Center for Strategic and International Studies

Press Briefing

"The State of the U.S. Defense Industrial Base"

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ANDREW PHILIP HUNTER: Well, thanks for coming, everyone. I want to get started. So we got lots of goodness to go through and I think you'll have questions. So thank you very much for coming early on a Tuesday morning. We kind of debated about the timing for this, but since you're coming off the holiday weekend and Reagan is at the end of the week, part of our goal here is to kind of put some of our findings out there before the Reagan Forum for those who are going to be out there interviewing CEOs and writing stories about what's happening in industry around the Reagan Forum. But obviously it's got a broader applicability than that. And I think we're going to try and focus a little bit about what we see as a disconnect between what we see in the contract data versus kind of the objectives that the National Security Strategy outlined that we would expect the acquisition system to be responding to.

And some of that is, you know, the ever-present time delay and how long it takes for the acquisition system to catch up with strategic direction. And some of it is, I think, just an actual disconnect driven by countervailing trends that are happening. So we want to kind of go through that and identify what we think is happening versus what the department says it wants to happen, and then what does that mean if the system suddenly shifts in the direction of, you know, the strategy in a major way or, controversially, if we should just read the data and decide that, you know, the strategy is a bunch of nice words but ultimately the system is moving in a different direction. And then there's some other trends that we want to talk about.

What we have in front of you, for those of you who've gotten it – if you don't, we'll make sure you get one – is a summary – three executive summaries from three different studies pieced together for purposes of this briefing, and we'll probably pass it out in the run-up to the Reagan Forum.

And so one is our annual acquisition study, which is kind of our encyclopedia of everything you need to know about what happened in the acquisition system. The full version of that is not yet out. It's going to be coming out in a few weeks. It's in the editing process now. It is a very large tome, 180 pages, roughly, this year. I think I'm exaggerating; a hundred – oh, sorry. I don't even know how long it is. It's longer than that. And there's at least three people who've read it all, I think, and we're all sitting right here. (Laughs.)

And then the other two is one we did on new entrants into the defense industry and small-business graduation – actually, new entrants into federal contracting, with a focused look at defense, and small-business graduation. And then the third study was on consolidation and concentration in defense industry. And so we've all kind of always known that defense industry is highly concentrated, but we did a more detailed study to look at what does that really mean. And we'll go through some of the topical findings of that.

So we have a PowerPoint slide presentation, because we have to, we want to kind of walk you through. And I should also start by saying, you know, contract data comes in over time. So we have now finished fiscal year 2018, but the contract-data information about what happened in 2018 will not really be of sufficient quality to use to draw these kinds of trendlines until early next year.

So our data right now runs up through 2017. And that obviously has some pitfalls for our analysis, because, you know, fiscal year 2017, the new administration was in office but really getting their feet under them, getting people confirmed. And so I think a lot of what happened in 2017 was largely a carryover from the prior administration and from the policies set in place, and then obviously from what Congress did with the budget in 2017, which was mostly a holding year.

You know, they did hold back the 2017 budget for the new administration to influence. But as some of you may recall, when we got to the finish line there was no apparent influence by the new administration on the budget. You know, there was a delay in the process but no significant change from what the department had planned prior to the new administration coming into office.

It's really in 2018 – that was a huge difference, a big jump up in defense spending in 2018. So we don't have the data for that yet. But there's reasons, I think, to believe that the trends that we'll see for 2018, while up more in an upward and a more sharply upward direction, may not be fundamentally different from what we see in this data.

So we start out by looking at just overall defense contract obligations. And what do you compare that to? Generally speaking, you know, we look at budgets and budget authority, which is different than contract obligations. So there's apples and oranges, because budget authority doesn't always – it doesn't always turn into obligations in a timely way.

So if we put in $13 billion in budget authority in one year for an aircraft carrier, usually the first year that the aircraft carrier is under construction, you may only spend, like, a billion (dollars). So you might only spend – you know, less than 10 percent of that budget authority might turn into obligations in the first year that you're doing it. So obligations, budget authority are apples and oranges.

So what we try to do is compare obligations to obligations. And that's an unusual look in a lot of ways because we don't normally look at what are all the obligations the Department of Defense made. You usually focus on the budget. But what – but that's what we've done here. So the red line is total obligations done by DOD over the last – since 2000 compared to contract obligations.

So there's a couple things I want to note on this data. The first is, obviously, that contract obligations have been increasing very robustly over the last two years. It's a 13 percent increase. And honestly, that's a much sharper recovery than I expected, in part because the fact that when sequestration went into effect, as the budget came down, contract obligations had been shrinking as a share of the DOD budget. Historically they've been about 52 percent of all obligations, and had shrunk to about 48 percent. So that's 4 percent. It's actually a pretty significant shift in their share of money that the department is spending. And so more and more money was going for internal purposes of DOD – its organic, you know, salaries and things like that. Much less was being spent on money that goes to industry.

So that changed. So we are now back to a 52 percent share for contract obligations. So a higher share of the department's budget is now going to industry. And that meant that contract obligations recovered more sharply and more quickly than the budget overall because they were able to essentially grab a larger share of the total budget going to industry.

So we had been saying for several years, as this share was shrinking, that this could be a longer-term trend: it could be that industry's share of the defense budget is just on a permanent decline; as internal DOD costs grow, industry may just get a smaller share. That turns out that's not what's

happening. It's actually bounced back, and the reduction in the share of contract obligations appears to have just been an artifact of the decline. As the department had to take money out of its budget very quickly, it was probably easier to take money away from industry than it was to cut its internal costs in the short term.

And to be – I mean, not to be too fine a point on it, but they didn't really, I think, ever – they did cut their internal costs. But I'm not making the claim here that they succeeded in cutting their internal costs and that's why industry's share increased. It's that they got more money. (Laughs.) And that new money disproportionately flowed to industry.

And I think that makes sense if you think about how the new money came about, because the impetus was really coming from Congress. Congress was the one pushing to increase defense budgets. Not that the Department of Defense was fighting them, but Congress was adding money to the budget. OMB was kind of to some extent fighting against that, maybe more so because they didn't want more discretionary spending than they didn't want more defense spending. And when Congress is the one adding they money to the budget, I would argue it's not surprising that that shows up as money for industry because Congress likes to add money to existing production lines – F-22s, F-35s, B-21s, KC-46s, C-130Js, all the things that Congress likes to add because it's very concrete; members of Congress can get their mind around it. And that ends up turning into money that goes to industry.

So the second view that we're showing you here is the contract obligations separated by what we call area, which is to say money for products, things you can put your hands on, hardware or consumables, services not including R&D – so the typical definition R&D is considered a service, but we think there's something special about R&D spending so we separate that out – and then – and then R&D. And, you know, what we've seen longer term is kind of a very close relationship between money spent on services and money spent on products as a share of total contract obligations, and a long-run decline in the share of contract obligations going for research-and-development purposes.

And what you see in the last two years, with the what we call the bounce back from the bottom in 2015 to 2017 contract obligations, is that products has grown sharply, or recovered depending on your perspective, as a share of total contract obligations. And so the big bounce back in contract obligations is really being led by spending on stuff. It's 22 percent increase in contract obligations going for products. Services grew 5 percent. R&D grew 6 percent in total. And so, as a share, what you see is products very much increasing its share of the total, services and R&D holding – or declining modestly. And so I think that's consistent with this story about the fact that, you know, if we think that the contracting bounce-back is as sharp as it is because Congress was pushing money into, you know, existing production lines, then I think that's very consistent with the fact that the recovery is so product-led. I would argue, though, it's not necessarily consistent with the idea that we have embarked on a vast strategic undertaking to focus on peer competition, and that's why we're spending more money on contract obligations. I think it's more than money went into the things that were going to be able to spend the money, existing production lines, and that's where we're seeing the growth. And so this doesn't look so much like a strategic-led recovery at this stage.

