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Defense Acquisition Trends 2020: A Preliminary Look

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Abstract

This paper presents a preliminary look at the Fiscal Year (FY) 2019 Department of Defense (DoD) contracting trends available in the Federal Procurement Data System (FPDS). This year's study focuses on whether there is an ongoing transformation in the defense acquisition system in response to the 2018 National Defense Strategy and use of new acquisition approaches such as Middle Tier acquisition and Other Transaction Authority Agreements. Furthermore, this study looks at whether there is an emerging new paradigm for the development of major weapon systems. Finally, this report includes analysis of the topline DoD contracting trends.

Introduction

Having incorporated the recently released fiscal year (FY) 2019 Department of Defense (DoD) contract data into the Center for Strategic and International Studies' (CSIS) long-running review of contract data, this paper explores the most prominent trends of what, how, and from whom the DoD has been buying. These trends provide vital information describing the status of defense acquisition as it sets out to undergo perhaps "the most transformational acquisition policy change we've seen in decades" (McCormick, 2019). These policy changes include, notably, a markedly increased emphasis on the use of authorities such as the Middle Tier of Acquisition and Other Transaction Authority agreements. Additionally, the FY 2019 contracting trends will provide a better understanding of how the acquisition system is responding to the priorities outlined in the 2018 National Defense Strategy (NDS). While the FY 2018 trends provided some preliminary insights, FY 2019 will be the first full fiscal year planned and executed under the 2018 National Defense Strategy.

This report uses the methodology used in 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 Daata System (FPDS) data, which is downloaded in bulk from USAspending.gov. DIIG now maintains its own database of federal spending that includes data from 1990–2019. This database is a composite of FPDS and DD350 data. For this report, the study team relied on FY 2000–FY 2019 data. All dollar figures are in constant FY 2019 dollars, using the latest Office of Management and Budget (OMB) deflators. For additional information about the CSIS contracting data analysis methodology, see https://github.com/CSISdefense/Lookup-Tables.

For this paper, CSIS focused on the following research questions:

- Area: Has there been a significant shift in the DoD's investment between and within the areas of products, services, and research and development (R&D) to reflect the 2018 National Defense Strategy priorities?
- Platform Portfolio: Have there been significant changes across the different sectors of the defense industrial base?
- R&D: Has the DoD started to recover from its trough in the development pipeline for major weapon systems?
- Other Transaction Authorities (OTA): What are the significant trends in OTA usage across the DoD, and how has the growth of OTAs affected the DoD's technology development efforts?
- Components: Have there been significant shifts in defense contracting trends between the major DoD components?

DoD Contract Spending in a Budgetary Context

Defense contract spending continued to grow in FY 2019, but at a lower rate than before, as overall defense spending has started to level off. As shown in Figure 1, total defense contract obligations increased from $365.4 billion in FY 2018 to $381.2 billion in FY 2019, a 4% increase. In FY 2019, contract obligations accounted for 55% of DoD total obligation authority (TOA), the third highest level over the last 20 years. Over the last four years, defense contract obligations have grown 31% since FY 2015, which was the last year of the previous defense drawdown. As budget levels appear set to remain flat with respect to inflation in the coming years, it is likely to be very challenging for contract obligations to maintain this large share of TOA.

