## **QI Panel:**

## **Bankers & Bombs: How Venture Capital and Private Equity are Feeding the Military Industrial Complex**

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**William Hartung 0:58**

Hello, welcome. I'm Bill Hartung. I'm a senior research fellow at the Quincy Institute. For those of you who don't know Quincy, we're an action oriented think tank that promotes ideas that move US foreign policy away from endless war towards diplomacy and pursuit of international peace. So needless to say, we've got work to do. So you can learn more about our work at our website, Quincy Institute. Org. It's quincy inst.org. And feel free to check out our online magazine responsible statecraft, which you just Google it, it'll pop up right away. So I'll be moderating today's panel, Bankers and Bombs: How Venture Capital and Private Equity are Feeding the Military Industrial Complex. We'd like to thank our co-sponsors Security and Context and the Middle East Forum at the George Washington University. I'm very interested in, you know, what we have to say and what I can learn. I spent a good part of my career tracking the big companies, the Lockheed Martin's, Northrop Grumman's. And this is a whole other sector, which is going to be increasingly important as the Pentagon moves towards its kind of strategy of AI directed weapons and swarms of drones and other things that they've been kind of talking about, in recent times, and our panelists can enlighten us on the kind of goals and plans of this development. First person that I want to introduce is Shana Marshall. She's the associate director, Institute for Middle East Studies at George Washington University, Elliott School of International Affairs. She's also a non resident fellow here at the Quincy Institute. Edward Ongweso is a writer and editor focused on finance, technology and labor. He's the finance editor of Logic(s) Magazine, and he co-hosts the podcast, This Machine Kills, which focuses on the political economy of technological innovation. Jonathan Guyer is a Senior Foreign Policy writer at Vox. And prior to that, he was the managing editor of The American Prospect. So just to jump in, Shana, this phenomenon of private capital surging into the arm sector? How new is it? How significant is it? What, what kind of red flags? Is it raised for you? What Why did you decide to do research on this?

**Shana Marshall 3:27**

Thanks, Bill. And thanks so much to the Institute for for putting this together. So I'll start by zooming out a little bit pointing to some broad structural factors. And then I'll dig down for some some more concrete illustrations. So basically, US industrial policy has two parts, right? One is to pour as much money as possible into the military industrial complex complex through the huge Pentagon budget. And then on the other hand, don't tax the superrich, and try to incentivize them to put their surplus capital, into the economy, to finance infrastructure and technological research and all the things that the economy needs to grow. Of course, when they're pouring that money in, it's going to be sucked into the sector, that the US State really does continue to subsidize, which is not public infrastructure, or hospitals or education or any of the things that we actually need. But it's the military, industrial and defense tech sector. So we see venture capital or VC and private equity funds, putting their surplus capital into military technologies and defense tech startups. And they're developing their own in house funds and cultivating managers whose backgrounds are in defense and military production, either as you know, coming out of government contracting, or in many cases, military veterans who have expertise in the technologies that the military actually uses in war.

