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Defense Acquisition Trends 2017: A Preliminary Look

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Abstract

This paper presents a preliminary look at the Fiscal Year (FY) 2017 Department of Defense (DoD) contracting trends available in the Federal Procurement Data System (FPDS). This data provides important insights concerning the defense industrial base through analysis of contract characteristics such as defense component, area (products, services, R&D), component, level of competition, platform portfolio, and vendor size. These trends provide vital information that can inform and highlight critical issues in the defense industrial base, such as the historical trough in development pipeline for major weapon systems. Given that FY 2016 was the end of seven consecutive years of DoD contract obligation drawdown, the trends for FY 2017 are particularly interesting.

Introduction

This paper presents a preliminary look at the Fiscal Year (FY) 2017 Department of Defense (DoD) contracting trends available in the Federal Procurement Data System (FPDS). This data provides important insights concerning the defense industrial base through analysis of contract characteristics such as defense component, area (products, services, R&D), component, level of competition, platform portfolio, and vendor size. These trends provide vital information that can inform and highlight critical issues in the defense industrial base, such as the historical trough in the development pipeline for major weapon systems. Given that FY 2016 was the end of seven consecutive years of DoD contract obligation drawdown, the trends for FY 2017 are particularly interesting.

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 FPDS data, which is downloaded in bulk from USAspending.gov. DIIG now maintains its own database of federal spending, that includes data from 1990–2017. This database is a composite of FPDS and DD350 data. For this report, the study



team relied on FY 2000–FY 2017 data. All dollar figures are in constant FY 2017 dollars, using the latest Treasury deflators. For additional information about the CSIS contracting data analysis methodology, see <https://csis.org/program/methodology>.

For this paper, CSIS focused on the following research questions identified in previous DIIG defense contracting reports:

- DoD Contract Spending in a Budgetary Context: How has the defense contracting topline responded to the recent increases in the defense budget?
- Area: Have the different areas (products, services, and research and development) responded differently to the defense contracting rebound?
- Vendor Size: How did the share of contract obligations change among vendors of differing sizes, particularly small vendors?
- Competition: Did the share of contract obligations awarded after effective competition change?¹
- R&D: Has the seven-year trough in the development pipeline for major weapon systems continued in FY 2017?

DoD Contract Spending in a Budgetary Context

Figure 1 shows that overall DoD contract obligations continued to grow in FY 2017 as the overall defense budget increased. Total DoD contract obligations increased from \$304.1 billion in FY 2016 to \$319.8 billion in FY 2017, a 5% increase. Since DoD contracting obligations bottomed out in FY 2015, overall DoD contract obligations have increased by 13% over the past two years. Overall DoD contract obligations have increased as a share of DoD Total Obligation Authority (TOA) over the past two years, going from 48% in FY 2015 to 51% in FY 2016 and 53% in FY 2017. With the defense budget set to increase in FY 2018 and FY 2019, defense contract obligations are likely to continue to grow in the near future.

¹ *Effective competition* is defined as competitively sourced contracts receiving at least two or more offers.



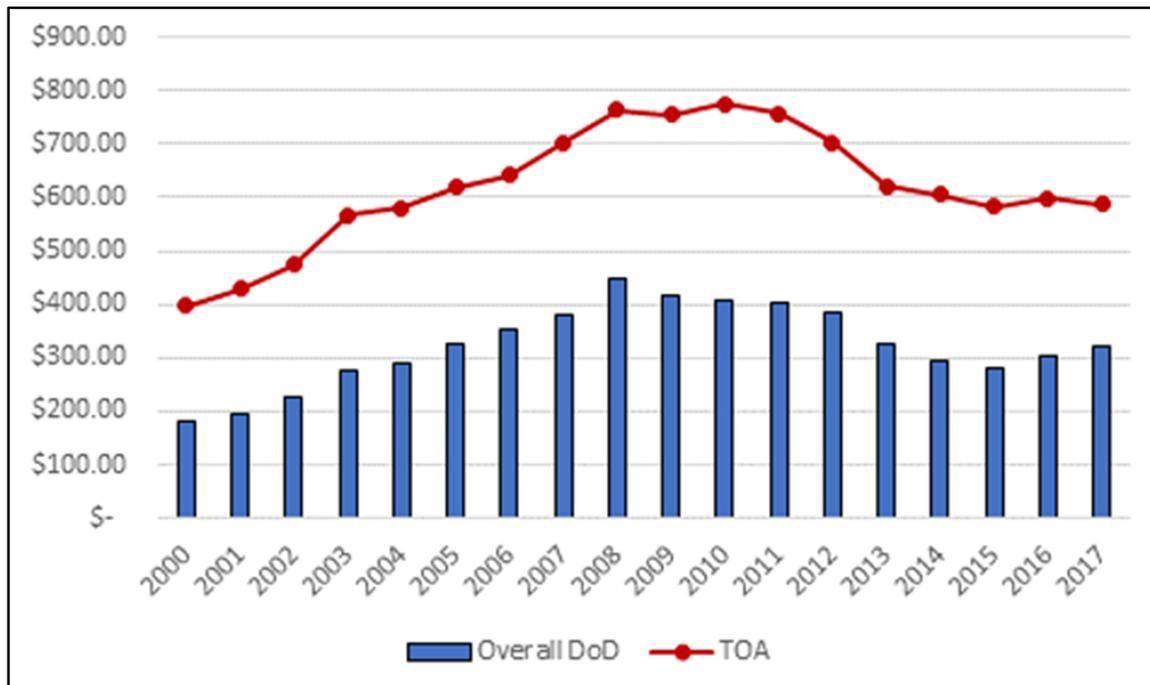


Figure 1. Defense Contract Obligations and Total Obligational Authority, 2000–2017
 (FPDS; OUSD[C], 2017; CSIS analysis)

Defense Contracting Spent by Area

Within the overall DoD contracting portfolio, contract obligations for Products has increased faster than either Services or Research and Development (R&D). In 2017, overall DoD Products obligations increased by 8%, compared to the 3% growth in both Services and R&D. Since 2015, overall DoD Products contract obligations have increased by 22% compared to the 6% increase in overall DoD R&D contract obligations and the 5% increase in overall DoD Services contract obligations.

Over the past two years, there have been notable shifts in the overall DoD contract portfolio as a share of overall DoD contract obligations. Across all of the DoD, the share of average contract obligations going to Products increased to 50% in FY 2016 and 51% in FY 2017. Previously, Products had averaged 46% of overall DoD contract obligations since FY 2000. Meanwhile, the share of overall DoD contract obligations for Services declined from 44% in FY 2015 to 41% in FY 2017. Over the past two years, the share of overall DoD R&D contract obligations held steady at 8%.