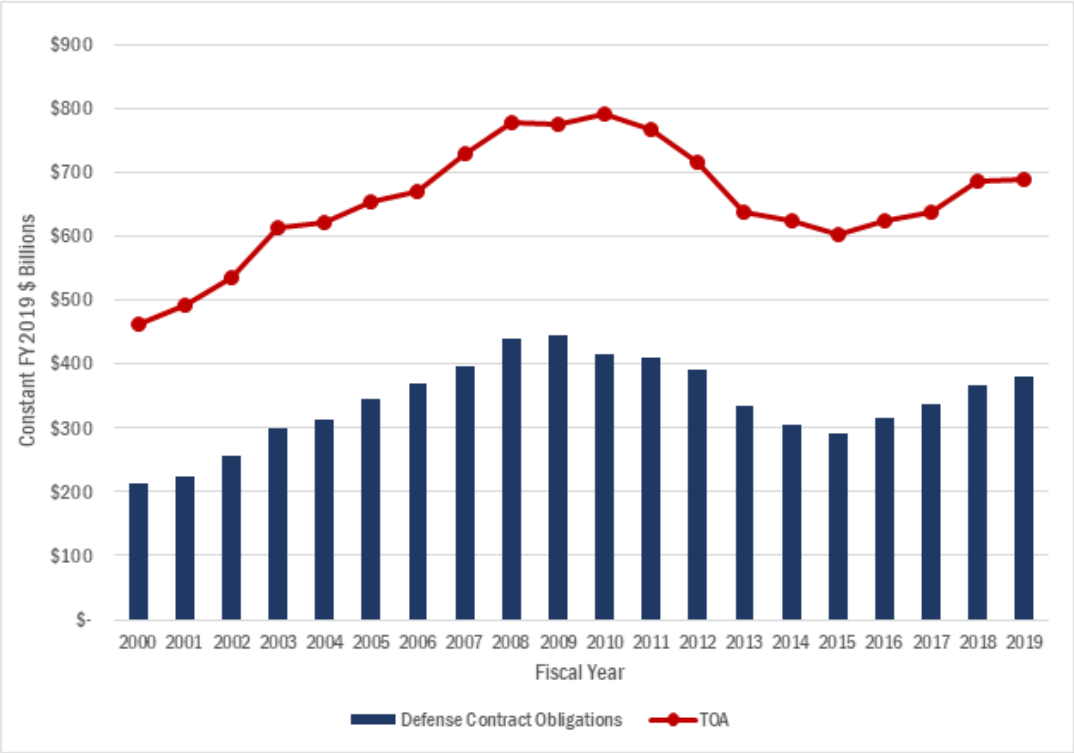

Figure 1. Defense Contract Obligations vs. Budget Authority, 2000–2019
FPDS; Department of Defense, *National Defense Budget Estimates for Fiscal Year 2020 (Green Book)*, Office of the Under Secretary of Defense (Comptroller), May 2019; Department of Defense, *Defense Budget Overview: United States Department of Defense Fiscal Year 2021 Budget Request*, Office of the Under Secretary of Defense (Comptroller/Chief Financial Officer), February 2020; CSIS analysis

What Is the DoD Buying?

Prior CSIS analysis has shown that there has not yet been a significant shift in the DoD's investment posture towards the emerging technologies emphasized in the 2018 National Defense Strategy as shown in contract data (McCormick, 2019). The FY 2019 defense contract data show that some shifts in the composition of the DoD's investment portfolio are starting to emerge. Defense products, which had seen the largest gains during the beginning of the defense contracting rebound, has started to slow down, increasing just 3% last year, a rate in-line with the total growth in the defense contracting rebound. Defense services continued its growth path from last year, increasing 13% in FY 2019, a rate significantly above the total growth in defense contracting. Finally, defense R&D contract obligations increased 13% in FY 2019. If you include both R&D contract and OTA obligations, defense R&D spending increased 22% in FY 2019. This is consistent with the observation in CSIS's FY 2018 analysis which showed that technology development is shifting decisively towards OTAs and away from traditional acquisition approaches.

Figure 2 shows defense contract obligations by area from FY 2000 to FY 2018.

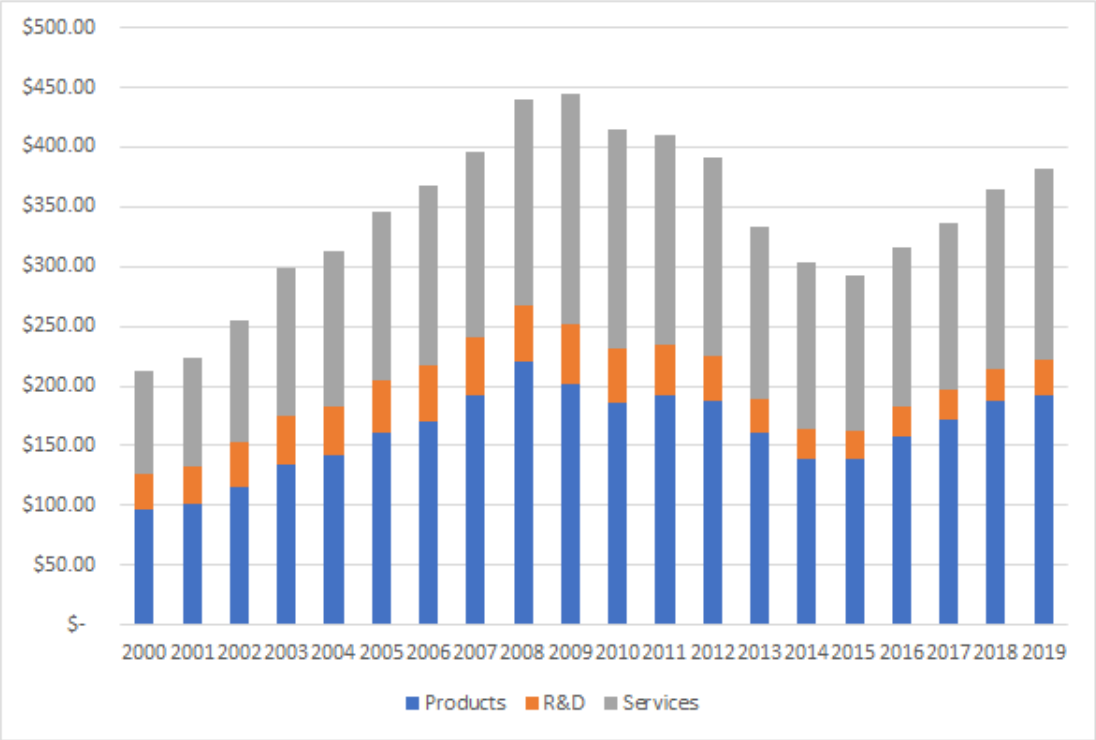

Figure 2. Defense Contract Obligations by Area, 2000–2019
FPDS; CSIS analysis

Defense Contract Obligations by Platform Portfolio

The data show that the trends were mixed in the platform portfolios emphasized in the NDS: air and missile defense; nuclear; space; cyberspace; and command, control, communications, computers and intelligence, surveillance, and reconnaissance (C4ISR; DoD, 2018).

