

Figure 10. Defense Contract Obligations by Extent of Competition, FY1991–FY2021



In FY2021, competition for contracts across the department increased, but only 42% of obligations had been competed with two or more offers, an improvement but still the second lowest rate for the period shown in Figure 11. During that period, \$182.8 billion went to contracts awarded without competition, a 13% decline. Obligations also declined for all forms of contracts awarded with competition, although the smallest decline was for those that had received only a single offer, which fell to \$32.6 billion, a drop of 4%. The small move toward more competition is in line with the desired direction of the department's political leadership, but the report on the state of competition noted a range of concern with consolidation, intellectual property, and data rights, and in particular with a declining number of prime contractors in major weapon categories (Office of the Under Secretary of Defense for Acquisition and Sustainment, 2022, p. 8). As shown in Figure 11, the rate of competition varies greatly between platform portfolios. In some cases the shifts can be clearly attributed to the movement of major weapons systems through their life cycle, with the joint strike fighter being a sufficiently large program to reshape the aircraft sector. Other cases, such as ordnance and missiles, are shaped by wider budgetary and consolidation decisions. The competition report calls out the missiles and munitions sector as one where competition is a concern:

The growing pressure on defense budgets to reduce costs and spending has negative effects on munitions programs—including service cuts and congressional program reductions. While the budgets for munitions have not returned to their 2015 low, the services tend to flatten M&M procurements or cyclically push procurements into the out year. As commodity costs grow, these factors drive suppliers to exit the market rather than join it, such as automation solutions companies pivoting away from lower-margin defense programs. (Office of the Under Secretary of Defense for Acquisition and Sustainment, 2022, p. 19)



Source: FPDS; CSIS analysis.

Figure 8. Competitive Market Share by Platform Portfolio, FY1991–FY2021

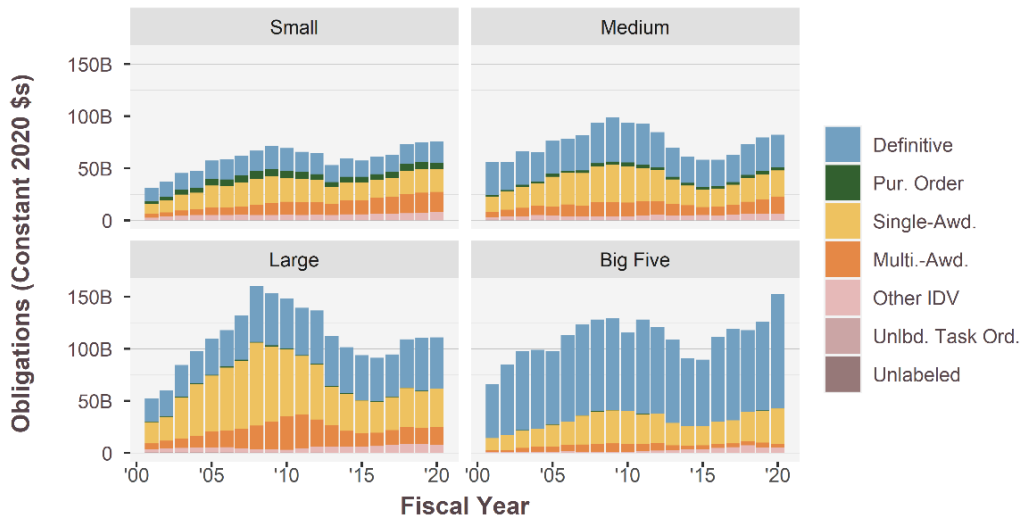


A lack of competition certainly hurts the DoD’s ability to bring in innovative technologies while continuing to manage down procurement costs. As the DoD starts to have a full roster of political appointees confirmed, the department may be better able to mandate and drive effective competition, though those results will not start to be seen in spending and competition data until FY2022 or even possibly the FY2023 data.

Both the competition report and critics of the report such as David Berteau (2022) highlighted the challenges for new entrants to the acquisition system. The data underlines this concern—past CSIS research has found that the number of DoD new entrants had peaked in FY2005 only to steadily decline through FY2013 before holding relatively steady.⁶ More recently, “the total number of prime vendors serving the DoD fell to below 41.6 thousand in FY2020, a 10% decrease” (Sanders et al., 2022, p. 7). Contracting policy may be contributing this decline, “DOD officials and small business executives told [the Government Accountability Office] the category management initiative reduces opportunities for small businesses, which may have difficulty participating in large government-wide contracts such as the initiative’s Best in Class contracts” (Shear, 2021, p. 11). Figure 11 shows why this might be the case. Multiple-award IDCs and other indefinite delivery vehicles (IDV) constitute a growing share of obligations going to small and medium vendors. In FY2015, multiple-award IDCs and other IDVs constituted 33% and 21% of small and medium vendor obligations respectively; by FY2021 that portion rose to 39% for small vendors and 26% for medium vendors. The change is not so large as to suggest that it has played a decisive role in influencing the number of new entrants, although it does suggest there is merit in the goal listed in the competition report to “create more opportunities annually for small businesses to onboard onto contract vehicles and compete for contract awards” (Office of the Under Secretary of Defense for Acquisition and Sustainment, 2022, p. 16). That said, greater success in allowing small vendors to the on ramps to these vehicles would not address concerns raised by Berteau (2022) that “a small business can win contracts and become too large for set-aside programs, but DoD offers too few full-and-open competitions for those just-graduated companies.”