**Shana Marshall 4:57**

This convergence between, on the one hand, surplus capital in the form of VC and private equity, on the one hand, and military industrial production on the other is facilitated in a number of really interesting ways. So on the one hand, you have financial actors who are attempting to reform the way that the US state actually does business. So that defense tech startups actually have easier access to the military industrial complex, they're essentially lowering the barriers to entry. One great example, I think, is Leonid Bank, which is actually an invoice factoring company that essentially lends money to defense tech startups, based on the DoD invoices that those startups have secured for future projects, providing them with more money right over and above that contract value, so that they can expand production and research. And this is not something that has actually ever existed for Pentagon crown contracts. It's very common in commercial industry, all over the world lending to companies based on expected future invoice payments. But this is not something that we have ever seen in relation to US government contracts for military projects. So that's just a, you know, one very concrete example. And then you have financiers from VC and private equity, themselves going to to these startups that initially are working on civilian technologies, and steering, those start startups toward the development of technologies that have military applications, precisely because the prospects for financial returns on those products are much larger. Right? So you have, of course, you know, examples from Silicon Valley, Google and Amazon, of course, that are large, well established tech firms that develop technologies that subsequently become critical to the US military. But you have hundreds of smaller startups that are replicating this experience at much earlier stages of development. Right? Maybe they're working on technologies to improve navigation in driverless vehicles. And then the military comes to them and they say, Hey, can you focus on a version of this technology that we can apply to our weapons targeting systems. And of course, the funding for that is much more secure and much more substantial. And so that startup may abandon the commercial research focus entirely and shift into becoming a more purely sort of defense tech focused firm. There's tons of examples of this scale AI is a good reason example. But there's probably hundreds, if not really thousands of similar cases. The VC firms themselves their general partners and their more expertise, subject matter driven deal partners, who are the ones who go out and find and evaluate the potential firms to invest in and who may have, you know, a background in military and security organizations are also supplying policy papers and practical guidance to the Pentagon, and the broader US national security establishment about how to best reshape the contracting ecosphere in order to facilitate the more the participation of more defense startups. And here, I'd like to reference this recent white paper from one of the most well known VC funds, Andreessen Horowitz, which is grasped onto this new craze over attritable warfare, which, of course is derived from the word attrition. But it's basically a model of warfare that focuses on using technology to develop cheaper, simpler weapons, and much larger numbers, which has sort of become all the rage in the VC startup private equity, defense tech investment world, because it obviously fits squarely into their production model. So the folks at Andreessen Horowitz offer a kind of blueprint for what this transition needs. And I'm going to quote just briefly here from that paper, because I think it's incredibly illuminating. So they say, as general computing platforms become applicable to a host of defense applications from programming autonomous behavior, to conducting live targeting analysis. Sweeping advances in software, and other technologies not originally designed for defense have unintentionally compounded computing's impact on war. And then they say responding to the paradigm shift requires re engineering the Pentagon's DNA for a new era. The author's emphasize that this reengineering will allow for a quote, a reduction in operational complexity, driving lower costs through commoditization with smaller modular modern production that uses just in time manufacturing techniques, like 3d printing to cut latency, allowing for very importantly the decentralization of a military's industrial footprint.

**Shana Marshall 10:00**

If this sounds a little crazy, right, like outsourcing, military industrial supply chains and globalizing production, but of course, they'll as you know, and as anyone knows who's been looking at the military industrial complex for the past few decades, we already know that most of the huge weapons platforms that are used by the US military incorporate parts and materials from suppliers all over the world, including a lot of stuff from China. So this is really more about letting these startups into the production chain that is currently dominated by the large prime contractors right Lockheed Northrop, Raytheon, which of course, are pointedly not interested in the cost cutting and the modular production forms, right, that would challenge their dominance in the sector and part of VC's allure to the Pentagon is precisely this startup ethos that it promises. And it depicts the major primes Lockheed, Raytheon, Northrop as these rigid dinosaurs that are structurally unable to develop or deliver the kind of hardware that the military truly needs. Unless the Pentagon is willing to overhaul the nature of its military contracting and weapons development, in partnership with venture capital and private equity. Another way that Andreessen Horowitz gets to this is through advocating for something that they call broad and open API Standards, API referring to application programming interfaces, presumably to enable these defense startups to explore adjustments to complex expensive defense platforms in order to find ways to produce those items more cheaply, make them more durable, propose alternate configurations, or introduced cheaper or more widely available materials. Outside the current military industrial contracting model. They make reference to Lockheed Martin's famous Skunk Works unit, right? That itself operated exactly like a startup, right free from corporate bureaucracy, responsible to no one and able to, as the tech sector loves to say, move fast and break things in order to achieve the development of new technologies much more quickly. And so to bring that back, and to sort of wrap up and point to a real world sort of justification for the promotion of this reshaping and decentralization of military production.

**Shana Marshall 12:39**

The authors of this particular paper reference the war in Ukraine multiple times in this in this proposal. And we've seen the sort of near hysteria, right in the US military establishment over the war in Ukraine, specifically related to shortages, right of lower tech munitions and drones that are caused by this war, which features these two modern militaries, who are just burning through conventional weaponry at a weight a rate that is much faster, right than the recent asymmetric wars that the US has been involved in. And they referenced the war on Ukraine multiple times. But then, of course, they also have to reference you know, the the folks who are less worried about Ukraine and more worried about China, right. So the the proposal has something for sort of every type of war hawk, including those who are more focused on the Pacific, they say this regenerative capacity of this new model will be critical in other mission environments like the Pacific where logistics chain logistics chains could stretch for 1000s of miles. So I think these examples show us in sort of broad strokes, how are there there are these broad structural factors that are pushing this convergence of finance, the tech sector and the military industrial complex? And now and then how specific actors within that ecosphere are providing the sort of the tangible mechanisms and the directions, the banking tools, the policy prescriptions to actually further further catalyze and solidify that relationship?