Q: Hi. Ben Kesling from The Wall Street Journal. How are you?

MR. HUNTER: Good.

Q: So quick question with the declining – so you have a declining R&D budget overall, more an increasing budget for buying stuff. It's already developed. How does that fit into what you see

what will be with, like, Milley and the Army's push to streamline the acquisition process, which looks like – as you streamline the acquisition process, and have folks buying more stuff of the shelf, it dilutes the Army, and DOD generally, their ability to build things organically. Are you seeing that in the – in the data that you're – that you're looking at?

MR. HUNTER: Well, I think you're getting ahead of me a little bit, but that's OK. But I think we'll have some data a little bit farther on to touch on that. What you're seeing is the money that's going in for research and development effectively is coming in through different channels than historically we have seen. And so we'll get to that when we talk about the growth in OTAs, other transaction authority, which is, you know, these alternative mechanisms are growing pretty robustly. And they're actually starting to rival in size the more traditional channels, like traditional system design and development of weapon systems. And that I, again, think is a long-term trend. Sometimes we kid ourselves about what the longer-term trends are really going to be, and then new data comes in and we have to readjust. But I think that's a longer-term trend that we're seeing.

Q: And are you seeing that being driven by Congress or being driven by the services?

MR. HUNTER: It's being driven really by the services. You know, obviously Congress has to assent to it, because they have to agree to provide new OTA authority and agree to appropriate dollars for those purposes. But I think structurally it has to – it's being led by the services, that they are choosing to take this path. And, again, just want to reemphasize, our data is through 2017. So Milley – well, now, Milley was there in 2017. But kind of the big push to do middle-tier acquisition and OTAs, you know, that – a lot of that we're still yet to see that show up in the data, because a lot of the influence of that will be seen in 2018 and 2019, I would argue. So this is just the leading edge of that trend, I believe.

Q: Thanks.

MR. HUNTER: Sandra.

Q: So we see more – yeah, I'm sorry about that. We see more companies so-called investing in programs, funding up front. So some people say that that's kind of distorting the market a little bit. And it's not an OTA, because OTA is a cost-sharing, but this is companies actually funding programs. How do you see that affecting what you see as far as, you know, what's really DOD investment versus what's industry investment?

MR. HUNTER: Yeah. And of course, part of the point there being that, you know, ultimately for some of the members of industry – let's just say as an example Lockheed Martin – when, you know, 80-plus percent of their total revenue is coming from DOD, when they invest in a program, you know, ultimately their money is coming from DOD, so at some level DOD is paying that investment bill. They're just paying it with different dollars than we're used to seeing. And so you're right. So there's – you know, even with – or, in many cases, with OTAs, the money we see is the DOD money, but there's often also a cost-share.

So there's industry money going into that. They may be recovering some portion of that through IRAD, which the Department of Defense reimburses. And the way IRAD works is if Lockheed Martin has a contract, they can apply an IRAD expense to all of their – as an overhead charge on all of their billings. So it's diffuse across all of these categories of spending. So there could be some R&D effectively buried inside some of these other accounts. So that's one possibility, is with

companies investing IRAD. There's more money potentially coming into R&D than would show up in our data as R&D. And then to the extent that it's not reimbursed it could be that they have commercial technologies, commercial R&D that they're leveraging. So I suspect what you see of this – what you'll see of these long-term declines in money going into R&D is it's necessarily forcing companies to use R&D from other sources outside of the traditional system, OTAs being one example but there are several other examples or possibilities.

And particularly I know on space, right, there's a lot of cost share going on right now, and there's the potential that there's a lot of commercial R&D to leverage. I don't know personally how SpaceX accounts for its R&D because they're – you know, they're kind of a – they're a privately-held company. They don't do a lot of reporting. But it has to be a pretty large share of their budget.

Q: I mean, since you mentioned space, do you think it's a smart way for DOD to leverage commercial by doing these OTAs? Because they always get criticized for not leveraging commercial. So do you see that as a smart approach?

MR. HUNTER: It can be. The issue always with – yeah. The issue is – I mean, the answer to your question is yes.

Q: Yeah.

MR. HUNTER: OTA is a tool specially created and designed to do that, to allow the government to leverage commercial R&D. The caveat is, you know, a poorly designed or poorly run OTA can – won't achieve that objective. But it is a tool precisely for that purpose.

OK. Let me look back at my notes and make sure I don't miss something before me move off this slide.

By the way, I should just also say on your question, I want to be clear, R&D in the last two years has increased. So it's not decreasing in absolute terms. But it's – or it's flat/decreasing as a share of total obligations.

Q: And with R&D stuff, is – kind of piggybacking on the question over there – are you seeing defense industry trends – is defense industry more willing to throw their own dollars at development because off-the-shelf technologies are being prioritized at this point? Are you seeing defense industry players, even when that money isn't sort of filtered back in however it gets filtered in through the backdoor with R&D, are you seeing people being more willing to write their own checks for this stuff?

MR. HUNTER: Well, I don't have solid data here on that. But I would say generally what we're seeing is diversity across industry, which is an interesting thing in and of itself. You know, so some companies are investing.

You know, you see Sikorsky and Bell are putting major amounts of money into cost share for future vertical lift prototyping and those kinds of purposes. Now, they've kind of started to cry uncle and say, you know, hey, DOD, you can't expect us to just keep chipping in our own money and then we never get a contract from you to actually build the darn thing, so there's a limit to how far that can go. But you see that in future vertical lift.

You see it with the engine companies, Pratt and GE, putting lots of money into the advanced – I don't want to get my nomenclature wrong, but the next generation of engine technology.

And you see it with, you know, Northrop Grumman. I think it's been reported that when they bid on the B-21 contract, they were aggressive in saying we're going to invest our own money into the design and development process and not bill the government for it, and that caused some controversy. You know, the other side kind of said we're not sure that's fair. And ultimately, the GAO said the way it was done was permissible. But that was one thing where they said we're going to – we're going to allocate some of our independent research-and-development dollars into the program and charge the government less on the design side. And so you do see companies doing that.

Now, you see other companies that are just as happy to say, you know, the old model works for us, and we're more interested in building stuff than in doing lots of, you know, intensive design efforts. And so other companies are, you know, focused more on, you know, just being as efficient as they can at building what they already built and incrementally improving it over time. So there's diversity.

And one of the things that's interesting about that is during the drawdown there was absolutely no diversity. Every company had the exact same business strategy. It was relentlessly cut costs as fast as possible, reduce capacity, you know, try and get in line with the new budget picture as they understood it as fast as possible. And they all were doing the same thing, and people were all cutting back investment, and they were all buying back stock. And now you see big, big differences in the different companies as to how they're strategically positioning themselves.

Q: And with folks like Pratt or GE, as they – as they develop new engine technology, right, that's been going to military development, that can also have commercial applications. Are you seeing – are you seeing investments that these companies are making, they have to have some sort of a commercial – some sort of a commercial application as well or potential for commercial application which makes it worth them investing? Or is this investment going into strictly defense-oriented technologies?