⁶ This peak can be partially explained by a lowering of the reporting threshold from \$25,000 to \$2,500 at roughly the same period. However, while the reporting of new entrants that had previously fallen under the threshold does explain why a peak occurred in FY2004 and FY2005, but does not explain why the number of new entrants steadily dropped in the years thereafter.





Source: FPDS; CSIS analysis.
 Note: The merger of Raytheon and United Technologies is took place in April 2020 and thus did not make the cutoff for inclusion in FY2020.
 Unlabeled vendor size excluded.

Figure 12. Defense Contract Obligations by Vendor Size and Vehicle, FY2000–FY2021

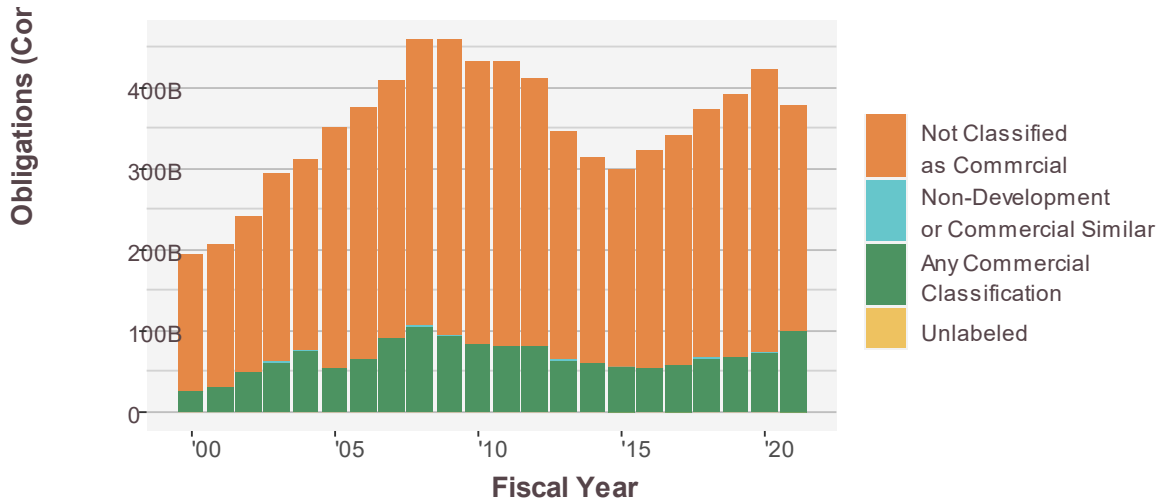
One approach the DoD has taken to increasing competition over the past few decades has been greater reliance on commercial contracting, which has the option to call on less restrictive acquisition requirements due to reliance on greater competition in commercial markets to ensure performance. The competition report cited a notable increase in use of these procedures:

According to DoD contract award data from the Federal Procurement Data System, the early 2000s saw commercial items make up 30–50% of all procurements. Since 2011, commercial items have consistently accounted for over 88% of new awards (and as high as 98% of new awards) across DoD. (Office of the Under Secretary of Defense for Acquisition and Sustainment, 2022, p. 12)

As shown in Figure 12, the share of dollars is notably lower than the share of awards, with only 26% of obligations, \$99 billion in FY2021, classified as commercial according to CSIS analysis.⁷ However, there was a striking increase in the use of commercial contracting in FY2021, with a 37% increase over the \$72.4 billion spent in FY2020. Throughout the FY2015–FY2020 period, obligations for commercial products and services grew only 32%, less than the 42% overall rise in defense contract obligations. This FY2021 spike has can be entirely explained by the Army’s purchase of other products in response to the Covid-19 epidemic.

⁷ The study team included any transaction that used any form of commercial acquisition procedures or that was classified as a commercial information technology. Both commercial products and services, to the extent they are described as such in FPDS, are captured in this analysis.