Air & Missile Defense contract obligations continued to whipsaw over the course of the defense contracting rebound, declining 18% in FY 2019 despite their emphasis in the 2018 National Defense Strategy. Air & Missile Defense contract obligations fell from $13.7 billion in FY 2018 to $11.3 billion. Despite the decline in FY 2019, Air & Missile Defense contract obligations have increased 13% between FY 2015 and FY 2019.

Space Systems, which had been previously flat or slightly declining over the defense contracting rebound, saw substantial growth in defense contract obligations in FY 2019. Space Systems contract obligations increased from $6.1 billion in FY 2018 to $7.3 billion in FY 2019, a 20% increase. Despite this 20% increase, Space Systems contract obligations remain lower than the levels seen before sequestration and the defense drawdown.

Electronics, Communications & Sensors (EC&S) once again increased in FY 2019, continuing their constant steady growth throughout the defense contracting rebound. EC&S contract obligations increased 5% in FY 2019, a rate in line with the topline growth, going from $52.0 billion in FY 2018 to $54.7 billion in FY 2019. Between FY 2015 and FY 2019, EC&S contract obligations have increased 30%.

Ordnance and Missiles contract obligations increased 15% in FY 2019, a rate substantially higher than the overall defense contracting growth rate. In FY 2019, Ordnance

and Missiles contracts totaled $26.5 billion, the highest levels seen in the last 20 years. Between FY 2015 and FY 2019, Ordnance and Missiles contract obligations increased 79%, the largest percentage growth amongst all platform portfolios.

Aircraft defense contract obligations increased 6% in FY 2019, continuing the sector's whipsaw between growth and decline, an ongoing phenomenon since sequestration and the defense drawdown (McCormick, Hunter, & Sanders, 2017, p. 23). Over the last four years, Aircraft defense contract obligations rose from $65.7 billion in FY 2015 to $79.9 billion in FY 2016 and further rose to $89.9 billion in FY 2017, before falling to $84.8 billion in FY 2018 and then rising to $90.0 billion in FY 2019. In total, over the course of the defense contracting rebound, Aircraft defense contract obligations have increased 37% since FY 2015, a rate higher than topline growth (31%).

Figure 3 shows defense contract obligations by platform portfolio from FY 2000 to FY 2019.