MR. HUNTER: Well, it's a little hard to know for sure. They won't just come out and tell you, you know, gosh, you know, we're – you know, we're hedging our bets. We want you to know we're hedging our bets on you guys because we don't trust you. And, you know, but it's pretty rational, I think, to guess that if a company is investing a big chunk of its own money into an uncertain market, they are not going to put all of their eggs in the DOD basket.

You know, they're going to be incentivized to invest in things that, yes, can have advantage for the military mission, but they'd better have a plan B would my guess. If I was their shareholder, board of directors, that, OK, if we put a bunch of money into developing this thing and the DOD ends up not buying it, we'd better have some idea of how we're going to have a commercial application for it so that we're not completely out that investment.

And so, you know, there are some things that don't lend themselves very well to that. On the engine side, even though military engines and commercial engines – we're doing a study on this, so I have a little more depth on it – even though there's a lot of overlap, you know, there are things that commercial engines don't really need to do.

You know, basically, when you take off from the airport, you know, the engine goes really hard and hot while you're doing takeoff. And you get up to cruising altitude and then you just cruise, right.

And then you decide to land, and so you have a brief period where your engine is focused on those kinds of profiles. But you're not up there, you know, doing combat maneuvers and spooling up really fast and then, you know, pulling back hard as you let the guy go. You know, you're not doing that kind of stuff with that engine.

So the military engine is designed fundamentally to do something a little bit different. And there are aspects of the way the engine is built that are designed to support that. And, you know, there are some commercial applications to – like, some of the material science that goes into making that policy. But overall, that engine – that commercial engine is never going to need to do that, so it's not going to be designed to do that. So there's only partial applicability of some of what you need to do for our next-generation military engine to your commercial side. But, believe me, my guess is they are going to mine every inch of that potential.

Q: I have a quick question.

MR. HUNTER: Sure.

Q: So these are all unclassified contract documents, right?

MR. HUNTER: Yes.

Q: So do you have any indication of what that R&D trendline would be like if you did have the classified dollars in there? Is it possible they're just putting more of the R&D in that space?

MR. HUNTER: Yeah. You've touched on a tricky issue that is – there's not a lot of good answers for. But there is what we sort of jokingly have called R&D dark matter. When you look at R&D budgets and then you look at R&D contract obligations, they do not move together in a tightly coupled fashion. And you can't sort of say, like, well, you know, like, if you look at products – of course, products are confusing because you can have products that come out of procurement dollars and products that come out of O&M dollars. You know, but at some level you can say, well, you know, X percent of all budget authority for procurement is going to generate into products contract obligations. You could probably draw a chart like that. I don't know that we ever have, but it's pretty reasonable.

In R&D it's really challenging. And part – and the question is why. Part of it is that a lot of classified spending is put in the budget as R&D spending. And then the other thing is we have big R&D government labs which, you know, there are salaries that goes into R&D. There's even facilities money that can go in as R&D budget.

So R&D budget goes in a lot of different directions, and we only see some of it show up as contract obligations that we can observe. And so we've called the difference R&D dark matter. And it is a very under-explored area. (Laughs.) And it's under-explored for a reason, right. I mean, the government doesn't really want us to know. That's why they put classified spending in R&D, because it makes it hard to see. They don't want us to see it.

So, Greg, would you add on –

GREGORY SANDERS: I think the only other thing is that sometimes when we do breakouts by component, the Air Force has actually been having a diminishing share. And we think that probably the R&D dark matter is part of that explanation.

MR. HUNTER: Yeah. So we don't have a really good basis to say what's happening with the classified R&D. Having said that, it's not as invisible as you might think. You know, I think Todd has – occasionally when he does his budget looks, he'll kind of joke about some of the bizarre names on some of the accounts. There's all these, like, tractor – you know, all these budget accounts that go under the name tractor. And they're probably intelligence-related activities. And so it's not as, like, obscurely hidden as you might think in some cases.

I would just say generally, when you look at the sort of overall federal budget climate, you don't hear that, you know, intelligence agencies are reaping this giant budget bonanza. You don't see intelligence guys walking around town talking about how great they're doing in the budget process. So I am skeptical that it would be logical that there's a huge increase in classified R&D that we're not seeing, just because you feel like you'd have some sense, you know? People on the intelligence committees would be saying, oh my gosh, we're putting so much money into this, you know? I would think there would be more evidence. But we don't know for sure.

Q: Thanks.

MR. HUNTER: All right. I think we're ready to go to the next one. So who's the winner in the market of these trends that we see? And the answer is really, really clear. A lot of times I have to give you a hedged answer. But in this case it's really clear that the top five companies – the big five: Boeing, Lockheed, Martin, Northrop Grumman, Raytheon, General Dynamics – are wining overwhelmingly in this budget climate. Their share of contract obligations has increased massively over the last two years.

And as you can kind of see – I mean, it bounced around a little bit for the 10 years preceding that, but was, you know, I would say fairly consistent over time. And it has just skyrocketed. And, again, I attribute this to the fact that the increase has been so much driven by aviation, which is a concentrated area of the market – as we will show in a little bit – and it's going into existing production lines, which are almost always dominated by the big five companies.

Now, in terms of the other – beyond the big five, what you see is that medium, which was on a massive long-term decline, has basically bottomed out, and the recovery seems to have stabilized. Their market share – small business is basically holding steady. You know, they had a huge increase as a share of the market during the draw down. And they are now – you know, they're still staying roughly at those elevated levels, although their share of the market slightly declined in 2017.

And then so who's paying – who's paying the bill, so to speak? Who's losing market share? It's the – it's the big companies beyond the big five. And so, you know, we all know that L3 and Harris have decided to merge. And, you know, they've talked about trying to become number six. And, you know, that's a little bit ironic and funny to us, because we have this long-running debate about who was number six, and it changed every year. We decided it's not even worth thinking about six. And now, you know, L3 Harris says: We want to be number six.

And maybe they'll get there. We'll see. You know, I don't know if you saw the news last night about United Technologies deciding to split up, but I think that aerospace company is going to become

this jewel, that lots of people are going to be coveting and probably talking about how to (raid ?). That would be my guess. So that's the overall market structure.

OK. Now, where, if we – sorry.

Q: Yeah. What are you seeing with trends in growth in European defense companies? So as the U.S. becomes, arguably, a less reliable partner for NATO countries, for the EU, are you seeing market share being eaten up at all by European defense contractors? Are you seeing growth there? Or is that a blip?

MR. HUNTER: I mean, we don't have great data on that. Overall, we know that U.S. defense companies invested heavily in overseas markets during the draw down to try and, you know, stabilize and minimize their revenue hits. And they succeeded. You know, Lockheed and others have all increased their percentage of their revenue coming from overseas markets.

But, Greg, do you have any –

MR. SANDERS: Just one thing, coming out of what I have heard from SIPRI experts, you do see country-level investment, but so far the idea of really building up that cross-European industrial base as a potential response – you know, there have been things – moves in that direction, but they, at least, are not seeing that actually consolidating yet. So I think one of the big things to watch for there, if we really see the emergence of the counter, would be Europe – major European players working across borders effectively. Rather than just punitively merging, but then having separate divisions, but keep doing what they used to on separate country bases.

MR. HUNTER: All right. And the big barrier for them is that, you know, it's really hard for the individual nations to give up their national champions. So they've consolidated to a large degree, but to consolidate further would mean, you know, a country saying: Yeah, we've decided we no longer need to produce tanks here. We're willing to buy someone else's tanks. And a lot of them just aren't willing to do that yet. That's been the big barrier. Tanks may not be the best example, but there are other – you know, other product lines. You know, they like to make their own, you know, guns or things.