Figure 2 shows defense contract obligations by area from FY 2000 to FY 2017.

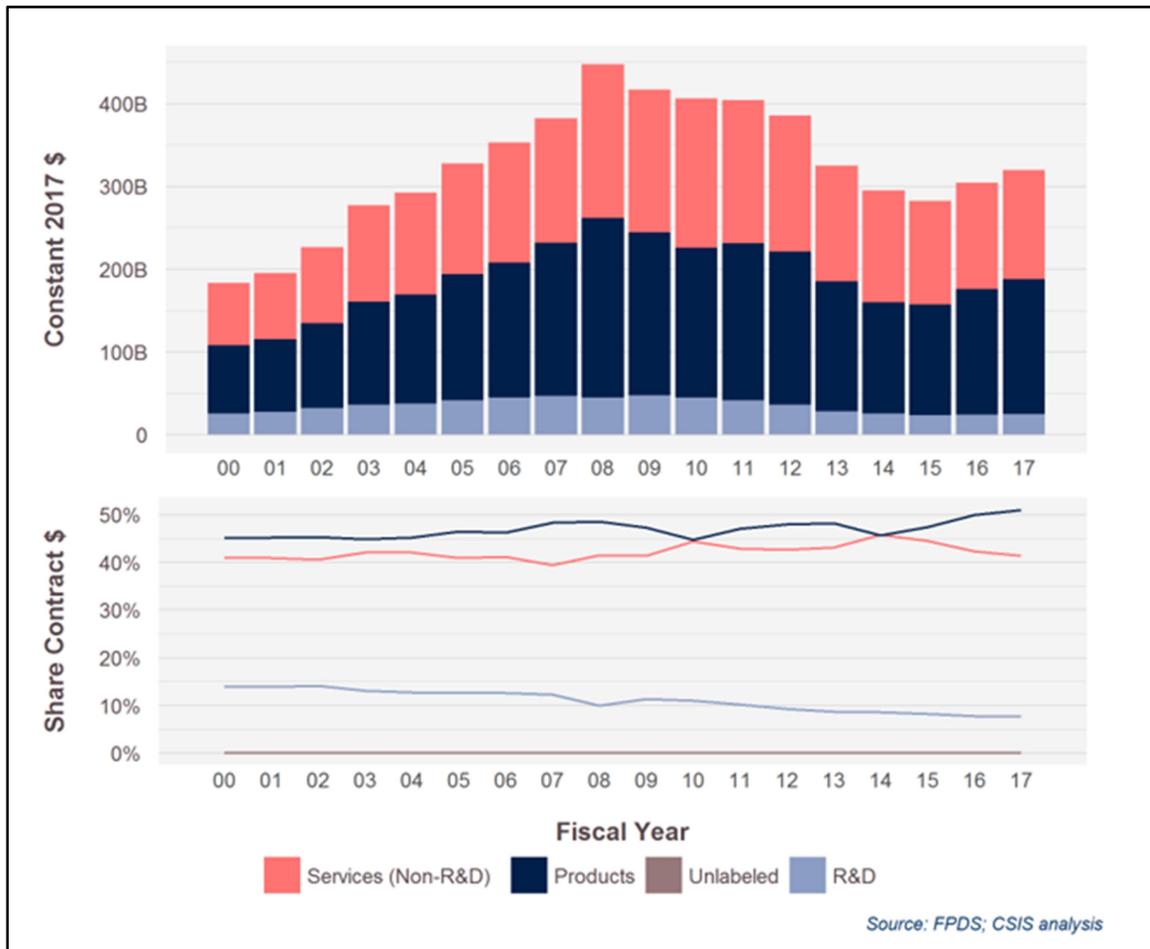


Figure 2. Defense Contract Obligations by Area, 2000–2017
(FPDS; CSIS analysis)

Overall DoD: Stage of R&D

Previous CSIS research showed a seven-year trough in the development pipeline for major weapon systems. From FY 2009 to FY 2015 overall DoD contract obligations for Advanced Technology Development (6.3) and System Development & Demonstration (6.5) declined by two-thirds as notable MDAPs were either canceled or matured into production (Hunter et al., 2017). The eight-year trough in the development pipeline for major weapon systems continued into FY 2017, but there are signs that the trough might have reached rock-bottom. For the first time since FY 2005, Defense System Development & Demonstration (6.5) contract obligations grew compared to the previous year. Defense System Development & Demonstration (6.5) contract obligations grew 11% in FY 2017, increasing from \$3.8 billion in FY 2016 to \$4.2 billion. Defense Advanced Technology Development (6.3) contract obligations increased 3% from \$4.04 billion in FY 2016 to \$4.17 billion in FY 2017.

Although Advanced Technology Development (6.3) and System Development & Demonstration (6.5) contract obligations are still at near-historic lows, the 3% and 11% growths respectively in FY 2017 are positive signs that the bleeding has stopped for now.

Advanced Component Development & Prototype (6.4) contract obligations in FY 2017 grew 25% from FY 2015. This rate constitutes a significantly higher rate of growth than the 6% overall growth of defense R&D between FY 2015 and FY 2017. Advanced Component Development & Prototype (6.4) grew 3% in FY 2017—a significantly lower rate of growth when compared to the 22% increase in FY 2016. As a share of the defense R&D portfolio, Advanced Component Development & Prototype (6.4) rose from 17% in FY 2015 to 21% in FY 2017 and are now the second largest R&D category after Applied Research (6.2).

Basic Research (6.1) contract obligations declined slightly in FY 2017 (-2%), but are still higher than in FY 2015. Applied Research (6.2) contract obligations, the largest share of the defense R&D portfolio (28%), grew 7% in FY 2016 and 1% in FY 2017.

Operational Systems Development (6.7) grew 1% in FY 2017 after declining 13% in FY 2016.

Figure 3 shows defense R&D contract obligations by stage of R&D from FY 2000 to FY 2017.