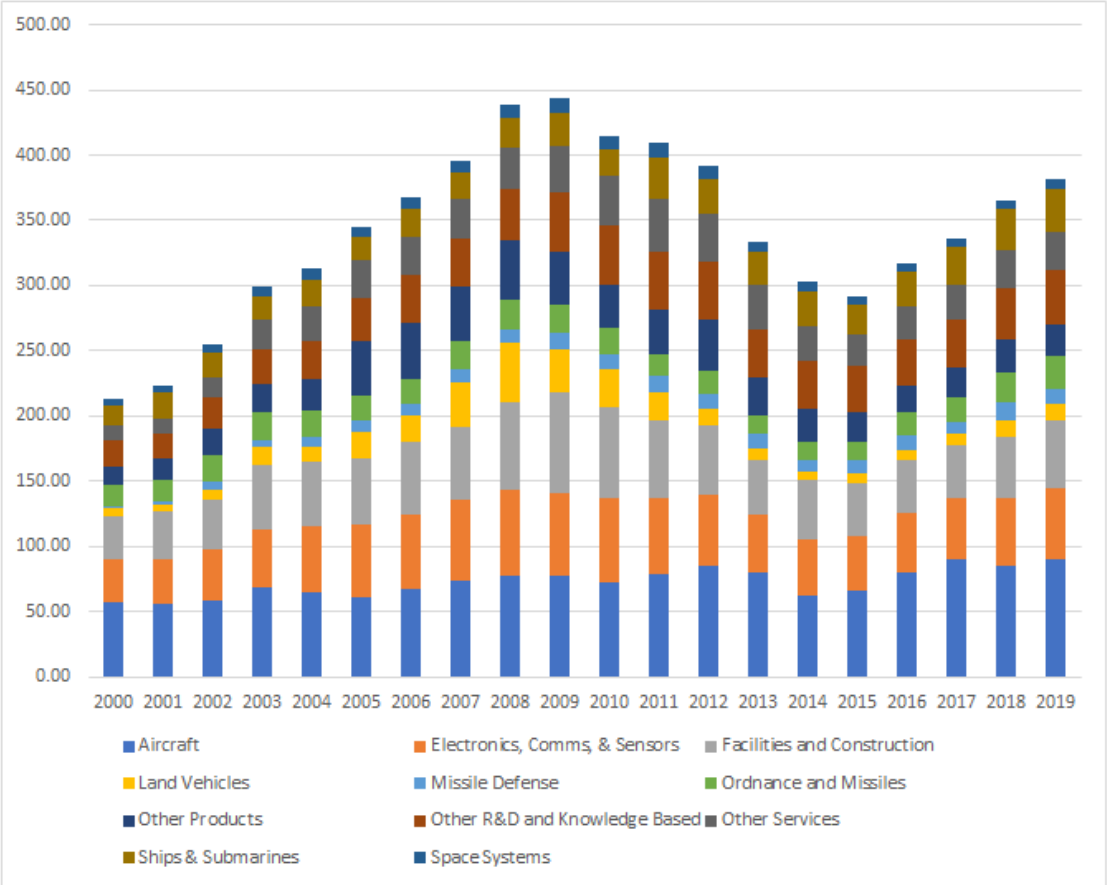

Figure 3. Defense Contract Obligations by Platform Portfolio, 2000–2019
FPDS; CSIS analysis

Defense Contract Obligations by Stage of R&D

Previous CSIS research showed that, in FY 2018, the "DoD has made some recovery in its development pipeline for major weapon systems, but recovery has been uneven across the different R&D activities" (McCormick, 2019). The FY 2019 data show that

the early and mid-stage R&D contracting has recovered, but not in the later stages of development pipeline for major weapon systems.

Defense Basic Research (6.1) contract obligations increased from $3.77 billion in FY 2018 to $3.95 in FY 2019, a 5% increase. Defense Applied Research (6.2) contract obligations increased 11% in FY 2019, rising from $7.02 billion to $7.78 billion. Defense Basic Research and Applied Research contract obligations both increased 18% between FY 2015 and FY 2019.

Both the two mid-stage R&D activities, Advanced Technology Development (6.3) and Advanced Component Development & Prototypes (6.4), continued to grow at rates larger than the overall growth in defense R&D contract obligations. Advanced Technology Development (6.3) contract obligations increased from $4.80 billion in FY 2018 to $6.05 billion in FY 2019, a 26% increase. Advanced Component Development & Prototypes contract obligations increased 21% in FY 2019, rising from $6.03 billion to $7.27 billion. Between FY 2015 and FY 2019, Advanced Technology Development and Advanced Component Development & Prototypes contract obligations increased 44% and 73%, respectively.

System Development & Demonstration (6.5) and Operational Systems Development (6.7) remained relatively flat in FY 2019. System Development & Demonstration totaled approximately $4.1 billion in FY 2018 and FY 2019, while Operational Systems Development totaled approximately $0.7 billion the past two years. Between FY 2015 and FY 2019, System Development & Demonstration and Operational Systems Development contract obligations have declined 10% and 34%, respectively.

Figure 4 shows defense contract obligations by stage of R&D from FY 2000 to FY 2019.