Q: Yeah. And – well, guns is a good example, right? Like, that's something that you don't necessarily need to have widespread consolidation across, like, the EU, to produce – to produce a nice gun or a – or a nice turret, or whatever. Are you seeing some of the maybe not necessarily, you know, producing tanks or planes or helicopters or whatever, but some of the smaller industries, are you seeing any increase – I'm thinking of somebody like Kongsberg or something, like, you know, really have done a bang-up job of consolidating the turret that sold, you know, to the U.S. Are you seeing smaller – you know, smaller products being – an increase in the production of smaller products like that with European players in the industry?

MR. HUNTER: I'm not sure we have direct data that shows that. I think what I would say indirect data is this big push towards things like the national technology and industrial base that DOD is pushing to sort of integrate the U.K. and Australia in some way. You have European companies like Kongsberg and others that are making big plays in the U.S. market and showing some success, and I think the demand signal is there.

We did – Rhys led a study a year and a half ago on Army modernization. And, you know, all of these trends we show about R&D being kind of on a long-term decline, when you look at just the Army data, right, it's not just a long-term decline; it's a precipitous, you know, cataclysmic – (laughs) – catastrophe in terms of R&D investment for the Army. And so, basically, for 10 years there was very little invested in R&D, and that which was was mostly, you know, not invested wisely because it went into things like FCS that never generated product. So there's a huge demand signal from the Army in particular for, OK, we didn't do a lot of meaningful investment over the last 10 years, but a lot of European companies did, Kongsberg being an example of that. By the way, they're a member of CSIS, so I don't mean to highlight them, but you mentioned them.

So that means that those companies have product to sell at a time when the Army doesn't have as much product as a result of its own investment that it might need. So I think there's a huge opportunity there. But we haven't looked specifically at money going to European companies from defense.

MR. SANDERS: And I can do a quick follow-up on that today and, you know –

MR. HUNTER: Yeah. I mean, if you pick out certain companies, you can certainly draw a trend line there. Not necessarily all European companies, but you could pick a basket of meaningful ones.

OK. So – yeah, Sandra, sorry.

Q: Sorry. One the – on the space systems chart, it's down. Contracts are down. And I wanted to follow up on your point about large – the dominance of large companies. I mean, that – a lot of that cycle is driven by the recapitalization of satellites, but there is commercial companies that, obviously, are trying to get into the market. And so what they always say is that the establishment companies are going to do everything they can to convince DOD that, no, don't buy commercial technology, they're not proven technology. So to what extent do you see the consolidation into fewer companies – that the DOD contracting to fewer companies may be continuing in that – in that sector?

MR. HUNTER: So why don't we jump ahead, Greg, if you could, to – and I'll let Greg speak to this because he's – he did – led our monopoly study. But we did do a study on concentration in industry, but with a focus on sectors relevant to defense. And so this is a little bit different look because it's organized by NAICS code, which is, you know, separate from our – it's a separate classification system from our platform portfolios that we use for doing defense analysis, but I think it's relevant. And what you see, actually, in space systems is although it's still a concentrated industry, it's growing – it has grown increasingly less concentrated over the last several years.

MR. SANDERS: Yeah. And one of the big takeaways here, you know, as you noted, space dollars were down a bit. But I think the commercial efforts do show up in the funding – the measure here is Herfindahl-Hirschman Index. That's used by Department of Justice to look at M&A. I am happy to give details on how that works if anybody wants to get into the weeds later.

But, you know, we do – in essence, it puts more weight on the largest players. And so we can see, actually, space system consolidation has gone down a little despite, you know, what you saw on the slide. Meanwhile, in some of these sectors where the money has gone up, like aircraft and drones, consolidation has also gone up as the F-35 and other systems have been you know, particularly dominant.

So one of the interesting things we found at this was that it's not always just a matter of more money equals more players. It's filtered through a variety of things – you know, acquisition rules, procurement decisions – that can influence, you know, market consolidation, and one of the things from the study that gets covered in the executive summary. And the study really focused on NAICS, so this one is – (inaudible) – platform portfolio.

Q: Oh, that.

MR. SANDERS: Yeah. Is that we did find that in more consolidated sectors there was not evidence of greater ceiling breach. So we didn't find, you know, cost growth evidence. But we did find that termination rates go up as you get more consolidated, which is potentially a sign of more market power on the vendor side, sometimes translating into, you know, trying to get a program to work for a while and then ultimately failing.

MR. HUNTER: And just on – in terms of the chartmanship here, you see the two dotted lines, the lower one and the higher one. And those are on this index that Greg referenced that Justice uses to evaluate M&A. The lower line is what they call moderately concentrated.

MR. SANDERS: Yeah.

MR. HUNTER: And so they – it starts to register antitrust concern. If you get into the moderately concentrated area, below that level, probably no antitrust issues. And then as you get into – the upper line is called highly concentrated. So you're definitely looking at antitrust concerns when you get into a highly concentrated regime. And that's the higher line.

And what you see overall is a lot of these sectors that are important to defense are pretty concentrated. You know, they're either highly or moderately concentrated from the get-go. And then the trendlines – overall, actually, we were surprised that there wasn't more of a trend towards concentration across different sectors. But the one exception to that is aircraft and drones, where there's a clear trend towards higher concentration. And that's interesting.

MR. SANDERS: And with ordnance and missiles getting into the medium area.

MR. HUNTER: Starting to get into that area where you start to – start to look. And, of course, again, you know, this data ending in 20 – I think in this case – 16 –

MR. SANDERS: Yeah, 2016.

MR. HUNTER: – that's pre-, you know, Orbital being acquired by Northrop Grumman. So this –

MR. SANDERS: Oh, no, it's 2015. Yeah, 2015.

MR. HUNTER: So there'll probably be some other issues there.

MR. SANDERS: Yeah.

Q: For concentration in the industry, with ships and submarines, do you see that concentration ticking up in the near – in the near future or in the next few years as Coast Guard looks to sort of – looks to build new stocks, the Navy trying to increase their ship production? Or is that going to remain diffused?

MR. HUNTER: Well, it's been pretty consistent over time, I would say, you know, as – with the spinout of HII and once those other things kind of get into the data. Now, of course, that doesn't necessarily dramatically change concentration, because HII is still a really big company, even though it's separate from Northrop Grumman. And Northrop Grumman is still a pretty big Navy contractor on ship programs. So, you know, it's only a – that was only a modest change when it comes to the way HII would reference its concentration index, because they're still pretty concentrated firm there.

But, you know, you're right. I mean, you could see something similar to what we see with aircraft. If we were going to say, OK, we're going to go from building, you know, five – or two or three destroyers a year to building 10 destroyers a year, I mean, that would probably start to have an effect, because that money is so – at least at the prime-contract level is definitely going to the biggest players.

But, you know, shipbuilding doesn't lend itself to really sharp increases and declines, you know, because it's very chunky money and, you know, there's kind of this human-nature reaction that says if we get too much below 10 ships a year, people start to freak out. And if we get too much over 10 ships a year, we just can't afford it. So it tends to kind of oscillate in this relatively tight band of how many ships a year we produce.

So I don't – I wouldn't personally expect a huge shift in that market. But if we really did go, you know, all out to get to 355 in, like, 10 years' time, yeah, that would probably have an effect.