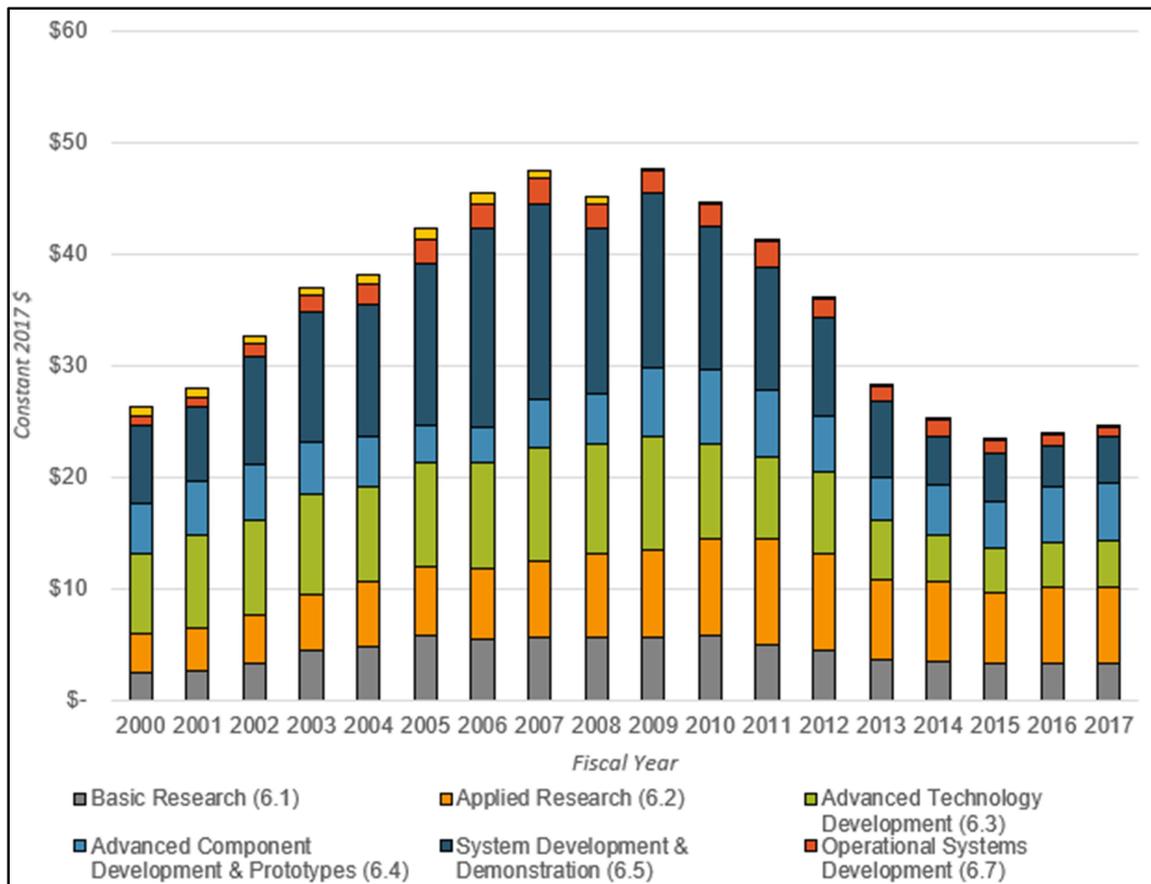


Figure 3. Defense R&D Contract Obligations by Stage of R&D, 2000–2017
(FPDS; CSIS analysis)



Overall DoD: Component

Over the past two years as defense contracting has rebounded, the trends between the defense components has varied significantly despite total contract obligations within each component rising since FY 2015. Figure 4 shows Defense Contract obligations by component from FY 2000 to FY 2017.

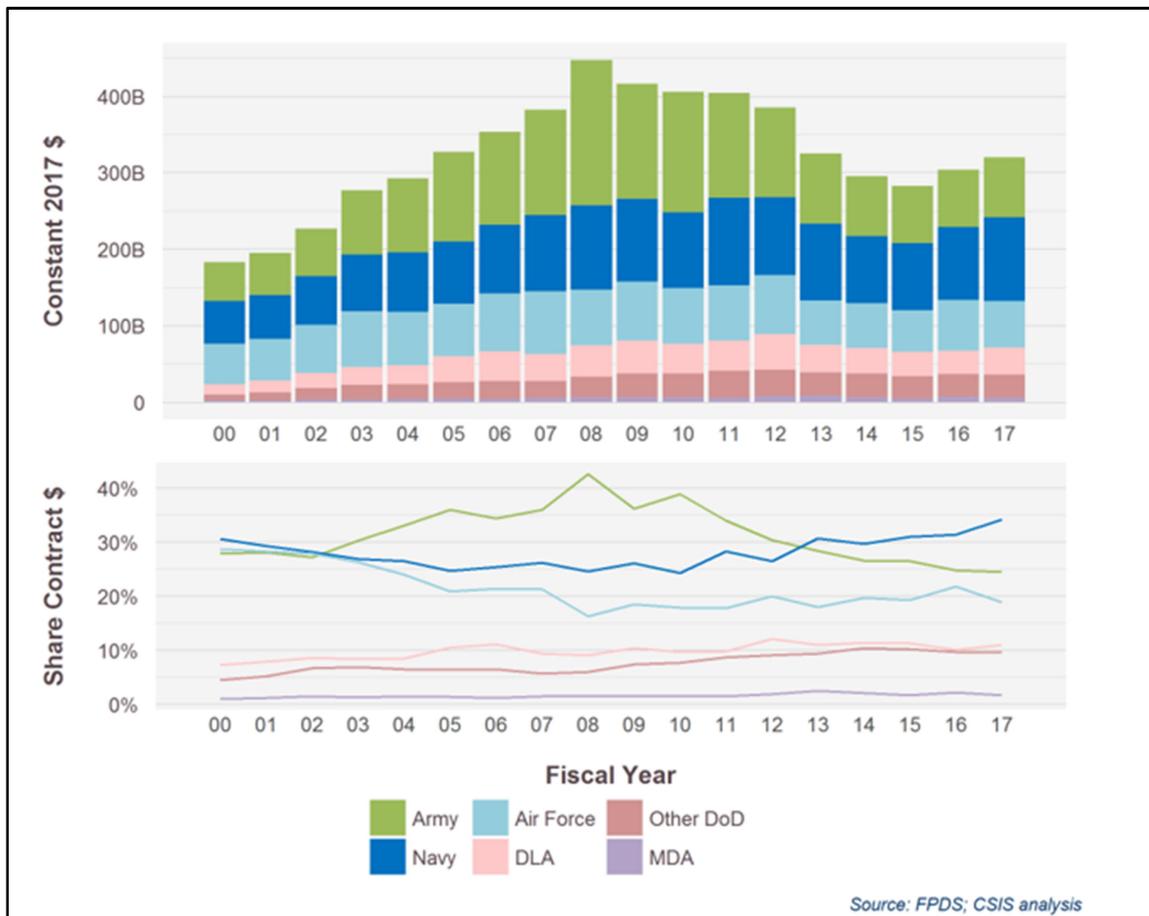


Figure 4. Defense Contract Obligations by Component, 2000–2017
(FPDS; CSIS analysis)

Air Force contract obligations have increased by 11% since FY 2015, but there has been a significant whipsaw effect over the past two years in the Air Force. In FY 2016, Air Force contract obligations increased by 21%, rising from \$54.6 billion in FY 2015 to \$66.3 billion in FY 2016. However, in FY 2017 Air Force contract obligations declined 9%, falling to \$60.6 billion, a total slightly above drawdown levels, but still 21% lower than the Air Force’s \$77.1 billion in FY 2012.