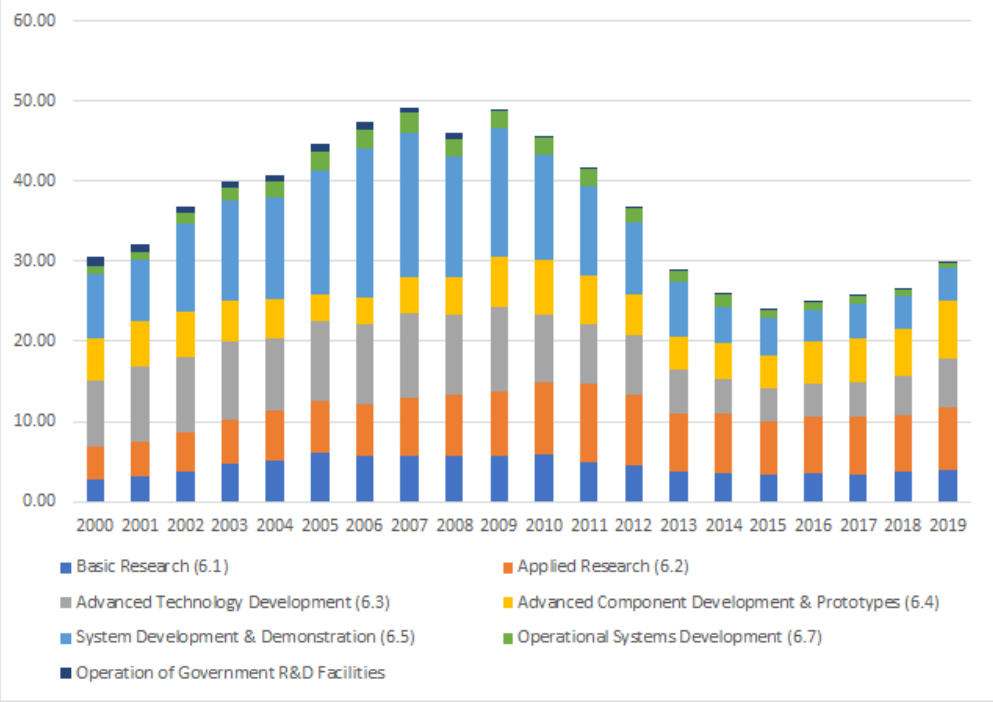

Figure 4. Defense R&D Contract Obligations, 2000–2018
FPDS; CSIS analysis

OTA Usage Across the DoD

OTA usage across the DoD continues to grow in response to the FY 2016 National Defense Authorization Act (NDAA) legislative changes aimed at incentivizing their usage. DoD OTA obligations rose from $4.4 billion in FY 2018 to $7.7 billion in FY 2019, a 75% increase. Between FY 2015 and FY 2019, DoD OTA obligations increased 712%, rising from just $0.95 billion to $7.7 billion.

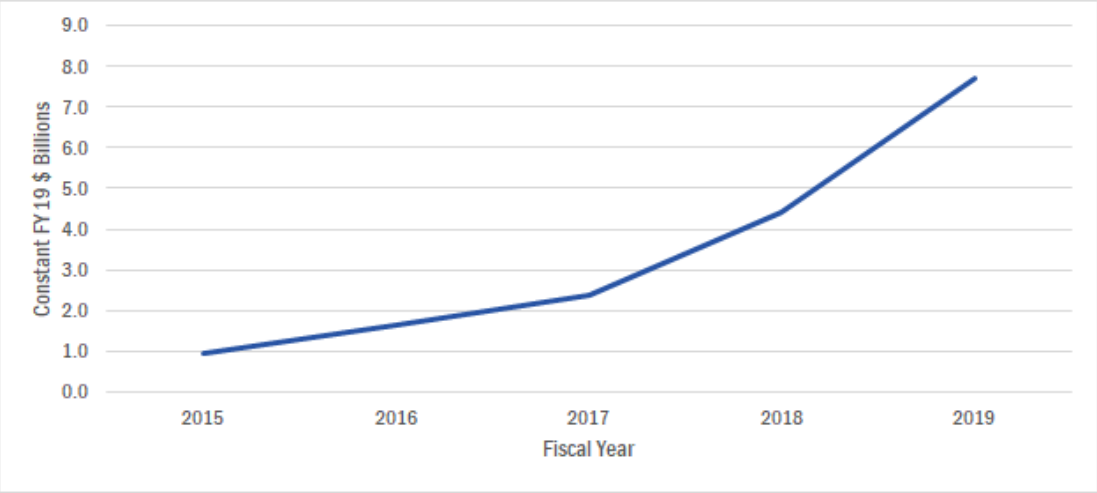

Figure 5. Defense OTA obligations from FY 2015 to FY 2019
FPDS; CSIS analysis

While OTAs are predominantly used for R&D, they are not exclusively limited to those activities. The data show that, on average, 82% of OTA obligations over the last five years have gone towards R&D, while both products and services account for 9% of total DoD OTA obligations, respectively. Furthermore, the data show that while the recent growth in OTA obligations has been predominantly for R&D, products and services have also seen significant growth in recent years. Since FY 2016, defense products OTA obligations have increased 124%, while defense services OTA obligations have increased 280% compared to the 426% growth in defense R&D OTA obligations.

Figure 6 shows defense OTA obligations by area from FY 2015 to FY 2019.