**William Hartung 14:10**

Wow, that's an excellent overview. My first reaction is, it's going to make my Lockheed Martin book obsolete, then the fact that it's 12 years old. I think that this whole sector has gotten minimal attention. Deputy Secretary defense Kathlyn Hicks did give a speech to the National Defense Industrial Association, the biggest arms industry trade group, kind of touting this new approach. She didn't talk so much about how it's going to be financed, but just these replicable weapons and how they're going to put us in a position to keep China under guard and they talked about swarms of drones that can hit thousands of targets in China in short order. So it's the wave of the future from the Pentagon's point of view, but I think, from what I've seen, so far, there's more money going into the sector from private sources than the Pentagon is spending itself. In fact, some of the smaller companies called the Pentagon's approach theater because they're not backing it up with big money at partly because they're so used to funding the big contractors. Now, Jonathan, you've written about this going back at least, I think four years or so. And in one aspect, kind of the political connections and political implications of this, but in general, what what drew you to this subject? And what what sort of jumped out at you when you started digging into it?

**Jonathan Guyer 15:35**

Yeah. So thanks so much for hosting this, Bill. I sort of am an accidental business reporter, I like to say because I started tracking what the Obama administration officials and then later where Trump administration officials went in the private sector. And a lot of it was private equity and venture capital, or consulting firms that we're all connected to this burgeoning space of defense tech. So what I wanted to point out upfront is I love the title bankers and bombs. But the bombs here are not necessarily things that go boom, and it makes them a lot harder to cover. For us as reporters, a lot of this tech is data processing, machine learning, repackaged as very hyped up AI for the military or intelligence services. So even just yesterday, the CIA announced it has a kind of chat GBT, like platform it's using, the Pentagon is experimenting with, you know, technologies very similar to Dolly. But at its core, and I think Shane, I identified some of these questions. The Pentagon is pretty bad at this stuff in terms of adaptation. And what's interesting, too, is the private sector ain't so great, either. So what my reporting has really looked at is how a lot of the hype around startups which have gotten a tremendous amount of venture capital, a tremendous amount of revolving door power on their boards, and sort of the promise platforms in Washington and Aspen, and so forth. The tech doesn't always work all that well. But it's still really growing quick. And a lot of these startups are fundraising off of the threat of China or the perceived threat of China. The A lot of these technologies are being experimented on in Ukraine. If you look at the kind of CEOs and billionaires who have visited Ukraine, you have the CEO of Palantir has been there, Eric Schmidt, who's the former Google CEO is Ukraine.

**Jonathan Guyer 17:34**

To me, a lot of this is somewhat reminiscent of the war on terrorism and the way that new technologies are being leveraged through these perceived threats. Another aspect of this that I would love to see more reporting on is how sovereign wealth funds from countries like Saudi Arabia and the United Arab Emirates countries that are close us partners but obviously have pretty grievous human rights violations are quite far from sharing democratic values with the United States are investing hugely in defense tech and including some of the rising US companies are directly or indirectly getting a lot of Saudi funds. So yeah, I'm excited today, we could talk about some of the particular individuals like Tony Blinken, and the consulting firm, he co founded West exec advisors, which was very deeply involved in as far as I can tell, still very deeply involved in this world. We could talk about the more traditional defense contractors like Lloyd Austin, Secretary of Defense, who was obviously at Raytheon. We can go way back talk about Carlyle Group or Henry Kissinger advising defense contractors in the 80s, which set the stage for this or I think we could go into the future a little bit. And I think your space is, well, it's the space to watch. I mean, satellites and satellite destroyers are probably the hottest, defense tech investment space right now, galvanize this industry has been galvanized, I think, by the Chinese balloon, and and the controversy of it, but was already kind of booming long before that.