I want to make sure I get to all of it. So we're on platform portfolios. So, anyway, again, there's a pretty clear winner in terms of where the money is going amongst the platform portfolios. And the winner is aviation. As you can see, it's really skyrocketed in the last two years.

I was kind of looking at this chart this morning, and it struck me – something I hadn't really thought about before, which is if you were to just draw a long-term trendline for aviation and you excluded 2013 and 2014, it would actually be a fair – you know, it would be an upward-sloping line, but a fairly continuous line. So when we did our sequestration work, we talked about aviation as an example of whipsaw effect, where they were growing pretty healthily and then suddenly we're in free fall in '13 and '14, and then suddenly started to skyrocket up again in '16. We call that the whipsaw effect.

But if you look over it over the longer scale of time, it's starting to look almost like, you know, '13 and '14 were just this big aberration caused by sequestration. And I guess, from that perspective, you could say that aviation paid a large share of the sequestration bill and are now perhaps returning to normal in some sense. But when you look at the system at a whole, we saw this robust increase in contract obligations, but you can see that it's incredibly heavily weighted towards aviation.

And one of the questions I have – not to suggest that aircraft aren't important to the National Defense Strategy, but when the National Defense Strategy says, what we need to invest in is – you know, is artificial intelligence and human-machine teaming, and then I ask myself: Well, then why is all of the new money going into aircraft? You know, aircraft can employ artificial intelligence. They

can employ human-machine teaming. But it's – you know, again, this doesn't – when I look at this distribution by platform portfolio, you don't look at this and say, well, I can clearly see how the defense strategy has shaped this spending. It looks, again, more like a – something that's shaped by the fact that it's easy to put money into aircraft production lines, which are really high-visibility, attractive things to fund in Congress. And that's where a bunch of the money went.

So there is another – a couple of other that are increasing. Obviously, ships and submarines are growing. And we see growth in ordnance and missiles, even though that looks more subtle. But as a percentage share, it's pretty solid growth there.

OK.

Q: Excuse me. You mentioned, you know, the artificial intelligence. How do you see the investment in – artificial intelligence investment? Is it increasing, or it's not increasing as expected, or?

MR. HUNTER: Investment in?

Q: In artificial intelligence.

MR. HUNTER: Offshore?

Q: Artificial intelligence.

Q: AI.

Q: AI.

MR. HUNTER: Oh, yeah. Yeah. Yeah, how would that show up? That's a really good question. Some of you know we just completed a study on artificial intelligence. And honestly, it would be very hard to detect in many ways in the data because, you know, there's not – you can't sort of go out and say: I'm going to buy, you know, 10 – you know, well, I suppose you could someday, perhaps – but I'm going to buy 10 robots, and that's my investment in artificial intelligence. It tends to be much more buried in other things.

So Project Maven, which is the relatively well-known Air Force effort that is focused on implementing AI in looking at images and processing images, you know, its funding is going to come from, you know, categories that are of spending on intelligence and tasking, processing, exportation, distribution. And so how would that show up in our contract data? It would be – it'll show up if it's a contract to Google, or a contract to Microsoft, or someone else. It'll be there. But it would be, you know, probably categorized under – I mean, it would probably be categorized definitely under Air Force and probably under –

MR. SANDERS: Electronic communications, sensors – (off mic) – is where we would actually – (off mic).

MR. HUNTER: (Laughs.) And I mean, that's a – raises another point. Which is, when the contracting officer records the obligation and they put the data in the database, I'm not saying they use a magic wheel to decide what categorization to put on it, but they have discretion. And not all

contracting officers may ultimately make the same categorization decision as another individual might make. And so there can be some inconsistency there about how things are classified.

We talked a little bit about research and development and the shift – this kind of structural shift away from the traditional research and development model, where – what I draw your attention to here is the SDD 6-5 (ph) category. And we've shown these charts for a while and, you know, the message for a long time has been that system design and development which is where you're turning technology into a real thing that we can buy, happens, has been in a long-term decline. And you see that. It did increase in FY '17 and in percentage terms. I mean, it looks like a blip in the naked eye, because the scale of the chart is to where we used to be with SDD when we were spending almost – you know, almost $20 billion a year on it, at peak. And now we're down into the, you know, $2 ½ (billion) to $3 billion regime. So it's kind of hard to see.

But it did increase in FY '17. And in percentage terms, it's a – it's a reasonable increase. But, you know, over the longer scale of time, you see that we are still at very low levels compared to where we've been in the past, historical. It's less than half the historical average that we have spent on system design and development in the past. And so traditionally, you know, your F-35 program would spend – you know, somewhat infamously have spent over $50 billion in the SDD phase. And, you know, that's where your development really happens. And what we see is even as contract spending has been in a robust recovery, SDD is still at a very low level. And so – and the other R&D types, by the way, aren't doing great overall. (Laughs.)

What's interesting here is although there's a lot of talk about we're going to be doing more prototypes, at least through the end of 2017, yeah, there's an increase, but it's not a – you know, this is not an awe-inspiring increase, particularly compared to the decline that you see in SDD. So it's not all just shifting over. It's shifting outside of this system, effectively. And where we think some of it is shifting at least, we have on the next chart, which is OTAs.

So you see that OTAs have increased 195 percent over the last –

MR. SANDERS: This data may not be entirely accurate. This is – sorry. This is from FPDS. We're not – we still need to – there's not exactly the greatest transparency on OTA, so this is all what is in FPDS and may be off by magnitude. So we're still –

MR. HUNTER: We don't know for sure that all OTAs are being reported. This –

MR. SANDERS: This is what's actually publicly available.

MR. HUNTER: So this is – this is what's reported. So we think this information represents real OTAs that are – and real expenditures that are really happening; we may not be able to capture the full universe of OTA spending because we don't know for sure that they're reporting all of it.

Q: Why are they not required to report all of them?

MR. HUNTER: Well, the whole idea of OTAs is that none of the normal rules apply, so. (Laughs.) Now, there's new guidance that DOD has put out – Ms. Lord put out saying they're trying to get their arms around OTAs and how they're being used, and there's some – been provisions in the NDAA requiring them to do a little more visibility although I don't think they specifically required any reporting in FPDS. But, you know, there's a good reason, I think, for them to do it inside FPDS

because it's a tool that exists, and why create something when you have something that already does the job?

So, but what you see here is OTAs increasing robustly. Again, this is before the new team really got its ability to drive its policies into action, and so my guess is this number will continue to increase. That's somewhat speculative, but with all the emphasis on OTAs I would expect to see it continue to increase. It's being diversified a little bit. It's been a very Army-led process. OTA process, the Army has kind of had the secret sauce for that. DARPA does a fair number of them as well. But you see the other services starting to get involved. Air Force has increased in part I think because of the space side. There's been some big OTAs in space done by the Air Force.

And so what you see here is there's now a little over $2 billion, at least of what we know, that's been reported. So, you know, when you consider that the entire SDD expenditure is less than 3 billion (dollars), the fact that there's 2 billion (dollars) in OTAs would suggest that OTA really is becoming a full-fledged alternative to the regular system.

Q: With this and the – and the past slide, how much – how much has the trendline from 2009 been affected by the – by the ignominious death of Future Combat System? Was the way that that – was the death of that program and the way it was killed, did that have major effects that we're seeing right now on these – on these trendlines?

