What Private Capital Still Doesn’t Understand About DoD (and What DoD Still Doesn’t Understand About Private Capital)

By COL (Ret.) John Cavedo

Bain’s recent brief, **“Rethinking Defense: The Role of Private Capital,”** lays out a clear story: global threats are rising, defense budgets are constrained, and private capital is increasingly essential to close the gap, fuel innovation, and expand capacity. (Bain)

On the surface, I agree.

Venture money in defense has exploded. PE is circling Tier 2 and Tier 3 suppliers. Dual-use tech is no longer a niche idea. Palantir, SpaceX, Anduril and others have shown that private capital can move faster and, in some respects, cheaper than the traditional primes. (Bain)

But there is a deeper problem that Bain nods to without fully confronting:

The American defense ecosystem has a values problem, not just a funding or standards problem.

And unless that **axiological** problem gets solved, the private capital story will not play out the way Bain expects.

I’m borrowing that word “axiological” directly from **Dr. Alex Miller**, the Army’s Chief Technology Officer. He has been explicit that interoperability in the future Army is not just a technical challenge. It is a values challenge. The institution has to decide what it really values: openness and adaptability, or control and stability. (firstbreakfast.com)

I think he is right about that.

Where I diverge from both Bain and, at times, from Alex, is on **what actually motivates industry and private capital to show up, stay in, and scale**.

I spent 30 years inside Army: 14 years operational (enlisted MP, and Infantry and Special Forces Officer), 16 years in Army acquisition, finishing as the JLTV Project Manager. I then ran a defense manufacturing business as a CEO for 6 years, and now for the past two years, work with startups, growth-stage companies, and traditional DIB firms across the country. I sit in the room when boards, founders, and private equity partners decide whether they want to bet their capital on the Department of Defense. And now, as an LP in a VC fund with five years of committed capital calls in front of me, I’m tied to the same math they are. I didn’t take this level of risk for S&P returns.

Here's what matters in those rooms:

- **Return on invested capital**
- **Time to return**
- **Probability the government will stick with the plan**

The rest is noise.

Bain Is Right About the Trend, Shy About the Constraint

Bain gets the macro story largely right.

They highlight:

- A widening gap between defense requirements and budgets
- Low R&D intensity among traditional primes compared to commercial tech firms
- An 18-fold increase in venture investment in defense over the past decade
- The attractiveness of dual-use technologies and high-volume, affordability-constrained segments (Bain)

They also correctly flag the **valley of death**: lots of R&D contracts and prototypes, but limited transition to funded programs of record and true production.

What Bain underplays is **why** that valley persists.

It is not primarily because the technology is immature.

It is because **the Army's contracting, pricing, and requirements systems are built for a different financial world than the one venture-backed and PE-backed companies live in.**

The Future Battlefield Is Polymorphic. Our Business Model Is Not.

Dr. Miller has described the future operational environment as effectively **polymorphic**: humans, robots, software agents, legacy platforms, new platforms, autonomous systems, and analytics all operating together, changing form, role, and connection over time.

That is the right way to think about it.

To win in that environment, the Army needs:

- Shorter tech refresh cycles
- Modular architectures
- Rapid reconfiguration of systems and networks
- A constant inflow of new sensors, autonomy stacks, software, and edge devices

The problem is that **our acquisition machinery still behaves as if we are buying Abrams, Bradleys, and 40-year ship classes.** The business logic, the pricing models, and the risk posture did not grow up in a polymorphic world. They grew up in a world of:

- Low competition
- Long production runs
- Stable requirements
- Average unit manufacturing cost targets spread over decades

When you take that legacy model and bolt it onto modern, venture-backed companies, the math does not work.

How Industry Actually Makes the Bid / No-Bid Call

When a VC-backed or PE-backed company looks at a DoD opportunity, the conversation is not “Is this good for the country?” or “Is the Army CTO excited about this?”

The conversation is:

- What is the **IRR** on this line of effort?
- How much **internal capital** do we have to invest up front?
- What is the **probability of award** (P-Win) and the **probability of the government not changing its mind** (P-Go)?
- How long until we see cash flow?
- If we succeed technically, can we actually get to production at scale?

Defense budgets, strategy documents, and speeches are background noise. The bid/no-bid comes down to: does this clear the hurdle rate inside a realistic time horizon.

That is where Bain’s optimism and the Army’s rhetoric collide with the brick wall.

Axiology Meets Capital: The Real Disconnect

Here is the uncomfortable truth.

DoD values "low visible margin" more than it values "high real efficiency."

In practice, that means:

- A company that charges $100, spends $95, and earns 5% profit looks "reasonable."
- A company that charges $95, spends $60, and earns 37% profit looks suspicious.

Even if the second company is cheaper for the taxpayer, more scalable, and more modern, our instincts in the system are to scrutinize and punish the efficient firm.

That is not written in the FAR. It is **axiological**. It is about what program offices, cost estimators, and contracting officers have been taught to view as "fair" and "safe."

You can publish all the National Defense Industrial Strategies you want. (Bain)
If the value system in the building still equates low margin with virtue, the most efficient, investor-backed companies will quietly walk away.

And they do.

Alex Is Right About Culture. The Next Step Is Incentives.

To be clear, I have a lot of respect for what Dr. Miller is trying to do.