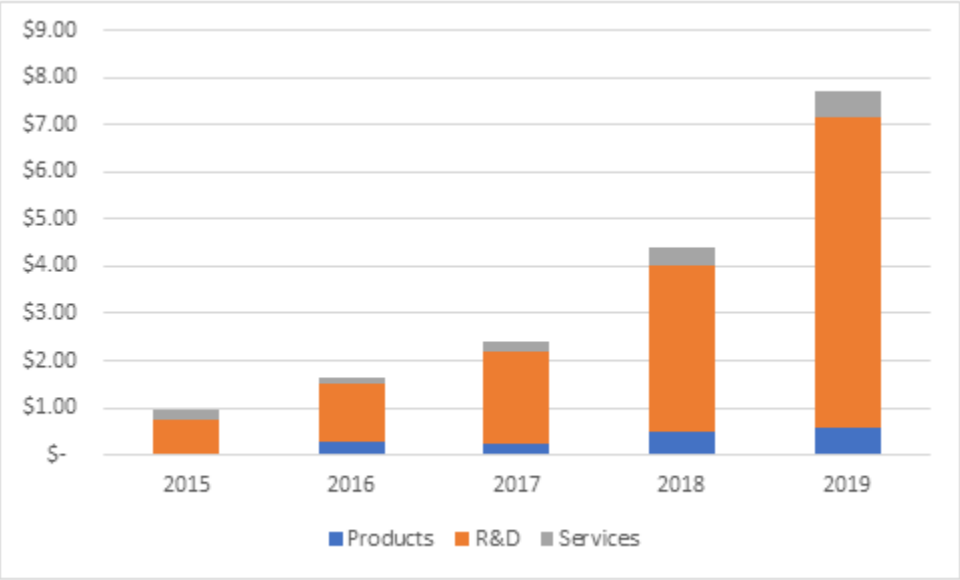

Figure 6. Defense OTA Obligations by Area, 2015–2019
FPDS; CSIS analysis

The Army remains the leader in OTA usage across DoD components, but the other components saw significant upticks in OTA usage in FY 2019. In FY 2019, Army OTA obligations increased from $3.07 billion to $4.95 billion, a 61% increase. Over the last four years, Army OTA obligations have increased 416% since FY 2016. The Air Force increased OTA obligations by 190% in FY 2019, going from $0.54 billion in OTA obligations in FY 2018 to $1.56 billion in FY 2019. Between FY 2016 and FY 2019, Air Force OTA obligations increased 486%. The Navy, which had reported marginal OTA obligations in previous years, saw a surge in OTA obligations last year but still lags the other services. Navy OTA obligations rose from $0.03 billion in FY 2018 to $0.17 billion in FY 2019, a 431% increase.

Between FY 2015 and FY 2018, the Army accounted for 73.6% of total defense OTA obligations compared to the Air Force and DARPA, which both accounted for 12%, while the Navy accounted for less than 1%. In FY 2019, the Army accounted for 67% of defense OTA obligations, the Air Force accounted for 21% of defense OTA obligations last year, DARPA fell to 6%, and the Navy rose slightly to 2%.

Figure 7 shows defense OTA obligations by customer from FY 2015 to FY 2019.

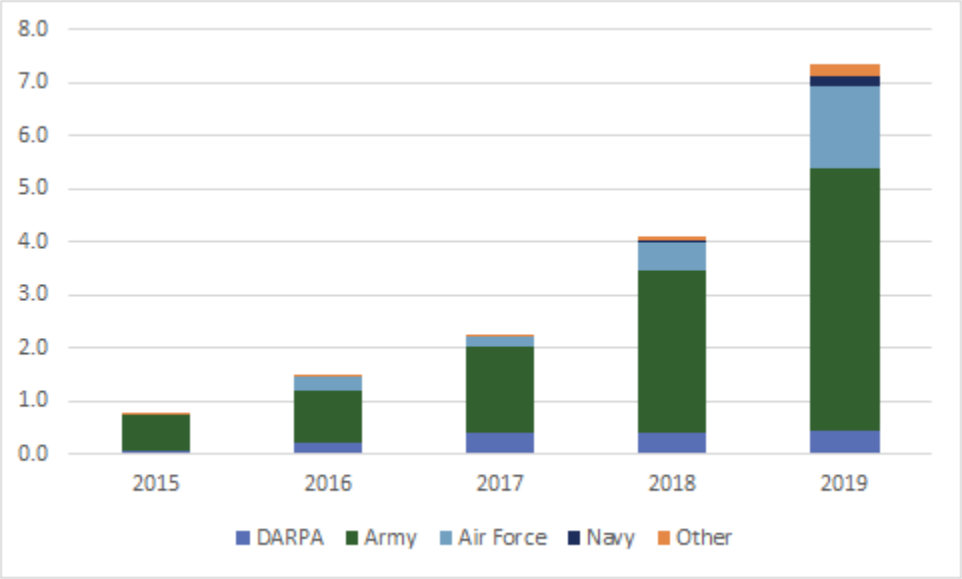

Figure 7. Defense OTA Obligations by Customer, 2014–2018

FPDS; CSIS analysis

Defense Components

Navy contract obligations, which had been on the decline, rebounded in FY 2019. Navy contract obligations increased from $109.9 billion in FY 2018 to $120.1 billion, a 9% increase. As a share of total defense contract obligations, the Navy rose from 30% to 32%. Between FY 2015 and FY 2019, Navy contract obligations increased 33%.

The Air Force experienced a year-to-year whipsaw at the start of the defense contracting rebound but has seen steady growth each of the past two years (McCormick, Cohen, Sanders, & Hunter, 2019). Air Force contract obligations increased from $73.0 billion in FY 2018 to $75.7 billion in FY 2019, a 4% increase. As a share of total defense contract obligations, the Air Force remained steady at 20%. Between FY 2015 and FY 2019, Air Force contract obligations increased 34%.