The Army has seen a gradual increase in contract obligations over the past two years, but below the overall rate of growth experienced by the DoD as a whole. In FY 2016, Army contract obligations only grew 1%, compared to overall DoD contract obligations increasing by 8% that year. In FY 2017, Army contract obligations increased by 4%, a rate just below the 5% rate of overall growth. As the Army seeks to accelerate its modernization program that effort will require continued steady contracting growth in the near-term.

Navy contract obligations have grown 25% over the past two years and have rebounded to pre-drawdown levels. In FY 2016, Navy contract obligations grew 9%, a rate just above the overall rate of growth of contract obligations. In FY 2017, Navy contract obligations grew at a rate significantly higher than the overall rate of growth. Navy contract obligations grew 25% from \$95.3 billion in FY 2016 to \$109.4 billion in FY 2017. Of note, Navy contract obligations in FY 2017 were 7% higher than they were in the FY 2012, the only component of DoD to not only rebound to pre-drawdown levels but to exceed these levels.

MDA and DLA both experienced a whiplash effect between FY 2016 and FY 2017, but in opposite directions. In FY 2016, DLA contract obligations declined by 3% before increasing 15% in FY 2017. Meanwhile, MDA contract obligations increased 39% in FY 2016, before declining 19% in FY 2017.

Overall DoD: Platform Portfolio

Except for the Air & Missile Defense, Facilities and Construction, Other Products, and Space Systems, contract obligations are up across platforms portfolios since FY 2015.

Land Vehicles contract obligations increased 10% in FY 2017 after suffering “catastrophic” declines during sequestration and the defense drawdown (McCormick, Hunter, & Sanders, 2017). Land Vehicles contract obligations rose from \$7.5 billion in FY 2016 to \$8.2 billion in FY 2017. The 10% increase was slightly offset by the 3% decline in FY 2016, but Land Vehicles contract obligations are up 7% from their low point in FY 2015—still well below historical averages.

Ships & Submarines and Air & Missile Defense saw the smallest decline in contract obligations during sequestration and the defense drawdown but have faced very different trajectories since. Over the past two years, Ships & Submarines have grown at a steady rate, increasing by 13% in FY 2016 and 8% in FY 2017. Since FY 2015, Ships & Submarines contract obligations increased from \$24.2 billion to \$27.2 billion in FY 2017, a 22% increase. Comparatively, Air & Missile Defense contract obligations grew 5% in FY 2016 before declining 15% in FY 2017. Total Air & Missile Defense contract obligations fell 11% from \$9.7 billion in FY 2015 to \$8.6 billion.

The Aircraft and Ordnance & Missiles platform portfolios have both grown at a significantly higher rate than overall DoD topline growth. Aircraft contract obligations increased to \$77.2 billion in FY 2016 from \$63.2 billion in FY 2015, a 22% growth. Aircraft contract obligations then grew an additional 10% in FY 2017 to \$85.3 billion, a historic high. Ordnance & Missiles contract obligations increased 23% in FY 2016 and then an additional 7% in FY 2017. In total, Aircraft and Ordnance & Missiles contract obligations have grown 34% and 32% respectively since FY 2015.

Space Systems and Facilities and Construction have seen slight declines even as overall defense contract obligations grew. After increasing by 1% in FY 2016, Space Systems contract obligations declined 2% in FY 2017. In total, Space Systems contract obligations have fallen from \$6.1 in FY 2016 to \$6.0 billion in FY 2017, a 1% decline. Facilities and Construction contract obligations remained relatively steady in FY 2016 (-0.3% decline), before falling 2% in FY 2017.

Electronics, Comms, and Sensors grew at nearly the same rate as the overall defense rate of growth over the past two years. In FY 2016, both Electronics, Comms, and Sensors and overall defense contract obligations increased by 8%. In FY 2017, Electronics, Comms, and Sensors, increased 4%, just slightly less than the 5% overall growth.



Figure 5 shows defense contract obligations by platform portfolio from FY 2000 to FY 2017.