**Jonathan Guyer 19:13**

But to me, I think the core interesting question raised by by this panel, and by Shana's presentation, is sort of the connection between Silicon Valley and the Pentagon. And what, you know, the narrative that's taken hold in the trade press and the tech and defense press, and among a lot of the so called thought leaders in the think tank world that's underwritten by a lot of these companies is this idea of the valley of death, that these technologies from Silicon Valley, rather than being able to get directly to the Pentagon kind of die on the vine in the pathways that the contracting doesn't work, that it's not suited for these new technologies that, you know, there's too much bureaucracy there's not enough money. I sort of think that's not really true. I think it's a self serving narrative that this so called valley of death exists that keeps Silicon Valley and the Pentagon quite far apart. And I think the revolving door aspect of this, the fact that so many, Obama and Trump officials have gone into these startups that are doing defense tech suggests that that doesn't really make a whole lot of sense. Or the fact that Silicon Valley at its core historically emerges from the Pentagon. I mean, these links are really deep seated. But this narrative of a valley of death, whereby these advanced technologies are not making to the Pentagon has such currency in Washington right now that that it's something I'm utterly fascinated by. And I'm excited to hear what what you and others have to add to this conversation.

**William Hartung 20:53**

Great, thanks. And the issue of you know, who goes into the industry? I have a piece coming out on what generals and admirals do when they retire. And, you know, some of them would go to the big companies and their boards, but increasingly, they're going to small startups, they're going to companies that invest in tech, you see a migration in terms of how the revolving door is working. Now, Edward, you've been a longtime critic of the venture capital industry in general, and the funding of, you know, surveillance and technologies control and so forth. How do you see the work you've done? Kind of fitting into this development? Or how do you reflect on some of the stuff that Shana and Jonathan have been talking about?

**Edward Ongweso Jr. 21:37**

Yeah, no, thanks for the question. And thanks for hosting, as well. Um, I think that, you know, venture capital is part of a larger, you know, political economy of tech development in this country where it, you know, the, there are a few guiding principles. One is that it's going to be privately financed and decided, and so it's insulated from popular concerns and needs and interest as well, as you know, as a result of that, it's insulated from things that might be more better suited towards social goods, or services, public goods or services. And if you're going to do private financing, installation from Democratic input, and goods and services that are not public, you're gonna do military oriented things, right. And, or commercial aspects or business to business, right. So you know, that I think sets sort of the frame and the channel in which venture capital comes in right? Since the initial venture capital comes onto the scene, or starts to grow in the post war period, immediately after negotiations and debates about what to do with the defense spending and as the Cold War picks up, but it doesn't really explode until there are reforms that allow more institutions, specifically pension funds to throw their money with it. And until larger technology firms and sort of hubs of developments like such as Fairchild Semiconductor, which was responsible for, you know, some of the core fundamental technological innovations at the foundation of the digital economy, have their workers have their employees or their managers spread throughout the industry, right and take with them one a, an idea about how technology should be fund funded, designed and insulated from popular control, but also relationships with the government and a prioritization of those relationships with the government. And so venture I think that it's not a surprise that venture capitals is beginning to are beginning to but you know, more enthusiastically more openly pursuing militarized technologies or defense tech, right? We're terming it as defense tech, because for years, they've already been, you know, having this close relationship with the state. But there's also been a modern metastasizing of this right as at home, there have been discussions of antitrust regulations that would undermine some of the value proposition of these venture capital funds, right, because they're offering excessive returns to people who are parking their money with them. And part of the way that they've been able to try to do that is by rolling up a market using capital's weapon. And if there has been at home a domestic surge in anti trust and in regulatory frameworks that prevent that.

**Edward Ongweso Jr. 24:30**

A really good sale has been to say, well, we need large national champions to compete with other countries. The certain part of our national interest is a part of a geopolitical strategy. This is part of our cold war with China. And with any strategy that might be an industrial policy to try to compete with them. That might be a geopolitical strategy, contain them or deny them access to key parts of the technological stack to try to encourage our allies, ourselves of the of telecommunication firms that come from China, so on and so forth. Venture capital is going to take advantage of that opportunity, of course, to back firms that can fill that hole. At the same time also being reluctant to step away from the firm's that it is backing and China backing and other countries that might be in competition with the United States or be framed as in competition with the United States. Right. So I think the backdrop for venture capital is its will take advantage of almost any opportunity seize in front of it, but that there's been a bunch of marshaling with the development of this anti trust and then techno nationalism to respond with the ascendance of much more military minded startups right and do real and Palantir. Some of the, you know, two prominent examples, right, with the decision slow decisions to kind of drop the pretense about not wanting to do weaponry, but are insisting like, you know, as Jonathan said, we're not going to do bombs, but we are going to do almost all the technology that is just as lethal and, you know, fatal in one way or another, right, you know, we we're not gonna support or finance hypersonic missiles. But we will support militarization of the border and coming up with better ways to train drones, so that they can discriminate and figure out who to kill right or figuring out better ways to, you know, as you know, Palantir does right plug in and can support operations to deport people operations for intelligence services, so on and so forth, right. And so I think, as there's been this larger shift, there's just been a lot of opportunities for venture capitalists to port over their ideologies and their eagerness for private development of technology that provides them with opportunities to get a cut, get a cut of the return, get a cut of profits, get cut, you know, anything of the take, essentially, and present themselves as a solution to the government, to the Pentagon, and also to other parts of the sector that are looking at this developing relationship and saying they want to get in on the pie as well.