MR. HUNTER: I would say not so much. It has a much bigger effect if you look just at Army. You know, then basically the Army R&D story is the story of the death of FCS and the failure of any kind of anything successful to grow out of – (laughs) – or to come in the aftermath of FCS. So for Army it's a big influence. For DOD overall it hasn't been a dominant factor.

Over time the thing that people have sometimes said is, is the trend you're showing a real trend or is just a feature of X? The "X" has always been F-35. F-35 is the monster that, you know, drives the Pentagon to some extent. And so for a while we would sometimes do controls on our trends to say if you removed F-35 from the equation would the trend look different. And by and large the answer is no. Overall, the real – the trends that we see are real trends even if you take out F-35. So even though –

Q: (Off mic.)

MR. HUNTER: Yeah. So even though – even though – you know, even though the end of the F-35 SDD program – (knocks on table) – if it ever ends, but it's supposed to end relatively soon – you know, going and spending $5 billion a year on SDD for F-35 to eventually spending zero, that's a big change. But taking that out of the equation does not – does not eliminate this long-term trend in decline of SDD. And, you know, I mean, I would also say that in the past, as F-22 SDD program tapered off, you had the F-35 SDD program building up. So the fact that there is not a – you know, the sixth-gen is separate from F-35 is notable.

I mean, it can be a feature or a bug, right? Some people are really frustrated that as soon as we get done developing one airplane, we have to go develop – you know, why can't we space it out, you know, the way I try to, you know, buy a car and then, you know, try to have a year or two where I'm not making a car payment before I go buy a new car? So that can be a feature or a bug, but there is this gap between fighter classes.

All right. Now, we did a special focus look this year on services because – for a couple reasons. One is that there's been a trend toward consolidation in the services market, in the sense that we have seen lots of mergers in this space, including some fairly large ones, you know, where you get companies that are very substantial size like Leidos. And then also there's just been kind of a general idea that as we move towards possibly using more commercial technology and – that we might see more and more of what DOD buys show up as services rather than gear, over time. Now, that story that, you know, we were looking for is a little bit complicated by the fact that products has grown so much and so services as a share of contract obligations has actually declined.

Something else that's notable is you look at these charts here, where we've separated out the services market by the category. PAMS is Professional and Administrative Services, so kind of your high-end technical services that people are selling the government. ICT is Information Communications Technology, so, you know, IT, basically. ERS is Equipment Related Services, so fixing tanks and Bradleys and those sorts of things, and aircraft. FRSC is Facilities – I'm going to get this wrong, but – Renovations, Sustainment –

MR. SANDERS: (Off mic) – yeah.

MR. HUNTER: Facilities-Related Sustainment and Construction, so that's your – that's your, you know, buildings and things like that. And MED is medical. So those are the different categories.

And what is interesting to me here is that what you don't see is a huge – and outside of the medical regime where you have – with TRICARE you have a very unique medical system in the DOD environment. And so you see that that system is totally dominated by these large, you know, TRICARE contractors that expend all of the money that comes out of the TRICARE system.

But overall, you do not see these large companies, like a Leidos, for example, like really growing their market share. In fact, large companies are kind of losing market share in the services market. And that's – and you see that small businesses have grown some market share, particularly in the technical services area.

And then, when it comes to equipment-related services, you see the Big Five are making gains in market share in that area. So they've – you know, like Boeing establishing its separate services division; you know, they're after getting some of this after-market maintenance dollars, and they seem to be succeeding in that, and other companies as well.

So what you don't necessarily see in this data is evidence that the consolidation in the services market has really fundamentally changed the market in their favor. In fact, it seems like they're sort of scrambling to keep up. So that was interesting to us. You see small business doing pretty well in the services market, and that's potentially – I mean, that's good for small business and I think that's been driven by the department trying to get as much dollars into small-businessmen as they can, but then over time, you know, what kind of – how does that affect the market? Because all of these small businesses are family-owned and it can be very hard for them over time – if they don't graduate into a bigger business, how does that sustain itself?

Next slide. And this is on – OK, this is on – OK, so that's kind of the end of our data summary of just kind of the overall acquisition system. And this slide is the first one – I think we have two – that comes into our study on new entrants in the defense industry, which is a new study just released last week. We have the nice hard copies of that one here.

Sandra.

Q: Before you move to that –

MR. HUNTER: Yeah.

Q: Can I ask a question about one of the charts? Where you have these lines – one says unlabeled, not effective comp, effective comp – what does that mean?

MR. HUNTER: So that gets to the – Greg, do you want to answer that?

MR. SANDERS: Sure.

So briefly, picking up on DOD classification, "effective competition" is competition with two or more offers.

Q: OK.

MR. SANDERS: So "unlabeled" means we don't have enough information to effectively categorize. And, you know, "single-offer competition" is it was competed but there was only one offer received.

Q: OK. All right.

MR. HUNTER: And "no competition" is sole source.

MR. SANDERS: Yeah.

Q: OK. So when we read these charts that have two lines, we have to kind of analyze that this is according to one set of assumptions and this is according to a different set of assumptions?

MR. SANDERS: They are total proportion in the market, so it would be just effective and not effective. Then we lump together not-competed sole source and we – and single-offer competition.

Q: OK.

MR. SANDERS: Yeah.

MR. HUNTER: Our theory has always been if there's only one bidder, you know, it's – (laughs) – that's not effective competition, so.

Q: Sure. Yeah, yeah. OK.

MR. HUNTER: So in terms of new entrants, we did a study where we defined a new entrant as a – as a DUNS number, an industrial site, doing business with the federal government that had not done business previously, didn't show up in the data for a significant period of time. And then there they are. They show up. They're doing business with DOD. They're getting contract obligations. So they're a new entrant to the market.

And then we kind of identified those companies by year, so we looked in – we wanted to have many years of data to evaluate how they did. So we looked at, I think, 2001 through 2006 and took samples of each one, identified the new entrants in each of those years, and then tracked what happened to them over time.

And one of the things that jumped out at us as we did this is that the number of new entrants declines pretty substantially. It peaks in 2005-2006 and then starts to decline over time. So that is of concern to us that there seemed to be a very reduced number of new entrants in the marketplace in the last 10 years, and increasingly falling over time.

And what you see is that's pretty consistent across the different categories of the market. So, you know, we saw earlier that when you look at growth, it's pretty concentrated in aviation or it's concentrated in products. And so as you dive into the numbers, the overall trend isn't apparent across the sectors of industry. But here the reduction in new entrants is very consistent across different sectors of industry. You know, there's a blip in missile defense in a single year, but overall it's a very clear trend across the different sectors of industry. There's just much less dynamism in the marketplace over time.

And that's, I think, a very significant concern for DOD. It, I think, gives explanation for why there's been this big effort in the last several years to do more outreach to nontraditional suppliers. But what we don't see is a lot of increase in nontraditional suppliers – (laughs) – as a result of those efforts. So it's kind of, you know, I think a glass-half-full, glass-half-empty situation. You see the strategic imperative to do outreach to new suppliers in the marketplace in this data, but you don't necessarily see success, right. We don't at all see success.

And then what we also did – this is the number of new vendor sites. And then we compared that to the number of incumbents. And what you see – so the darker green shade is the new entrants, same basis of data except in number versus the last one was a percentage-share slide. And then you have the incumbents is in the lighter green shade or perhaps bluer shade, depending on your perception of color, where you see that it's not just that new entrants are declining because all participants in the marketplace are declining. New entrants are very much disproportionately declining compared to what's happening to incumbents.