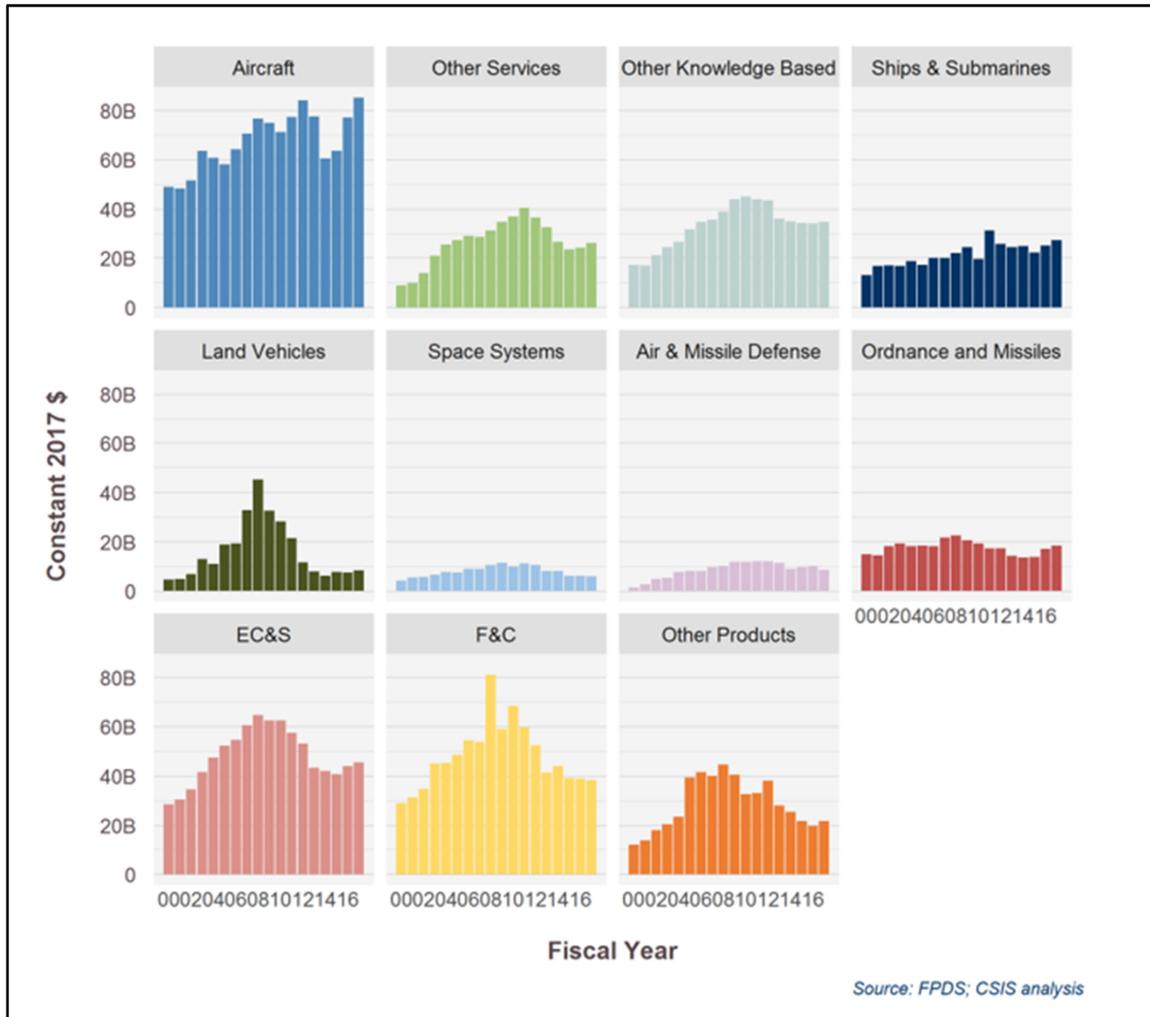


Figure 5. Defense Contract Obligations by Platform Portfolio, 2000–2017
(FPDS; CSIS analysis)

Overall DoD: Vendor Size

Figure 6 shows defense contract obligations by size of vendor from FY 2000 to FY 2017.

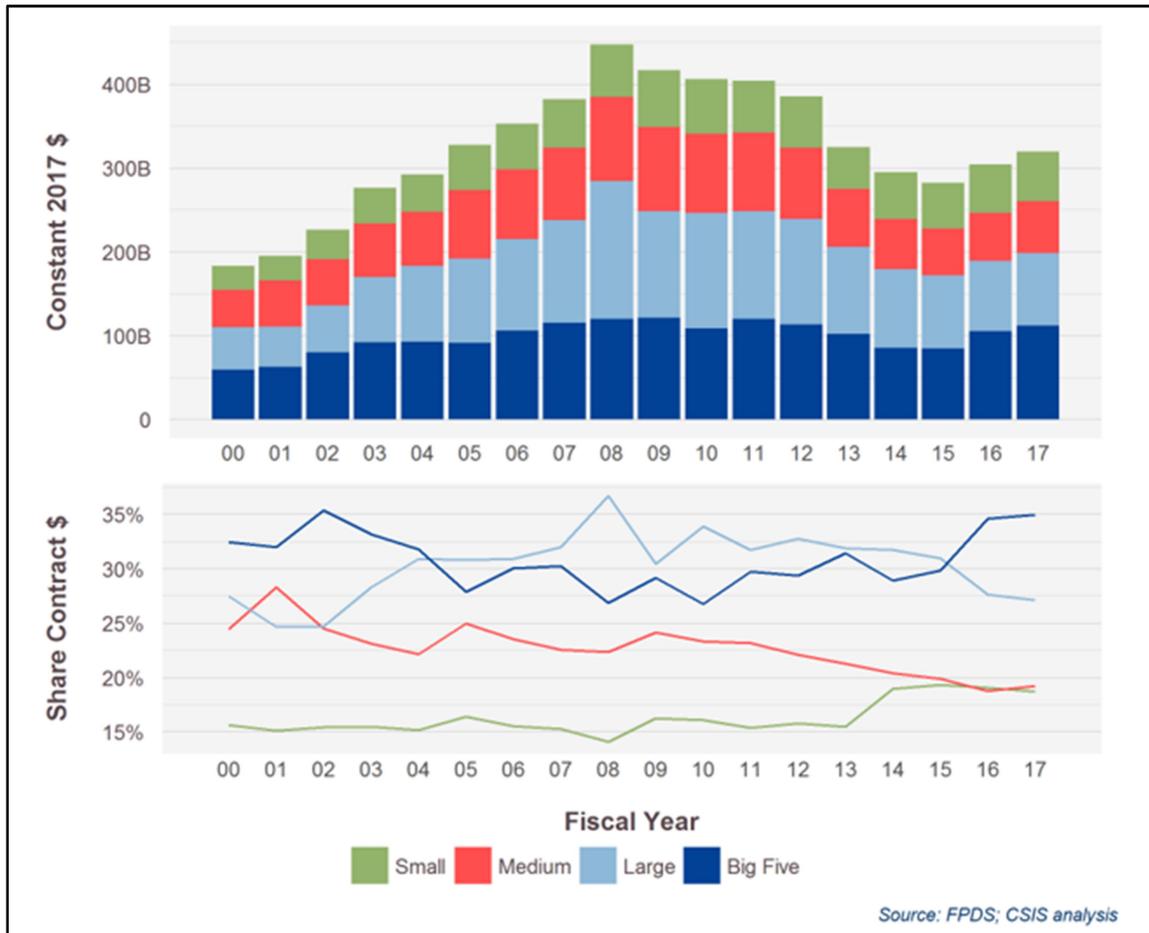


Figure 6. Defense Contract Obligations by Size of Vendor, 2000–2017
(FPDS; CSIS analysis)

The Big Five have benefited the most from the rebound of defense contracting. Since FY 2015, Big 5 contract obligations have increased by 33%.² Big 5 contract obligations have grown 25% from \$84.3 billion in FY 2015 to \$105.2 billion in FY 2016. In FY 2017, Big 5 contract obligations grew to \$111.8 billion, a 6% increase from FY 2017. As a share of defense contract obligations, the Big 5 have risen from 30% in FY 2015 to 35% in FY 2016 and FY 2017.

