

How will new antitrust policy affect military contracting?

The strongest effect could be on startups, whose liquidity horizons could greatly lengthen.



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RESEARCH NOTE
29 JULY 2023

Just this month, new merger guidelines emerged from the Justice Department and the Federal Trade Commission, and to some alarm. As Elizabeth Nolan Brown wrote for *Reason* magazine immediately thereafter, the hint therein seemed to be “[Maybe Just Don't Merge Anything at All.](#)” In thinking about how this new articulation of old-is-new-again policy might affect investors and industrialists in military contracting, I have formulated four points:

1. **The new merger guidelines seem severe, but may not greatly matter with large contractors.** Horizontal mergers amongst large military contractors have been effectively forbidden for at least a decade, even if, as I will note below, they may not be so pernicious in those markets. Vertical mergers have come under serious scrutiny, which is why Lockheed Martin's attempted purchase of engine supplier Aerojet Rocketdyne was disallowed. Conglomerate mergers have merely been attracting concern, which is why the entirely unrelated firm L3Harris was allowed to buy Aerojet Rocketdyne. The new guidelines do not say too much about conglomerate mergers, so the overall effect may be muted.
2. **High-quality startups need prices and pathways—including options for merger.** The problem may lie with startups, if enthusiasm for antitrust enforcement turns in that direction. Startups in any industry have two primary possibilities for liquidity events: public offering or acquisition. Over the past several decades, almost all of the successfully scaled startups in military contracting that did go public were eventually acquired. Acquisition in many cases may have been a more efficient path to building dynamic industries. Foreclosing acquisition as an option may thus chill interest in investment, at least in the short run.
3. **If averse to merger, the military needs to nurture.** The government's role as regulator often gets in the way of its roles of customer and particularly sponsor, in the market that it alone creates. If most mergers were disallowed, procurement bureaucrats and industrial policymakers would need to engage much more seriously with investors and industrialists building startups, if they wanted that industrial structure to flourish. I have some reason to doubt whether than will happen.

4. **Startups in military contracting should be built for the long haul.** Independent growth by military contractors has almost invariably attracted interest from industry for acquisition. Antitrust policies change, so one approach is to wait out the new regime. Our research into successful startups suggests further guidance. If you are considering starting a military contractor, and you want to make a few hundred million selling it to someone, you should prepare for a twenty-year experience. If you want to make a huge industrial contribution to a war effort, it is best to start your company a decade before that war starts. Ten years after that, during the inevitable downturn, maybe you can sell it to someone, or even take it public. The new merger guidelines give us reason to wonder whether such time horizons will persist.

One further point concerns corporate alliances. In a world with far fewer mergers amongst military contractors, this alternative approach to corporate governance and production may become yet more interesting. I will continue earlier research on this point later this year.

The remainder of this research note elaborates on these points.

The new merger guidelines seem severe, but may not greatly matter with large contractors.

In the past several years, academics and policymakers have advanced arguments, fueling complaints for tougher antitrust policy, that industrial consolidation almost always raises prices. The longstanding lesson in school has been that more rigorous thinking on industrial economics led to greater governmental humility. A recently resuscitated viewpoint blames “big business, which appears to have exercised influence behind the scenes” (see the recent paper by Filippo Lancieri *et alia*). Regardless, as James McLetchie and Andy West of McKinsey & Company found well back in 2010, 70 percent of mergers historically have failed to produce their ballyhooed efficiencies. The larger volume containing their essay in turn explains why post-merger integration consultants have had such business. More recent academic research by Bruce Blonigen of the University of Oregon and Justin Pierce of the Federal Reserve finds that after those mergers, most merged US firms do not actually close down underperforming facilities or lines of business. So what has been the point of all this restructuring?

In the viewpoint of the would-be antitrust reformers, higher prices. Merging firms, they argue, have simply been raising prices, to the supposed detriment of consumers, and a large academic argument has arisen over that question. However, within the monopsony of military contracting, pricing power pay not matter. Rodrigo Carril of University Pompeu Fabra and Mark Duggan of Stanford offer distinct findings in a recent paper that evaluates contracting across the US Department of Defense:

[increased] concentration caused the procurement process to become less competitive, with an increase in the share of spending awarded without competition, or via single-bid

solicitations. Increased concentration also induced a shift from the use of fixed-price contracts towards cost-plus contracts. However, we find no evidence that consolidation led to a significant increase in acquisition costs. We infer that the government's buyer power, especially relevant in this context given the government is often the only purchaser, constrained firms from exercising any additional market power gained by consolidation.