After seeing a large up-swing in FY 2018, the Army returned to slow but steady growth last year. Army contract obligations increased from $93.4 billion in FY 2018 to $94.8 billion in FY 2019, a 1% increase. As a share of total defense contract obligations, the Army fell slightly from 26% to 25%. Between FY 2015 and FY 2019, Army contract obligations have increased 23%, the lowest amongst the three military services and below the overall growth in defense contract obligations (31%).

In FY 2018, the Defense Logistics Agency (DLA) and the Missile Defense Agency (MDA) contract obligations reached near-historic levels, but the two components had opposing fortunes in FY 2019. MDA contract obligations increased 4% in FY 2019, rising from $8.45 billion to $8.81 billion, the highest level seen in the last 20 years.

Both the Defense Logistics Agency (DLA) and the Missile Defense Agency (MDA) grew at rates significantly above the defense topline in FY 2018. In FY 2018, DLA and MDA contracting obligations reached near-historic levels, increasing 26% and 51%, respectively. Meanwhile, DLA contract obligations declined 4% in FY 2019. Between FY 2015 and FY 2019, MDA contract obligations increased 76%.

Figure 8 shows defense contract obligations by component from FY 2000 to FY 2018.

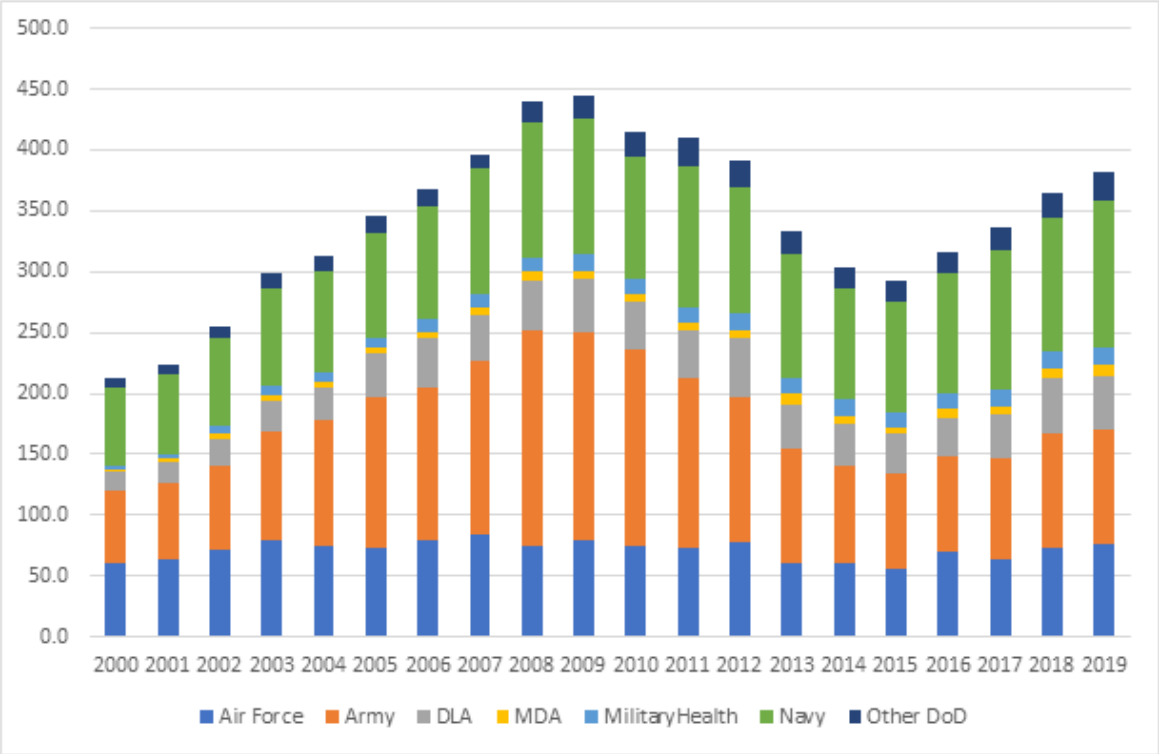

Figure 8. Defense Contract Obligations by Component, 2000–2018
FPDS; CSIS analysis

Conclusion

Defense Contract Obligations Continued to Grow Even as Defense Budget Levels Leveled Off

After substantially rebounding at the start of the defense contracting rebound, defense contract spending continued growing in FY 2019, but at a lower rate than before as total defense spending has started to level off. In FY 2019, defense contract obligations accounted for 55% of DoD total obligation authority (TOA), the third highest level over the last 20 years. As budgets levels appear set to remain flat with respect to inflation in the coming years, it is likely to be very challenging for contract obligations to maintain this large share of TOA.

Mixed Trends in the 2018 National Defense Strategy Priority Platform Portfolios

The data show that the trends were mixed in the platform portfolios emphasized in the NDS: air and missile defense, nuclear, space, cyberspace, and C4ISR.