Small vendors have been the second largest beneficiary of the defense contracting rebound growing 10% since FY 2015. Defense contract obligations going to Small vendors

² The Big 5 are the largest defense contractors: Lockheed Martin, Boeing, Raytheon, Northrop Grumman, and General Dynamics.

rose to \$60 billion in FY 2016 from \$54.6 billion in FY 2015, a 6% increase. In FY 2017, Small vendors' contract obligations totaled \$59.8 billion, a 3% increase. However, despite absolute growth in the amount of contract obligation held by Small vendors, as a share of total defense contract obligations, Small vendors have remained steady at 19%.

Medium vendors' contract obligations have increased by 9% since FY 2015. Medium vendors only grew 1% in FY 2016, before increasing sharply in FY 2017. Last year, Medium vendors' contract obligations grew 8% from FY 2016, the largest percentage growth amongst vendors of all sizes. As a share of defense contract obligations, Medium vendors fell slightly from 20% in FY 2015 to 19% in FY 2016 and FY 2017.

Large vendors have seen the least benefit from the defense contracting rebound. Since FY 2015, contract obligations held by Large vendors declined 1%. Large vendors continued their decline, which started in FY 2011, in FY 2016, falling by 4%. Large vendors fared better in FY 2017, as contract obligations awarded to Large vendors rose from \$83.9 billion to \$86.7 billion, a 3% increase. As a share of defense contract obligations, Large vendors fell from 31% in FY 2015 to 28% in FY 2016 and 27% in FY 2017.

Overall DoD: Vendor Size by Area

Previous CSIS research has shown that beyond the topline vendor size trends, sequestration and the defense drawdown impacted "vendors of differing sizes depending on what area (products, services, or R&D) vendors are contracted for." For example, Big 5 R&D contract obligations fell nearly three and a half times faster than Small, Medium, and Large vendors R&D contract obligations (McCormick et al., 2017).

Big 5 contract obligations have increased for Products, Services, and R&D since FY 2015, but Products has significantly outpaced the other two categories. Since FY 2015, Big 5 Products contract obligations have increased by 43% compared to 15% growth in R&D and 10% growth in Services. Big 5 Products contract obligations increased by 32% in FY 2016 and 8% in FY 2017. Big 5 R&D contract obligations increased 2% in FY 2016 and 12% in FY 2017 but remain well below historical averages. Big 5 Service contract obligations declined 1% in FY 2017 after having grown 11% in FY 2016.

Contract obligations increases have been closer among all three categories for Small vendors since FY 2015. Small vendors' Products and Services contract obligations have both grown 9%, while R&D contract obligations have increased slightly faster, growing 14%. Small vendors' Products contract obligations increased 3% in FY 2016 and 6% in FY 2017. Small vendors R&D contract obligations grew 10% in FY 2016 before slowing to a 3% growth in FY 2017. Small vendors Services contract obligations grew 7% in FY 2016 and 2% in FY 2017. Of note, Small vendors' \$35.7 billion in defense services contract obligations is 2% higher than the \$34.9 billion obligated in FY 2012.

Medium vendors' trends were comparable to those seen by Small vendors. Since FY 2015, Medium vendors' contract obligations for Products grew 8%, R&D grew 7%, and Services grew 11%. Medium vendors' Products obligations declined 2% in FY 2016 but grew 11% in FY 2017. Medium vendors' R&D contracts have grown steadily over the past two years, increasing 3% in FY 2016 and 4% in FY 2017. Finally, Medium vendors' Services contract obligations increased 3% in FY 2016 and 7% in FY 2017.

Finally, trends within Large vendors' portfolios varied significantly as contract obligations declined 1% overall. Since FY 2015, Large vendors' R&D contract obligations have declined by 16% compared to the 4% decline in Services, and 4% growth in Products. Large vendors' R&D contract obligations declined 4% in FY 2016 before declining 12% in FY 2017. Large vendors' Services contract obligations declined 6% in FY 2016 but



increased 4% in FY 2017. Finally, Large vendors' Products contract obligations declined 2% in FY 2017, but increased 6% in FY 2017.

Figure 7 shows defense contract obligations by size of vendor by area from FY 2000 to FY 2017.