So much for the problem of concentration—in pricing. Innovation, as I will discuss further, may be another matter. The effect on large firms may not be too severe, even if courts can be convinced to accede to these new-old arguments. For at least a decade now, the Defense Department has been quite disinterested in allowing any further horizontal mergers amongst its largest suppliers. Vertical mergers continue to attract scrutiny as bearing the potential for vertical restraint, which is why Lockheed Martin was not allowed to buy Aerojet Rocketdyne, its own rocket-engine supplier in a competitive business. Some policymakers, such as current Air Force Secretary Frank Kendall, have criticized conglomerate mergers as too agglomerating of political power (for more, see my own article of 2020 in the *Journal of Law, Economics, and Policy*). Their arguments have not yet found traction, which is why L3Harris was allowed to buy Aerojet Rocketdyne, against which it did not compete and with which it had little business.

While those two individual cases may seem compelling, the Defense Department may broadly lack the bureaucratic expertise and capacity to analyze and act on the issues. Consider the recent (2022) official report from the Office of the Under Secretary of Defense for Acquisition and Sustainment on the “State of Competition within the Defense Industrial Base,” which lamented progressive consolidation, as if that was not a global feature of military contracting everywhere (see also reporting by Sandra Erwin). As is too often the case with official studies, this one misses or ignores important facts. The table on page 5 might lead one to believe that General Dynamics is the sole firm in the United States that can build tracked combat vehicles. However, BAE Systems is doing the same today, in Pennsylvania, with its Armored Multi-Purpose Vehicle (AMPV). It is not true that merely three companies in the United States can build trucks for the military. Somehow, the authors missed Navistar, which built more Mine-Resistance, Ambush-Protected (MRAP) vehicles for the campaigns in Iraq and Afghanistan than any other firm. Accurately calculating concentration in an industry is difficult if the analysts just ignore well-known producers.

Immediately after that report was published, David Berteau, formerly a Pentagon official and now president of the Professional Services Council, argued that the problem of industrial structure lies not so much with the oligopolistic sellers, but with the monopsonistic buyer:

Competition for major defense systems already exists when competing concepts and designs offer options for fulfilling military requirements. However, once designs are selected, DoD undermines competition by buying too few items to keep two or more companies in business. Insufficient production quantities drive up price and limit competition.

In short, the government has gotten the industrial structure for which it continuously contracted, and that remains no recipe for a diverse and dynamic industry structure.

High-quality startups need pricing and pathways—including perhaps options for merger.

A pair of recent papers by Ufuk Akcigit of the University of Chicago and Sina Ates of the Federal Reserve System laments America's apparently declining business dynamism—that churn within industries of leading enterprises replacing laggards. Not all, but much, of such dynamism is driven by market entry. And yet, very recent history shows no shortage of business formation in the United States. As James Freeman noted in the *Wall Street Journal* earlier this month, shortly after “politicians began turning society upside-down in their panicked response to Covid in 2020,” entrepreneurs with all types of technology—not just of information—retook control of their lives and began furiously launching new businesses. As Daniel Newman of the Economic Innovation Group recently assessed, the rate of new business formation in the US in the first half of 2023 was 52 percent higher than in the first half of 2019.

What are they seeking? Fame and fortune, of course, but fortune may become less attainable within the present wrath of the current Khan. Richard McKenzie wrote in the *WSJ* this week that the chairwoman of the Federal Trade Commission Chairwoman “[needs to see Shark Tank](#),” because “Kevin O’Leary would never invest in a business that had to face conditions of ‘perfect competition’.” He repeats the Schumpeterian argument of his 2008 book with Dwight R. Lee, *In Defense of Monopoly*, that economic rents are necessary to foster investment for innovation. The dust jacket features endorsements from such usual classically liberal suspects as James M. Buchanan, Richard A. Epstein, Gordon Tullock, and Tyler Cohen.

In theory, entry and innovation are greased by rents, and those rents are eventually competed away with enough entry. However, recent research by Florian Ederer of Yale and Bruno Pellegrino of the University of Maryland reports a “secular shift” in outcomes for successful startup firms backed by venture capital, from public offerings of their shares to acquisition by established firms, leading to greater oligopoly power. So which is it? Without clear evidence, governmental action may flow from hubristic conviction.