Q: When it comes to OTAs, would the increase in OTAs have any effect on the small amount that would have increased in the past year? You know, I mean, like, I know it's only $2 billion, but, I mean, the amount nontraditional companies are bringing in, or is it just too small?

MR. HUNTER: Yeah. I like – you clearly follow the defense market when you say only $2 billion. (Laughs.) I can sympathize with that.

Well, I mean, what's interesting is a lot of the OTAs are going to traditional defense companies. You know, so when you look at the new big Air Force OTAs for space launch, you know, they're going to the joint venture. The ULA joint venture Aerojet is getting money there. So I think also, you know, Orbital/now Northrop Grumman has one.

So by volume, a lot of the OTA dollars are going to companies that have already been in the defense industry. And so that's a potential source of controversy going forward. It's been a source of controversy in the past. You know, one of the controversies about FCS, which was originally

structured as an OTA, is, OK, we've got this $5 billion OTA going to Boeing, the Boeing Company. You know, why are we – (laughs) – the Boeing Company knows how to do defense contracting. Like, why are we – why are we structuring it this way? And that caused a lot of controversy over time. So I think that is a potential source of increasing controversy, is how much of the OTA dollars are going to traditional defense companies. And I can see a logic for doing that, because if you want traditional companies to behave in untraditional ways, you may have to give them some relief from some of the traditional requirements of the defense acquisition system. But it's clearly an issue that Congress is going to be focused on over time.

So I don't know that the OTA increases is necessarily going to change this in a meaningful way. It could, right? If all the OTA dollars were truly going to nontraditional, you know, you're starting to get to a level where it could have an impact. In fact, we looked at obligations going to new entrants. We don't have that slide here, but it's in the full report that Samantha has in front of her and we'll be happy to give to anyone. And what's interesting is 2005-2006 was the peak for new entrants that we see in the system. So if there is a golden era for new entrants, it was then. We don't have data going back from the 1990s, so unfortunately we can't – you know, it's a narrow window we're looking at.

But even at that time, the total dollar obligations going to new entrants was on the order of – see, it's obligations each sample. Which one should I look at? Yeah, that's incumbent. This is new entrants. Well, let me put it this way, it's in the order of millions, not billions. So in theory, if we wanted to, say, just notionally – as a strategic benchmark – we want to spend as much on new entrants as we did in 2005, when the golden era of new entrants, that would take less than billions of dollars. So a $2 billion OTA spend, in theory, could reverse the decline in dollars going to new entrants in and of itself, if all of those OTA dollars were going to new entrants. But they aren't. (Laughs.)

OK. Margaret.

Q: Just a quick question kind of about – (off mic, then comes on mic) – mergers – (inaudible). Pardon my voice. I guess I wonder what you think that means for M&A and kind of consolidation in the market? I mean, it sort of – the largest of that big five kind of already seem like targets. You mentioned L3 and Harris and Orbital. I guess do you see this as a driver? I mean, I haven't thought of that as a reason for sort of the consolidation in the market. And I'm wondering if you think it is a driver or it will have future effects on the way companies are thinking about this market?

MR. HUNTER: I believe it will be a driver, because, you know, it suggests that companies have to take more risk to make big R&D plays in the defense market. And generally speaking, a larger company can tolerate more risk than a smaller company because if the risk doesn't pay off they're not immediately driven out of business. Now, that doesn't mean they're always going to take more risk, right? The fact they can tolerate it doesn't mean that they will take it, you know.

And small companies – you know, if every decision for a small company is live or die, then the difference between a big live or die and a more modest live or die may – you know, it's just not material. They may take it anyway. But I think it does create an incentive for – particularly with the lack of new entrants into the market place – that a lot of the people who are making these risk-based decisions to invest in the defense market are companies that live in this market and want to continue to live in this market, because they've been in the market for a while.

And so they're going to – the bigger they are, I think, the more they can tolerate the possibility that they can take a risk and it not pay off – or, not pay off over a fairly long period of time. You

know, I think none of them are going to do well if they take risks that totally fail. But they can maybe wait longer for it succeed, the bigger they are. So I think it is a pretty big incentive to consolidate.

Q: And then it sounds like you think one of the reasons that – I mean, it seems like it's all linked. The reason the big five are winning a disproportionate amount is because a disproportionate amount is going to products, and the reason that that's happening is because Congress is throwing that money back in. And so, is it possible, if you accept that conclusion, to say that what's happening in contract spending is not actually reflective of DOD goals. It's just reflective of the way they're getting money back from Congress. And that's kind of distorting the way they're spending.

MR. HUNTER: Well, yeah. And I should say, it's not all Congress' fault. (Laughter.) So, you know, I've – we've talked, I can't identify individuals, but to people who had a hand in some of the Army's budget process. And they basically said, you know, we knew we needed to put more money into modernization. We don't have a shelf stocked with new things to buy, so we decided to buy the things that we have to buy, you know. So you see increases in Black Hawk, increases in Apache, increases in Bradley and tank upgrades, because that's what they – that's where they had money that they could actually execute.

You know, think about the fact that – I forget – I'm now hazy on the exact number, but Mattis talked the president – it was like a $30 billion, like, last-minute add to the budget? Well, if you're the budgeteer, and someone comes to you and says, hey, in the next two weeks I need you to add $30 billion to the budget, where would you like to put that, you know, it's like, well, we already funded the must-pay bills in O&M and we funded the must-pay bills in personnel, and so – and we know we're deficient in modernization. So we're going to put it in there. But are we just going to put in a wedge for next-gen? Congress is going to eat that alive. No, we're going to put it into helicopter programs where there's production in, you know, well-known congressional districts of people who serve on committees so that – you know, and F-35 – so that that money's going to get approved, and we can execute it, and it won't just sit there as unspent money that goes away at the end of the year. So powerful incentives on both sides, not just Congress.

Q: I mean, it almost sounds like you can make it – blame it all back on sequestration. And so when you have to – when you have the sort of back-and-forth that they had had, sort of a FYDP that shows what budget they're actually going to get, then they might spend it differently than –

MR. HUNTER: I think you're exactly right. It's the flipside of the coin, that when the Department of Defense had to take money out of the budget really fast and really unplanned – because they didn't plan to implement sequestration, and I won't give you my rant on that – you know, so what we saw is contract obligations were disproportionately hit and R&D was disproportionately hit because on an R&D contract you can always say slow your level of effort, you know, reduce your time spent on the contract. That's pretty easy to do, and you're not technically telling them don't do what we originally contracted for. Just do it slower. And that's a relatively easy, quick thing to do. It's not easy to say, OK, we're going to go from having 42 BCTs to 38 BCTs because in year one you'll accomplish exactly nothing with that budget change, because it actually costs you money to reduce force structure. So when it comes to reducing the budget fast, contract obligations bore a disproportionate share because it could.

You know, similar story: It's slow to increase force structure. It's slow to do some of these other things. So when you have hot money that's burning a hole in your pocket, the easiest thing to do

is throw it into existing production lines that can chew up that money really fast. So it exactly the flipside of the sequestration coin.

OK. I think we – since Sandra helped us we already touched on the monopolies piece, which is – which is the last piece here. So that's the end of what we had prepared. If anyone has any other questions, I'd be happy to address them. OK.

Q: This is – I didn't identify myself before. I'm Scott Maucione with Federal News Network.

So I'm going to ask you a very big-picture question: What does this consolidation mean for the Defense Department and for the future of the defense companies, and the influence that these companies have on the government and DOD as a whole in the future?