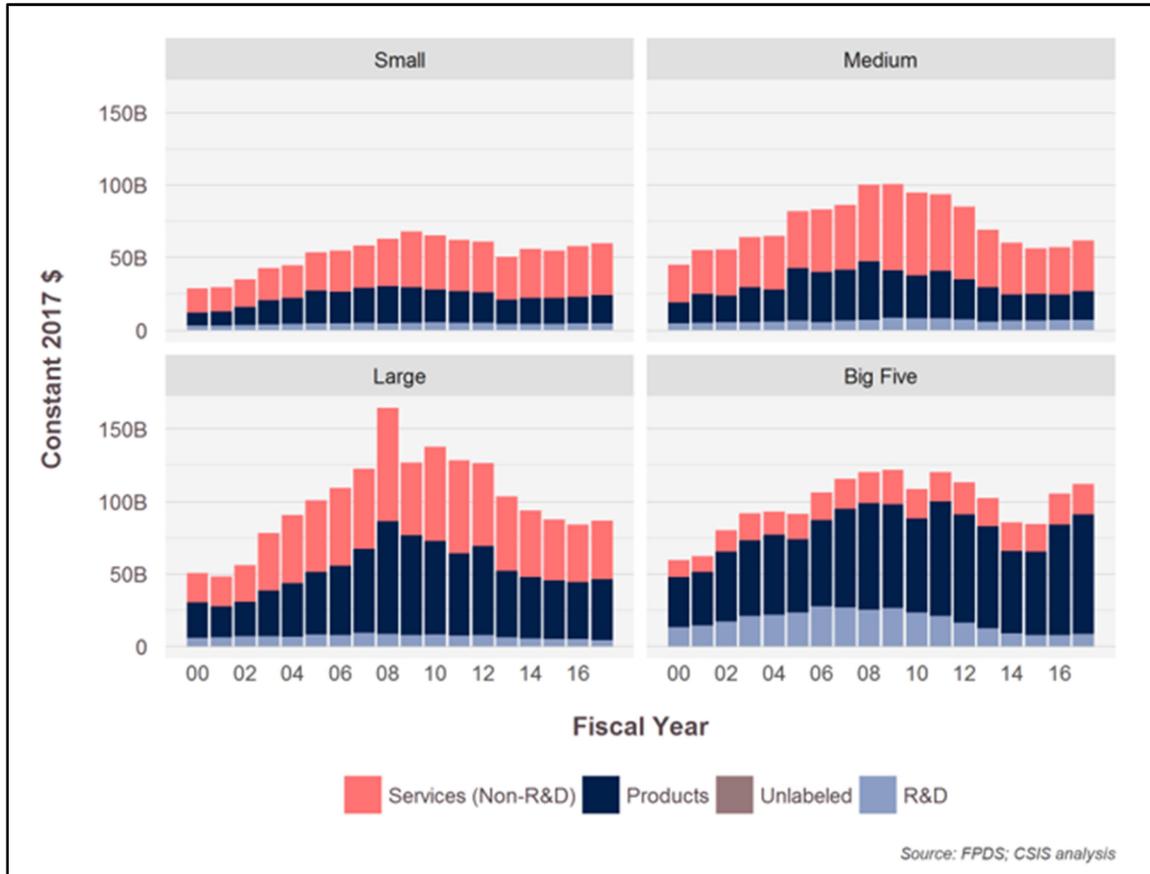


Figure 7. Defense Contract Obligations by Size of Vendor by Area, 2000–2017 (FPDS; CSIS analysis)

Overall DoD: Competition

Previous CSIS research has shown that the rate of effective competition has remained relatively steady since 2000 despite policy guidance favoring increased competition (Ellman et al., 2016; McCormick et al., 2015). Figure 8 shows the rate of effective competition for defense contract obligations from FY 2000 to FY 2017.

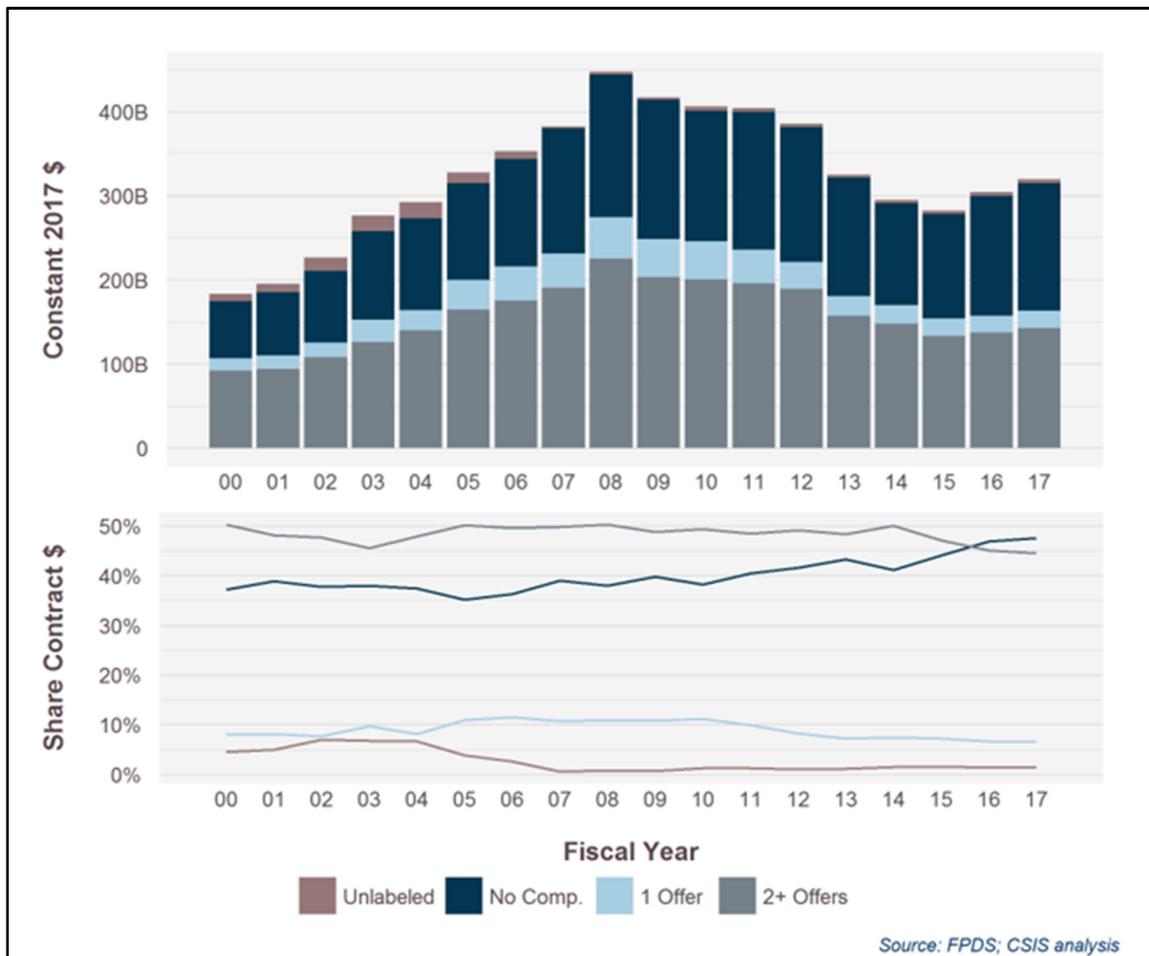


Figure 8. Defense Contract Obligations by Level of Competition, 2000–2017
(FPDS; CSIS analysis)

The data show that the rate of effective competition has fallen slightly over the past two years. In FY 2015, 47% of contract obligations were awarded after effective competition compared to 51% awarded without effective competition. In FY 2016, the share of contract obligations awarded after effective competition fell to 45%. The effective competition rate continued its decline in FY 2017, falling to 44%.

The declining effective competition rate in the rate of effective competition has been driven by significant increases in the total sum of contract obligations awarded without effective competition. Since FY 2015, contract obligations awarded with no competition has grown from \$124.4 billion to \$152 billion, a 22% increase. Comparatively, contract obligations awarded after effective competition has grown from \$133.2 billion to \$142.2 billion, a 7% increase. Of note, policy guidance issued to reduce the number of contracts awarded after receiving only one offers seems to be working. Over the past four years,

contract obligations awarded after receiving only one offer has held relatively steady in terms of both raw dollars and share of defense dollars.

Conclusion

Products contract obligations growth has significantly outpaced R&D and Services.

Over the past two years, defense Products contract obligations have grown 22% compared to R&D and Services increasing by 6% and 5% respectively. Whereas Services and R&D have grown between 2 to 3% annually, Products contract obligations increased 13% in FY 2016 and 8% in FY 2017. It is likely that Products contract obligations growth continues to outpace Services and R&D given the considerable number of new legacy weapon system platforms purchases in the recent budget deal.