**William Hartung 27:15**

Yeah, thanks. And the issue of, you know, producing components rather than being platforms, I used to debate this guy from the lobbyists for the aerospace industry. And he was kind of a character, you always say, well, most of our members don't make things that go boom and kill people. But of course, they did make things that help them target coordinate, be more precise, and so forth. So, you know, it was kind of a throwaway line, it didn't quite add up. The other thing is, you know, from the military point of view, there's these enthusiasms for technical solutions to complex global problems. So in Vietnam, it was electronic battlefield. In the Rumsfeld years, it was the revolution in military affairs, has been a long standing kind of embrace of precision guided weapons. And there's been a lot of glitches and actually making those things work. And when they do work after much, many years and much investment, they're often not relevant. I mean, they cause damage, but the US couldn't, you know, win a war in Iraq, or Afghanistan against really armed adversaries, given all the tech in the world. And the idea of using this strategy to deal with China rather than a sort of a diplomatic economics or sort of more balanced approach, I think is a recipe for disaster.

**William Hartung 28:36**

So I have a question for the panel, kind of a devil's advocate question. I've talked to various reporters and people in the think tank world and so forth, about this development. And they all think it's a great thing. You know, when the Pentagon wants these new technologies, big companies aren't innovative enough. This is where, you know, it's all gonna happen.You know, what's wrong with that argument? Anybody wants to j

**Jonathan Guyer 29:01**

I'll jump in there because I, I mean, a lot of the investors in this space, who I think I need to know, are hugely patriotic, hugely, you know, mission driven is the buzzword. The threat perceived of China eating our lunch is is real to them. And, you know, as I say, it's reminiscent of the war on terrorism or it's reminiscent of the of the Cold War. But, you know, it's true that it's probably better for the United States to have a lot of these technologies. The problem that I see here is what are the guardrails? What are the ethical boundaries? Are we selling these technologies to Saudi Arabia and the United Arab Emirates or Bahrain, where there's hundreds of political prisoners on hunger strike? What's Israel doing with these technologies? How are they affecting Palestinians in the context of daily surveillance under occupation?

Let's develop these technologies, if that's sort of the mission driven approach, but I'd really like to see a code of conduct that is sort of dealt conceived of by ethicists and lawyers and human rights activists, grassroots constituents. So I liked what Ed said about, you know, so much of private capital is is is decisions are being made privately behind closed doors. But but this is really a public good if it's truly about national security and defense, like, okay, let's let's set the boundaries, the guidelines, the guardrails and have a serious public discussion about it. Shane, a product scaling AI, which the White House I believe, is bringing in as one of its partners to determine some of its ethical ideas around how to use generative AI, not the choice I would make to bring in a private company to make some of those public decisions. Obviously, I'm a reporter, not a government official. So so maybe there's some great insight I'm not aware of, but as Senator Elizabeth Warren has raised, there's just a tremendous coziness right now, between the private sector and government industry on this set of issues. That is really frightening stuff. So, yeah, let's develop the hell out of these new technologies. But let's also develop the most robust safeguards so that, you know, the same Leahy laws or other kind of, you know, tenets of us democracy are brought to bear here.