MR. HUNTER: You know, that's a good question, you know, what's the takeaway from here for the department's overall approach to industry? So I look at the data that we've gathered and I say, you know, what DIU – formerly DIUx – and others are trying to do is clearly critical because we have a real problem with dynamism in the marketplace and getting access to new providers, and so we need to – we need to remain focused on that and double down our efforts.

Secondly, I would say when it comes to the biggest companies, you know, there was a – there was a formal policy in the Obama administration that said we don't want the biggest companies to merge, but outside of that it's all case by case. And the new administration has come in and say there's no change, but it's all case by case. It's like, well, but there's a piece that didn't get stated, which is the biggest companies can't merge.

I'm still somewhat skeptical that they're going to let the biggest companies merge with each other. But, you know, I mean, there's some pretty intriguing things happening in the market. So L3 Harris, you know, what if Northrop or someone decided – I'm not saying Northrop would, but – you know, decided to acquire L3 Harris, all right? That would be a pretty big shift in the market. It would technically fall outside the previous guidance on what they're willing to accept from the big five. What's the answer if it's case by case? Would this new aerospace company that's going to come out of UTC that'll be, you know, Pratt Whitney plus, I assume, the sort of – the parts and sensors and things that – you know, that kind of came out of BFGoodrich and Hamilton Sundstrand, all those other companies that UTC absorbed – you know, what if one of the big guys made a play for that company? That would be a pretty significant consolidation in the market. And it will be interesting because of the unique nature of fighter engines and Pratt and Whitney's position in the marketplace that a company taking over Pratt is taking over a dominant position in a market that they are currently not really in. So they would be really expanding their market presence and having interesting, you know, dynamics because they are suddenly suppliers to all their competitors of one of the most critical things that goes into an aircraft, the engine.

So, you know, what would DOD do about that? So, you know, Andrew Hunter, left to his own devices, would say I'd be pretty hesitant to let somebody take over that company, particularly somebody who already had a pretty dominant position in the marketplace and now they can own Pratt and be the engine supplier for everything. You know, that's – (laughs) – that would be a lot of market power – not necessarily – it wouldn't necessarily drive your market index here, you know, berserk, but you would have pretty profound effects on the market.

So, you know, my takeaway would say, I think you still have to be pretty cautious about consolidation at the top tier, and as these, you know, maybe a six and seven start to emerge, they're going to have to be pretty strategic about what they are willing to accept in consolidation there.

Greg, do you have a –

MR. SANDERS: And one thing that we cover somewhat in the monopolies report, we looked at both consolidation at the (next ?) three, so the large players, you know. Transportation was one that captures a great deal of DOD spending. And the (next ?) six kind of a detailed, you know, getting into very specific types in the – a lot of the traditional industrial-base surveys look at very detailed ones; you know, are we down to one supplier, or whatever risk there.

But the monopoly – our study on consolidation did find that the greater effect on performance is actually the high level, the next three; that the big picture does matter, and the big picture is worth tracking. So not to say that all who – you know – (inaudible) – important, they obviously are, but, you know, it is – we do think it is important to track these kind of things going forward, and that they probably are beginning to get more attention, and deservedly so.

MR. HUNTER: Yeah, and you may recall when Lockheed acquired Sikorsky, my old boss, Mr. Kendall, raised concerns about that, and industry said, you know, you can't – there's no foul. You can't object to this because Lockheed doesn't produce helicopters, so it's not wrong for them to acquire a helicopter company.

I actually share the view that, you know, it was – it would have been a stretch for the government to oppose Lockheed acquiring Sikorsky, and certainly the Department of Justice shared that view because they refused to do so. But his concern was, OK, so Lockheed isn't a huge player in the helicopter market, and that's not – you know, they're not fundamentally changing the helicopter market, but now Lockheed, you know, which dominates the fighter market and dominates a lot of other markets is now a huge player in the helicopter market, too, so if you are a supplier and you supply some things into the helicopter market, some things into the fighter market, some things into the, you know, space market, and now suddenly everywhere you go you find Lockheed is at the top of that market, Lockheed really has immense influence over you. And that was his concern – was just how much control over the supply chains that work not just for Lockheed but for all the big primes would Lockheed get as they expanded into the helicopter market.

And I think, again, with Sikorsky it's pretty clear that that concern wasn't enough for the government to get involved, but now when you look at, OK, the engine market, too – fighter engine market, I think those kinds of concerns to me would become more poignant and more pointed.

Q: This isn't really related to your report but just because it's newsy and came out last night, do you view this new – the revamped UTC as a consolidation target for the top primes?

MR. HUNTER: I do, yeah.

Q: OK.

MR. HUNTER: I'm speculating, but yeah – (laughs) –

Q: I guess you view that as their objective in making these sort of more bitable kind of part – you know, they are sort of creating – they are splitting them off so that they are nicely organized if you wanted to –

MR. HUNTER: It certainly looks that way to me.

Q: OK.

MR. HUNTER: I mean, it's a little ironic, right, because they're sort of de-conglomerating –

Q: Right. Once they make it a huge deal, then they – we've seen it before. (Laughter.)

MR. HUNTER: Yeah. But, I mean, how long did it take Lockheed to bid on Sikorsky once it became known that Sikorsky was available? I mean, it was like less than 24 hours, right? I mean, it's just –

Q: All right, we'll get ready.

MR. HUNTER: (Laughs.)

OK. Well, thank you everyone.

MR. SANDERS: We've got one more.

MR. HUNTER: Oh, sorry. Go ahead. Yeah.

Q: OK. Great. So you talked about how the National Defense Strategy hasn't necessarily been shown in this yet. But the Third Offset Strategy has been around for a while, which has very similar kind of issues. I mean, are we seeing any kind of – seeing any part of that at all, you know, with the non-traditional companies and the increase in R&D, that kind of stuff?

MR. HUNTER: Well, it's hard to see it so much in this data, with the exception of the OTA increase, you know. And again, bear in mind those OTA increases, those are really Obama-era OTAs that you're seeing for space launch and for other kinds of OTA activity with DARPA and others. The real sort, you know, sort of Trump-era OTA stuff increases, which I expect to see, are – we'll see that in the 2018 data and 2019 data.

The other place I would – I would say to look for it, but it's hard to do in the way we cut this data, is in all of the Cloud and IT initiatives because, you know, where you're going to see the artificial-intelligence spend show up primarily, I think, is in the IT services and in IT ECS, right – electronics, communications, and sensors – on the product side. And it's going to be kind of buried into that.

And so, you know, I think a lot of the activity, the fact that the JEDI acquisition is so controversial to me, is an indicator of that. This is where significant things are happening in the market, like real market power is up for grabs here and people are grabbing for it and worried, you know, that they're going to miss out.

So my indicator on this one, I guess, is the intensity of the debate in Congress and in the department over JEDI and over the online-marketplace thing, which is going to rear its head again in this coming year when GSA has to come out with their plan for how to do this online marketplace the Congress told them to create. But I think that's – you're going to see the intensity of the struggle over those things is my indicator of kind of this third-offset stuff start to flow into the marketplace.

All right. Well, thanks, everyone. Thanks for joining us early on a Tuesday. And for those of you who are heading out to Reagan, I hope you have safe travels.

Oh, and I'm actually remiss. It's not just Reagan. There's a West Coast Aerospace Forum happening the day before that we're co-sponsoring with RAND and Mitchell and Aerospace Corporation.

(END)