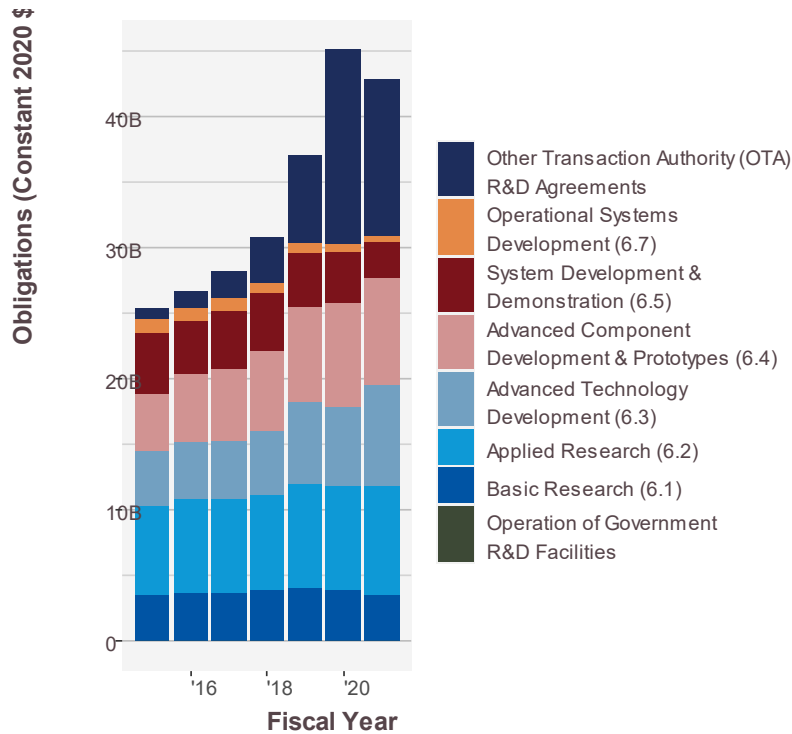
Source: FPDS; CSIS analysis.

Figure 13. Defense Contract Obligations for Commercial Items and Services

Finally, one major approach to bringing in commercial technology not covered by Figure 11 is the use of OTA. As covered in Figure 2, OTA expenditures declined by 7% in FY2020, a slightly slower rate than the 10% decline in traditional defense contracting. However, in R&D specifically, contract spending grew by 2% while OTA R&D expenditure dropped by 19%, from \$14.8 billion to \$11.9 billion. Even so, as shown in Figure 14, OTAs still represent 28% of combined contract and OTA R&D expenditures, the second highest share of the study period. In both FY2020 and FY2021, Covid-19 was a significant part of OTA expenditures, a topic which will merit further study as unlike contract expenditures tracked in FPDS, the relevance of OTA transaction is not officially reported and thus researchers must manually classify contracts and transactions.

Focus on traditional R&D contracting, both early and late phase R&D faced cuts with basic (6.1) research declining by 9% and system development (6.5) and demonstration and operational system development (6.7), falling by 28% and 40% respectively. The largest growth was in advanced component development (6.3), which grew by 27%. Given the need for rapid modernization, the DoD has clearly made trade-offs as it tries to strike a balance between basic research that will yield revolutionary technologies in decades, and more incremental gains in capability that the Joint Force and DoD need to be able to compete against more assertive global pacing threats. The DoD has proven increasingly capable of getting to the prototyping stage (6.4) with both OTA and traditional contracts, but translating those prototypes into procurement programs remains a challenge.





Source: FPDS and CSIS analysis.

Figure 9. Defense R&D Contract and OTA Obligations, FY2015–FY2021

Conclusions

The bounce back after the drawdown and budget caps has reached its end

Spending has declined by 10% in FY2021 with a broad based decline in contract obligations, falling at a faster rate than the 4% fall in budgetary total obligation authority. FY2022 may yet see an increase, though the role of inflation means that even still growing budgets may not be enough to result in a net increase in obligations to industry.

Responses to Covid-19 shaped spending priorities using tools aimed at commercial technology

In line with the strategy’s emphasis on responding to cross-boundary threats and integrating all tools of national power, the defense acquisition system supported the larger response to the present pandemic including notable jumps in Army spending for commercial products and FY2020’s dramatic increase in OTA spending. This example may merit closer to study to learn what successes and failures might be applied to future national emergencies.

R&D and space systems stood out as protected priorities even as overall obligations declined

R&D contract spending grew by 2%, although that growth was offset by a 19% decline in R&D OTA spending. Spending for space systems was the one portfolio focused on weapon systems that grew, increasing by 19% to \$8.6 billion.

Acquisition agility, as measured by PALT, is not improving for large contracts.

Three complete years of data on PALT is now available and unfortunately the story it tells does not show signs of improvement in FY2021 compared to the prior two years. Notably, the median length for a single-award IDC contract task order over \$30 million is 115 days, with



the average lead time being over a year (410.4 days). Complications to administration under Covid-19 conditions may have contributed to these delays, but the absence of progress potentially threatens the goals laid out in the NDS strategy. Administrative improvements were enabled by large data set analysis such as that researched by David Gill and Timothy Hawkins (2021). Another key aspect of the problem is the efforts for Planning, Programming, Budgeting, and Executing reform, as even the most efficient acquisition vehicles cannot result in a signed contract unless the money is authorized to pay for it.

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