Indeed, as Carril and Duggan found, price may not be the issue. For the military, one can imagine that perhaps quality and innovation are more important. Further research by Carril (truly a rising star in the academic study of procurement), Andres Gonzalez-Lira of Yale, and Michael S. Walker of the US Defense Department found that allowing too much market entry in military contracting could lead to adverse selection. “Leveraging a regulation that mandates agencies to publicize certain contract opportunities,” their work found that “expanding the set of bidders reduces award prices, but deteriorates post-award performance, resulting in more cost overruns and delays.” One can speculate what set-aside programs have accomplished.

If averse to merger, the military needs to nurture.

Again, the problem lies primarily not with industry, but with government. As Henrik Heidenkamp, John Louth, and Trevor Taylor of the Royal United Services Institute notably wrote ten years ago, government often takes at once three roles in complex contracting with military suppliers: as customer, sponsor, and regulator. To start, one could ask how well is it sponsoring

those upstarts. The answer *poorly* has a long analytical history. Most recently, Amanda and Alex Bresler provided a revealing paper on why the latest push for new entrants has gone nowhere: in part due to very low graduation rates from those set-aside and “innovation” programs. Silicon Valley Defense Group, in its recently released annual on the top 100 venture-backed firms in military and intelligence contracting, argued that

venture-funded defense and dual-use startups offer three advantages that make them particularly useful to national security: speed, scale, and selection. Ultimately, tech startups can offer a "catalog" of new, leading-edge technologies that buyers in need of immediate capabilities can access overnight. However, to date the national security sector has failed to provide consistent and sufficient contracts for emerging technology companies that would help these startup companies advance more quickly from their early and growth stages into profitability. This lack of sustainable government revenue may discourage both startups and their investors from participating in the national security market.

To improve upon that, the Defense Department’s bureaucrats would need, as the Defense Innovation Board entitled a recent report, to be “terraforming the valley of death.” The problem is daunting, but such mismanagement of the entire procurement enterprise really calls into question why the Defense Department or anyone else in the US federal government should be entrusted with industrial policy.

Indeed, widespread acquisition of small firms may be the efficient approach. Shuia Yan of Stavanger University, Ju-Yeon Lee of Iowa State, and Brett Josephson of George Mason University recently investigated merger patterns amongst federal contractors, and found “positive abnormal returns for customer expansion but negative returns for penetration, as investors value access to new revenues sources, *i.e.*, new customers, more than they do improvements to efficiency and increases in existing revenue streams.” That is, established firms can help with contracting, across multiple agencies and buyers, in ways that smaller firms will not navigate as well. Moreover, their finding about investors’ disinterest in efficiencies matches the aforementioned longstanding findings of earlier research.

Even so, that does not mean that all mergers with small firms are suitable for goals in national and international security. Colleen Cunningham of the London Business School, and Florian Ederer, and Song Ma of Yale recently identified a possibly more pernicious problem in mergers than pricing—that of the “killer” acquisition. Using data from the pharmaceutical industry, they argue that in 5.3 to 7.4 percent of acquisitions, incumbents “acquire innovative targets solely to discontinue the target’s innovation projects and preempt future competition.” Having heard more than a few rumors, and seen a few awkward business choices, I can add to the speculation about whether this happens as well in military contracting.

Might government just flatly stop trusting the large? Might may more mergers eventually be disallowed? This question arose at the University of Chicago’s 2023 Stigler Center Antitrust and Competition Conference. In a recent essay, Chicago’s Brooke Fox and Walter Frick reviewed research and ideas presented there by scholars like Oliver Hart, Sanjukta Paul, and Tommaso Valletti, asking how business might react to “a world with far fewer mergers.”

Startups in military contracting should be built for the long haul.

We have some evidence on the alternative: building a firm to scale, with a public offering. A few years ago, in some research on new entrants in military contracting, prominent equities analyst Byron Callan examined an expert sample comprising 46 prominent companies that had entered the arms-making business in the United States between 1946 and 2013:

AAI, Aerovironment, Adams-Russell, AEL (American Electronic Laboratories), AIL (Airborne Instruments Laboratories), Alpha Microwave, Anaren, Anteon, Argon ST, ARGOSystems, Armor Holdings, AvanteK, Axsys, Aydin, BDM, Ceradyne, Comptek Research, Datron, Diagnostic Retrieval Systems (DRS), Digital Globe, Electrospace, ESL, Essex, Force Protection, General Atomics, GeoEye, Herley Microwave, Insitu, iRobot, Itek, KEYW, Logicon, Mercury Computer, Mantech, Nichols Research, Orbital Sciences, Overwatch Systems, Recon Optical, Sanders Associates, Spectrum Astro, Stanford Telecommunications, TASC, UTL, Veridian, Watkins-Johnson.