**Edward Ongweso Jr. 31:40**

I just wanted to add quickly, I think also, you know, as Jonathan talked about, Sean has talked about, right, the we are building and putting in hundreds of billion dollars into arguments that are not being used, but are or are being used to rationalize being used further being used to rationalize further expanding it right. The there are just questions to consider, or about what's the effect of constantly pouring all this money into this inculcating investors, asset managers, technologists, scientists to drive the direction of technological development, and also the missions and objectives and the design principles of our technology to be for fighting award or just around the corner or for militarizing or for surveilling, or for instituting social control, right? A lot of the people who are invested are in this space, also, you know, kind of some of them pride themselves in not supporting technologies that they think are particularly exploitive, surveillance lethal, but at the same time, are are building towards that, right? If we are sitting here and saying, or if people are sitting here and saying that they, for example, are concerned about these investments, because they want to compete with China, because they think that China has artificial intelligence, which is antithetical to our values, then what do they think are, you know, is the drift or the erosion of the values that are going to happen here, if all we keep prioritizing is, you know, lethal tech is surveillance tech is infrastructure to build that up and to offer it, it is infrastructure to take commercialize tech and turn it into something that can be militarized, without, you know, much investment interest or concern in building things out that might be for no purpose other than to make people's lives easier when it comes to healthcare when it comes to transit, whether it comes to the public goods or services that are neglected, or when they aren't taken care of handed over completely right to the private sector, much like, you know, this national security and defense tech industry is being at the moment.

**Shana Marshall 33:53**

Um, yeah, I, you know, immediately to me, I, I see that, you know, limiting these technologies are their export to places like Saudi Arabia, the UAE, China and Israel would be basically impossible because that's where the, you know, as John Doe, Andrew said, that's where the money is. The money that's in these private equity funds, is largely coming from probably outside the United States, right? These we know this for decades, right? The these large state owned investment funds from the Gulf, right, is what is has been pouring money into Silicon Valley literally right for decades. So the idea that we could sort of develop those technologies using their money and then deny them the use of of those technologies, I think is probably is probably a pipe dream. A lot of people probably don't remember this, but the pubai Ports scandal, right in like the early aughts, maybe when the Emirates was trying to buy its way into us cargo ports right and along the east coast, created this enormous scandal. And what they learned from that is instead of trying to by these assets using a state or a state named company, we'll put our money in private equity and we'll access these assets through the backdoor, basically. And that's also why there's been so much effort to sort of burnish the reputation of Mohammed bin Salman and Saudi Arabia more broadly, is because Saudi financing is so embedded in unnecessary to the production of continued US military technologies. And the entire VC, private equity infrastructure, meaning the entire sort of financial sector in the US and globally, is so is so important that there is no way to extricate these actors from, from this system. I mean, Saudi Arabia is very quick to and can very easily, you know, punish the United States. I mean, they, they withdrew, you know, a bunch of a bunch of their, you know, holdings of US Treasury bonds, which they were presumed, you know, presumably committed to not doing through prior agreements. And they were very quick to do that. And it hurt the US Treasury, they were supposed to tell the US Treasury before they did it, if they ever planned on doing it so that the US Treasury could buy back those bonds and not have them floating on the open market. So there's, you know, the idea that Saudi Arabia wouldn't, doesn't have the tools necessary to make sure that they get what they want out of that bargain, I think, to me, suggests that the US regulatory system, or that US business more broadly, even has the ability or the capacity to sort of limit those technologies. And of course, they're developing their own technologies domestically, right. The UAE is consistently and vocally, you know, developing weapons technologies and partnering with firms, specifically, in order to circumvent the international trade and armaments regulations that prohibit the export of certain us technologies to certain places, they've been pretty successful at doing that. And they're going to become, as they plow more and more money into that sector, more and more successful. So the idea that we can somehow sort of limit the fallout from this, I think, is is is not is not likely.

**William Hartung 37:19**

Um, well, on that optimistic note. Just a few minutes, I think we should open to questions, use the q&a function to do that, you know, two brief thoughts I had was one, you know, in the big ticket items, that fighter planes and so forth, the market is fairly, you know, structured as a few big players, hard for a country to build its own fighter plane industry. But I wonder in some of these technologies, whether they would proliferate more easily into company countries that would use them to ill effect, and also just in terms of use of warfare, autonomous robotic weapons, reduce the decision time, and sometimes even take humans out of the loop, which could lead to, as Michael Claire is noted in a recording from the Arms Control Association, unintended slaughter, and also in the nuclear field, the risk of escalation or accidental nuclear war. So in addition to the kind of financing and political relations that come out of this, the products that they're helping accelerate are extremely dangerous. And in terms of rules of the road, there shouldn't be some focus on that. And that's just an arms race in this, but some, some ways to control how these things may be used, which acknowledged would be very difficult. So any of the panels have things that they are dying to say that have yet to be said, before we go to questions.