He has been public about:

- The Army's need to treat AI as a means, not an end, and to build real metrics and workflows instead of chasing buzzwords (DefenseScoop)
- The dysfunction of the requirements process and how it built inertia into programs like the M10 Booker, where the Army "couldn't get out of its own way" (Business Insider)
- The importance of soldier-centric design, cutting through bureaucracy, and "transforming in contact" instead of waiting for perfect, staff-approved answers (firstbreakfast.com)
- The need for better interoperability, shared data infrastructure, and more honest collaboration with industry on counter-UAS, AI, and command-and-control problems (Audible)

On all of that, I am largely aligned.

Where I part company is on **what it will actually take to get private capital FULLY in the fight.**

You do not get PE partners and venture boards to commit serious capital with culture alone. You get them on board by **changing the incentives and the risk profile**:

- Pricing models that acknowledge higher margins for short-cycle, high-risk programs
- Contract structures that do not drag every commercial product into cost-type or FAR Parts 15 and 31 behavior
- Clear and credible demand signals in the form of real RDT&E and procurement dollars tied to defined timeframes, not just "innovation dollars" and experiments
- A disciplined approach to cancelling or reshaping programs that no longer make sense, without nuking every supplier's business case in the process

We can talk about interoperability, AI, and data architectures all day. **If the capital model remains misaligned, the companies Bain and Alex want on the field will never scale beyond prototypes.**

VC Portfolio Economics and Why It Matters

One thing the Army rarely accounts for is how venture capital actually works. A VC fund doesn't invest in one company — it invests in 20 or 30. Most will fail to return the invested capital. Several will fail outright. A handful may survive but never become meaningful exits. The entire fund's performance hinges on one or two breakout successes. Those few big exits have to be large enough to carry every loss in the portfolio. And those exits only happen when the customer — whether DoD or commercial — is willing to pay the real price required for a company to scale.

If the DoW/Army pricing model suppresses margin or treats efficiency as suspicious, it kills the upside that justifies venture risk. This isn't theory. It's how the economics actually work.

Bain's "Private Capital Will Take Market Share" Story Needs a Footnote

Bain argues that:

- Venture-backed disruptors with compelling technology and competitive cost positions are "positioned to take market share"
- Private capital will fuel modernization if investors stay disciplined and suppliers perform
- Incumbents will be forced to improve cost, schedule, and performance and to partner more aggressively with nontraditional firms (Bain)

I agree this is **directionally** where the market wants to go.

But there is a big, unspoken footnote:

This only holds if DoD changes how it buys, how it prices, and what it is willing to accept as a "reasonable" return for fast-cycle, high-risk capabilities.

Right now, too much of the system still assumes:

- 5–10% margins are normal and honorable
- 20–30% margins are suspect
- Anything above that is profiteering

That mindset works (barely) if you are talking about 40-year shipbuilding programs with predictable volume and low competition.

It does not work for:

- Counter-UAS software that will be obsolete in three years
- Autonomy stacks that require constant retraining and refresh
- Edge AI systems that ride commercial hardware cycles
- Modular UGVs, UAVs, and loitering munitions that will turn over generations in single-digit years

If the Army wants those companies at the table, it has to be comfortable with **different economics**.

The Polymorphic Battlefield Needs Polymorphic Contracting

Here is where the "polymorphic" concept is actually useful.

If the future force is:

- Continuously reconfigured
- Composed of manned, unmanned, autonomous, and software-only elements
- Dependent on commercial cloud, edge compute, and dual-use sensors
- Evolving architectures every few years

Then our **contracting, pricing, and requirements frameworks cannot be static either**.

They have to become **polymorphic** in their own right:

- Contracts that expect requirements to change over time and make that safe and legal
- Price models that accept higher margins for shorter life cycles and lower volumes

- Authorities that really behave like FAR Part 12 when something is truly commercial, instead of backsliding into cost-plus behavior through the back door
- AUMC and life-cycle cost models that are updated to reflect the realities of high obsolescence and rapid tech turnover

This is not a standards problem. It is not a MOSA annex problem. It is not a “let’s write better interface control documents” problem.

It is a **values** problem.

What do we, as an institution, actually value more:

- Control or adaptability?
- Low visible margin or high long-term efficiency?
- Protecting legacy program structures or fielding minimum viable capability now and replacing it in three years?

Until those questions are answered honestly, private capital will participate at the margins, not at scale.

A Call for More Honest Dialogue Between Tech, Capital, and DoD

I do not write any of this to take a shot at Bain, Dr. Miller, or anyone else.

Frankly, they are all pushing in the right direction compared to where we were ten years ago. Bain is telling investors that defense is back on the table. Alex is telling the Army that it has to put soldiers, interoperability, and outcomes ahead of process. (Bain)

My intent is narrower and more pointed:

- **To the DoD side:** Stop assuming patriotism and “mission” will override capital realities. Boards and LPs have **fiduciary responsibilities**. If the numbers do not work, they will not invest, no matter how stirring the speech.
- **To the private capital side:** Do not underestimate how deep the cultural and axiological roots go inside the Pentagon. You are not just asking DoD to buy a new product. You are asking it to rethink what “fair” and “safe” look like in pricing, risk, and control.
- **To the tech leaders in the middle (like Alex):** Keep pushing on culture and interoperability, but pull industry and capital voices into the discussion early. The best architecture in the world will not matter if the companies who can build it cannot make a return.

If we can align **values, incentives, and economics** with the polymorphic reality of modern warfare, then Bain's vision of private capital reshaping defense is achievable.

If we do not, we will keep seeing the same pattern:

- Great prototypes
- Great demos
- Great speeches

And a quiet, steady trickle of the very firms we need most walking away from the table.

Not loudly.
Just quietly.