Electronics, Comms, & Sensors continued its steady growth over the course of the defense contracting rebound, increasing 5% in FY 2019. In total, EC&S contract obligations are up 30% over the course of the defense contracting rebound.

Space Systems, which had been generally flat over the course of the defense contracting rebound, saw a 20% increase in contract obligations in FY 2019.

Air & Missile Defense contract obligations continued to whipsaw over the course of the defense contracting rebound, declining 18% in FY 2019.

Substantial Growth in Mid-Stage of the Weapon Systems Pipeline

The data show that there has been a recovery in most of the development pipeline for major weapon systems, particularity in the middle stages, but not in the later stages. The early R&D stages Basic Research (6.1) and Applied Research (6.2) contract obligations both increased in FY 2019, albeit at a slower rate of growth than the total growth in defense contracting. Instead, the growth was more substantial in the mid-stage of the weapon systems development pipeline. In FY 2019, Advanced Technology Development (6.3) and Advanced Component Development & Prototypes (6.4) contract obligations increased 26% and 21%, respectively. Comparatively, contract obligations for System Development & Demonstration (6.5) and Operational Systems Development (6.7) were essentially flat.

OTA Usage Continues Increasing Across the DoD

OTA usage across the DoD continues to surge in response to the FY 2016 NDAA legislative changes that aimed to incentive their usage. In FY 2019, defense OTA obligations increased from $4.4 billion to $7.7 billion, a 75% increase. Over the last four years, defense OTA obligations have increased 366%.

The Army remains the predominant user of OTAs across all of the DoD, but other components, notably the Air Force, have significantly increased their usage of OTAs. Army OTA obligations increased 61% in FY 2016 and are up 416% since FY 2016. Air Force OTA obligations increased from $0.54 billion in FY 2018 to $1.56 billion in FY 2019, a 190% increase.

The magnitude of growth here is enormous, and it is no longer a question of if OTAs supplant traditional defense acquisition, but whether it is permanent.

Navy and Air Force Bounce Back; Army Slows Down, but Continues Growing

Navy contract obligations, which had been on the decline, rebounded in FY 2019, increasing 9%. As a share of total defense contract obligations, the Navy rose from 30% to 32%.

After experiencing a year-to-year whipsaw at the start of the defense contracting rebound, the Air Force has seen steady growth the past two years. Air Force contract obligations increased from $73.0 billion in FY 2018 to $75.7 billion in FY 2019, a 4% increase.

The Army returned to slow but steady growth in FY 2019 after having seen a large increase in FY 2018. Army contract obligations increased from $93.4 billion in FY 2018 to $94.8 billion in FY 2019, a 1% increase. Between FY 2015 and FY 2019, Army contract obligations have increased 23%, the lowest among the three military services and below the overall growth in defense contract obligations (31%).

Final Thoughts

Given the significant evidence of the transformation of the acquisition system demonstrated in the FY 2019 contract data, it is worthwhile to think about the longer-term implications of the DoD's new approach to technology development. One major question is whether the prototyping efforts occurring under OTAs, which now represent the overwhelming majority of the DoD's investment in new product development, will be able to transition directly to production and fielding, or whether an engineering and manufacturing development phase will be required to mature prototypes into fieldable systems. An EMD

phase might be required to incorporate additional features into the prototype design required for real world operations. Typically, prototyping programs have a reduced emphasis on issues such as sustainability in the field since the prototype isn't intended to function as an operational system. An EMD phase would allow for the incorporation of sustainability features and other operational needs as well as producibility in a production design. However, since the intent of using rapid prototyping as a primary product development approach has in many cases been to increase the speed of fielding new systems, it is not clear that program officials will want to take the added time required for an EMD phase. The end result could be higher production costs and increased burdens on the sustainment system to support newly fielded systems.

Another major question is whether the non-traditional suppliers who are receiving the bulk of the OTA work will have the institutional and organizational capacity to support the transition of prototype designs into production of operational systems. Typically, the DoD will cover the cost of building and tooling production facilities for new systems, but it is still incumbent on the contractor to be able to manage sometimes large and complex production centers. For simpler, cheaper prototypes, such facilities may be well within the capabilities of non-traditional suppliers. However, for more complex and expensive systems, this could present a significant management challenge. At the same time, traditional defense technology developers may feel compelled to acquire or partner with emerging non-traditional suppliers given non-traditional firms' current dominance in the prototyping marketplace. If traditional defense companies are unable to acquire market share in the next generation of defense systems, their revenue base will start to erode as these systems are fielded. This raises the potential for a substantial round of industry consolidation in the next five to 10 years. How might the DoD seek to manage industry consolidation in such a period to ensure the continued viability and resilience of the industrial base?

The transformation of the acquisition system currently taking place will likely also lead to other changes that are currently hard to foresee. However, these changes, those that may be foreseeable, and those that aren't, will manifest in due time in future contract trends.

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