**Shana Marshall 38:52**

I would just say that, speaking directly to that last comment that when you read these pieces, like the Andreessen Horowitz base, you can very clearly see that they're not just speaking to the US military, right? They are speaking broadly to militaries across the world. And then you see that narrative then replicated in arms industry lobbying documents, right, because the drive right now is to reform the Pentagon's contracting process to make it more focused on major importers of US arms primarily in in the Middle East, and to facilitate the sort of reshaping of that process so that it's easier for countries for other countries to import US military systems. And so if you read between the lines of a lot of these things, you can very clearly see that these defense tech firms are not limiting. There are not limited they're not limiting their horizons, to settling to the US military, but it's very much about a it's a global industrial strategy.

**Edward Ongweso Jr. 40:01**

I would also say, you know, I remember Jonathan had mentioned about how there is a kind of underreporting of the influence of the sovereign wealth funds. And I think that the sovereign wealth funds also have in Saudi Arabia and UAE have a larger influence in that, you know, the capital that they generate from oil revenues, and from investments that they're using to support their state are also being turned into capital that they can use to undermine industries elsewhere and their own public sectors and their welfare states. Right. And so the proliferative proliferation of their involvement in the arms industry also results in contracting of other avenues that people might have to say, hey, let's reallocate funds from our defense sector into the public sector. And because they'll come in with backing up startups backing up private unicorns that will cannibalize what's left of that, right. And so it ends up, you know, letting a lot of these hordes of capital, you know, fester and proliferate and spread, ends up being something that accelerates the the logic of financialization and the logic of militarization that's going on here as well.

**Jonathan Guyer 41:16**

I want to add one smaller point, which is to what you something you said earlier, Bill, about kind of innovation theater being very hot in Pentagon circles, many of the key departments Air Force, Pentagon writ large, have established these kinds of investment offices that kind of serve as a way to grease the wheels between a lot of these venture firms and startups and the Pentagon, which, as I was kind of arguing before, I'm not sure we need to grease those wheels seems like they're pretty friendly already. But so there's one called the Office of Strategic capital, which just is a walking and talking potential conflict of interest. According to some of the reporting I've done. There are these kind of innovation labs and units that are in Silicon Valley in Austin, that are all Pentagon linked, and they host a lot of like TED Talk style events. And, you know, they're always bringing in startup founders to hang out. And kind of it's very vibes based, as far as I can tell. But, you know, the actual money that's being put in through these, like, innovation grants, you might call them are pretty miniscule. So just an interesting space to watch.

**William Hartung 42:32**

Great. Well, there's a question about kind of, you know, can non state actors turn the tables? Could they disable computer dependent weapons? Can they develop their own, you know, types of this to use in their activities? You know, basically is, is there a chance that this could be turned around? Or is this sort of going to be just the domain of of states?

**Jonathan Guyer 43:03**

We're seeing that with, I think drone production, in terms of drones are now not such a hot technology. But if we go back 15 years, and remember, in the early days, the Obama administration, drones were super cutting edge, and every story about a drone was sort of like, Whoa, what is this new thing? So I think, with the production of Iranian, Turkish, Russian, very cheap drones, and then the ability of a lot of non state actors to use drone technologies, that's sort of like a preview of what might happen, I think, with machine learning technologies, cyber warfare, any number of the kinds of technologies we're talking about today. I mean, it is only a matter of time, I think, before a lot of these tools. Not only will be in the hands of autocratic governments like what we've seen with the NSO group, Israeli spyware technologies, but also things that are, you know, much more difficult to explain or conceive but have have real world implications.

**William Hartung 44:06**

Yes, Shana, did you have something to add? Or?

**Shana Marshall 44:08**

Yeah, I would say that's absolutely the answer to that is yes. Right. But that that kind of obsolescence, right is only a justification for demanding additional funding to be poured into this sector, right to patch the holes to develop the next gen version of whatever system it is, right. So to the people in the industry, the spread of that technology is an asset, not a problem, right. It actually builds in, you know, renewed demand. And it's basically sort of like a guaranteed long term business model. So and when you read a lot of the stuff from these VC firms from the tech firms, the the issue of the spread and leakage of that technology, if it is addressed at all, is that you know, the solutions that they have to that are being Basically like better cybersecurity technologies, which I don't see any evidence from the past, yeah, 10 or 15 years, that there is that that is on the horizon? Or that they're actually if you physically, you know, if the drone crashes, it is very easy to reverse engineer, you know, that material. And so I don't see any kind of real sort of argument coming from these VC places about what to do in that in that eventuality. And I think that's because, you know, for them, it's it's not really an issue.