I took up further research on this group, and could find useful information on 36 of the 45. The group is small for statistical power, but large for in-depth case study. This note starts the process of further research on the set, if initially only with some descriptive statistics, though on multiple factors.

Population. Of the 36, only two are still public: Aerovironment (AVAV) and Mercury Systems (MRCY), both trading on the NASDAQ. Mercury only recently decided that it would not seek to be acquired. Recent exits from public status include Mantech, acquired in 2022 by Carlyle; and Cubic, acquired in 2021 by Veritas Capital and Evergreen Coast Capital.

Purpose. Callan found no correspondence between changes in military funding and rates of successful startups, but did note that “firms tended to be founded on new and emerging technologies with military applications” relevant to existing security problems. Notably, 11 of the 36 were founded during the Vietnam War, mostly as electronics companies, at a time when the American air arms needed better electronic protection against Soviet air defenses, and when the Lockheeds and Northrops of America specialized in aircraft *per se*. Seven of those 11 firms were subsequently acquired, but all after the end of the Cold War. Only two of the companies in the set, KEYW and Insitu, got into selling to the military after the start of the Afghan War. Another six were formed during the relative downturn between 1989 and 2001: iRobot, Digital Globe, GeoEye, Overwatch Systems, Anteon, and Force Protection (the last was working on armored vehicles before the IED mess). Of those six, three have been acquired. Perhaps remarkable is that the three companies in the set associated with things unmanned—General Atomics Aeronautical, iRobot, and Insitu—were all founded just after the Cold War (1989, 1990, and 1992), when the need for robotics was less than plain.

Buyers. Most of the acquirers were the usual industrial suspects: large, diversified military suppliers. There is an interesting industrial structure story in the paths of Orbital Sciences; which spun off Orbital Image (1992); then bought Space Imaging, renaming itself GeoEye (2006); and then merging with Digital Globe (2013), before finally being acquired by Alliant Techsystems (2014) to create Orbital ATK, which was itself acquired by Northrop Grumman

(2018). Ultimately winding up as part of Northrop Grumman would be nothing unusual in military contracting.

Valuation. Of the 15 on which I could find information, the average value of a merger deal was about \$1.3 billion. That figure was yanked up by the relatively large deals for Anteon and DRS, so there was a solid cluster of values in the several hundred millions.

Timespan. The earliest date of foundation was 1922 (Recon Optical), and the latest was 2008 (KEYW). The average run as an independent firm was 36 years, and the standard deviation of that figure was 18 years. That is fudging the statistics a bit, as at least two of the companies, BDM and TASC, were traded around a few times. Recon had the longest independent run, at 86 years, acquired in 2008 (by Goodrich). Insitu had the second-shortest run as an independent company: founded in the early 1990s, it only started selling to the military in 2003, and was also acquired in 2008 (by Boeing). KEYW had the shortest run: founded in 2008, it was acquired in 2019 (by Jacobs Engineering). The founder of KEYW, Len Moodispaw, seemingly came out of nowhere, but only after a long career that included managerial experience at the US National Security Agency and in the cyber security industry. Outside the sample, Elon Musk founded SpaceX (still not a public company) on the proceeds of PayPal, and has built that over 21 years (since 2002) into the dominant supplier of satellite launch services. Tony Stark just inherited his company from his dad.

Note that there were obviously many more market entrants. The point is that independent growth eventually attracts interest from industry. While this introduces survivor bias into the set, that in turn sets up a Reverse Sinatra Test. If such top-notch entrants can't make it (faster) here, could they make it anywhere? Thus, I offer this guidance to investors in the business:

If you're thinking about starting a military contractor, and you want to make a few hundred million selling it to someone, then prepare for a twenty-year experience. If you want to make a huge industrial contribution to a war effort, it's best to start your company a decade before that war starts. Ten years after that, during the inevitable downturn, maybe you can sell it to someone.

One further point concerns corporate alliances. In a world with far fewer mergers amongst military contractors, this alternative approach may become yet more interesting. Alliances are both a means of governance and a factor of production in their own right. Alliances also have a long history in military contracting, and have been particularly important for international co-production of large, expensive systems. Alliances also tend to attract less attention from antitrust enforcers, and less opprobrium from courts, particularly when they do not jointly determine prices for co-marketed products. As this may be emerging as an important issue, I will continue earlier (2008) research on this point later this year.

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