Navy's anchors aweigh; Air Force does a barrel roll; and the Army goes rolling along.

There were notable differences in the contracting trends between the military components.

The Navy fared best amongst all DoD components, growing 25% since FY 2015. Navy contract obligations increased 9% in FY 2015 and 15% in FY 2016. In FY 2017, the Navy accounted for 34% of Defense contract obligations, 10% higher than the next closest component and a high-water mark for this century.

Although Air Force contract obligations are up 11% since FY 2015, there has been a significant whipsaw effect over the past two years. The Air Force was the biggest beneficiary of the FY 2016 defense contracting rebound in absolute dollar terms, increasing 21% from FY 2015 totals. However, in FY 2017 Air Force contract obligations declined 9%. It remains to be seen whether the Air Force's long-term trajectory will resemble FY 2016 or FY 2017 trends or somewhere between the two.

The Army, the largest bill-payer during sequestration and the defense drawdown, has rolled along these past two years seeing slow, but steady growth. Over the past two years, Army contract obligations grew 1% in FY 2016 and 4% in FY 2017. Continued steady growth is critical as the Army seeks to recover from its modernization triple whammy (McCormick & Hunter, 2017).

Weapon system development pipeline trough might have bottomed out.

The seven-year trough in the weapon systems development pipeline appears to have hit its lowermost point. For the first time in years, contract obligations for System Development & Demonstration (6.5) and Advanced Component Development & Prototypes (6.4) increased from the previous year. Although System Development & Demonstration (6.5) and Advanced Component Development & Prototypes (6.4) contract obligations increased 11% and 3% respectively, it is too early to declare that the trough in the weapon systems development pipeline is over. Even after seeing positive news for the first time in years, System Development & Demonstration (6.5) contract obligations are still just above historic lows. It will likely take a few years of growth before it is possible to declare the end of the weapon system development pipeline trough.



Land Vehicles starts bounce back; Aircraft and Ordnance & Missiles up; Air & Missile Defense down.

The Land Vehicles platform portfolio started to bounce back in FY 2017 after suffering catastrophic cuts during sequestration and the budget drawdown. In FY 2017, Land Vehicles contract obligations increased from \$7.5 billion in FY 2016 to \$8.2 billion in FY 2017, a 10% increase.

Aircraft and Ordnance & Missiles were the two platforms that experienced the greatest growth during the defense contracting rebound. Aircraft contract obligations increased 34% since FY 2015, while Ordnance & Missiles increased 32%. Of note, Aircraft accounted for 27% of defense contract obligations (In FY 2017?), Aircraft's highest share of the defense budget since FY 2000.

Four platform portfolios experienced declines over the past two years: Air & Missile Defense; Facilities and Construction; Other Products; and Space Systems. Amongst those four platform portfolios, Air & Missile Defense experienced the greatest declines, falling by 11%. Interestingly, Air & Missile had been amongst the platform portfolios that fared best during sequestration and the drawdown.

Big 5 winner, but all up except Large.

The Big 5 were the big winners from the defense contracting rebound, while Large vendors have fared the worst. Big 5 defense contract obligations have grown 33% since FY 2015. This has largely been driven by the 43% increase in Products contract obligations going to the growth, but the Big 5 have also seen increases in Services (10%) and R&D (15%). Additionally, the Big 5 increased their overall share of defense contract obligations from 30% to 35%, largely at the expense of Large vendors.

Large vendors were the only vendor size category to decline since FY 2015, falling 1%. However, the trends suggest that Large vendors could fare better in future years as Large contract obligations increased 3% in FY 2017 compared to FY 2016's 4% decline.

Small (10%) and Medium (9%) vendors have grown at roughly equivalent rates since FY 2015. Small vendors' greatest increase came in R&D, which was up 14% compared to Products and Services, which both increased 9%. For Medium vendors, Services were the greatest source of growth, increasing 14%, compared to 7% growth for R&D and 8% growth for Products.

Rate of effective competition is down across the DoD.

Worryingly, over the past two years, the rate of effective competition for DoD contract obligations has declined. Whereas the rate of effective competition had held steady at around 50% over the past decade, FY 2016 and FY 2017 have departed from the trend. The share of contract obligations awarded after effective competition fell to 45% in FY 2016 and then 44% in FY 2017. This trend is troublesome given the importance of competition and given the previous imperviousness of the rate of effective competition to previous policy guidance. CSIS will explore potential reasons for these declining competition rates in a future report.

On a positive note, the share of contract obligations awarded after receiving one offer has continued to remain steady.



Final Thoughts

Defense contract obligations continued to grow in FY 2017 after rebounding in FY 2016, albeit at a slower pace than last year. With the defense budget set to continue rising for at least the next two years, defense contract obligations are poised to continue growing for the near-future. Beyond the next two years, the long-term forecast for the defense budget is unclear, making the DoD's decisions about where to spend that money critically important especially given the 2018 *National Defense Strategy's* focus on great power competition. The most recent budget and recent contracting trends show the prioritization of procurement over RDT&E, but the DoD's greatest challenge in the coming years will be finding the proper balance its investment portfolio. The DoD will need to balance procurement of upgraded versions of systems already in production that help tackle the current readiness challenge with RDT&E investments in future capabilities like artificial intelligence, hypersonics, and autonomy. Overinvestment in either direction could be detrimental to the DoD as over-emphasis on current platforms could increase existing readiness at the expense of the future fighting force, while overinvestment in future capabilities could create a death spiral for parts of the force like the F/A-18 Super Hornet fleet that are facing potential breaking points.

These investment dynamics present a critical follow-on challenge: resourcing and accessing innovation from nontraditional defense suppliers and the broader research community. The advances being made in the critical warfighting capabilities of the future are not being driven by the DoD or the traditional defense industrial base, but instead by commercial firms, universities, and other research entities globally. If the DoD hopes to gain access to these firms, it will need to create clear resourcing opportunities in the budget, yet the latest trends in both procurement and RDT&E have heavily favored the traditional defense industrial base. As policymakers tackle the difficult challenge of balancing current readiness and future capabilities, it must be careful not to crowd out resourcing for sources of innovation outside the traditional defense industrial base if the DoD is to succeed at accomplishing the *National Defense Strategy's* goal of refocusing on great power competition. Understanding the trends of what, how, and from whom the DoD has been buying can provide important insights into how the acquisition system responds to these and other challenges.

This paper presents only the preliminary findings of CSIS's analysis of the FY 2017 defense contracting trends. CSIS will further analyze the trends discussed in this paper and more in future reports.



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