**William Hartung 45:37**

Yeah, the other thing I'm wondering about, which is more of a moderator concern than a question from the audience is, at the moment, there's some tension between that startups and the big firms and they claim the big firms are getting all the money. Presumably, that will change. I mean, I think at the moment, it appears that private equity is spending more on this stuff than the Pentagon itself. But so so the question becomes, are they going to make choices? Are they just going to add this on top of the stuff they're already doing, which is a kind of historical trend of theirs? I mean, we've got a Pentagon budget, it's already tending towards a trillion dollars? How high? Are they willing to go? I think, is a question. I don't have an answer to that. But I think we have to keep an eye on that. Let's see what else is of interest, somebody asked about the sort of the jobs issue, and I'm curious, you know, I wonder how this will affect it, this this kind of move towards different kinds of technology, you know, will there be fewer production jobs and the big platforms? And how many people do you need, and the small firms to to develop some of these technologies and so forth? And, you know, the industry has already been declining in employment for years. I mean, the, the, one of the big industry associations, has a report that says, you know, there were 3 million workers directly manufacturing weapons 30 years ago, now, there's a million so there's already outsourcing, there's automation, there's some, you know, various ways to diminish the need for workers. And I wonder if this will accelerate that or if we don't know enough to figure that out?

**Edward Ongweso Jr. 47:22**

Um, you know, I would think of this and similarly, you know, I think about when venture capital, venture capitals influence in effect on employment and other sectors, right, there are some types before you know, where, for example, a gig workers, the population of good workers grows, despite the fact that there's a massive rate of attrition. In something like 90 to 95% of drivers last time data was compiled by Uber would quit within six months. You know, if we want to promote a healthy and sustainable ecosystem and system of employment for the drivers, you know, getting rid of Uber and Lyft might help in one way, but another is like actually figuring out how do we address the fact that a lot of these people were underemployed or were working for a firm that wasn't was exploiting them and wasn't putting them you know, their labor in a way that they might have wanted it right. And I think similarly in, in that when you have such like unfettered hordes of capital here that yeah, there's going to be a mix of automation is going to be a mix of attempts to cut labor costs, but then the larger question is like, Okay, if we do if there's a quite concerned about jobs and employment, you know, like, what is the alternative kind of BS, it kind of is the alternative that we want, like, you know, we do want 3 million jobs, but they're for what making weapons? Or do we want like 3 million jobs in another way, shape or form? Like, is there a way in which we can provide those in the industry that is not also still feeding the problem here, which is, you know, there's this massive growing growing armament and blood thirst and, and, you know, war industry that erodes and incentivize incentivizes the erosion towards, you know, these sorts of conflicts are ginning up towards these sorts of conflicts that we want to avoid, right? Or the development of technologies that we want to avoid, right, or the financialization of things that we want to avoid, like, how do we preserve and bolster employment while doing that? And I don't know, particularly, but I do think that that's like something I think about also with other industries that venture capital has touched and taken advantage of misclassification, under employment, the need for labor that people have.

**William Hartung 49:04**

Yeah, I think that's one of the biggest questions and in terms of if you wanted to shift away from the direction we're going now, there was a question about how do universities fit into this picture?

**Jonathan Guter 49:57**

They are front and center I've noticed that the business schools, including MIT, Harvard, obviously Stanford, are just hosting a really robust schedule of conferences about defense tech, which I guess we should maybe even just unpack that word, defense tech, because it's a very soft word for surveillance technologies, offensive weapons, cyber weapons, all sorts of different stuff that falls under the umbrella of defense, some sounds a little more cuddly than perhaps it is. But obviously, historically, research universities have been really intimately linked to this space. There's various labs at places like Johns Hopkins, that are really tied up in the machine learning military space. And, you know, for those of us who recently saw Oppenheimer, you know, this is not a new phenomenon. These technologies have long been intimately tied up with academic space. But I do think there's a kind of hopeful note from Oppenheimer, which is that scientists sometimes get it and understand the ethical quandaries and the power of the technologies they're working on, and can help raise some of these questions in in a pretty robust way.

**William Hartung 51:13**

Yeah, I mean, it's interesting. Oppenheimer himself, it was sort of the story of his moral quandary about this. But there were large numbers of scientists who started organizations, like the Federation of American Scientists, the bulk of the time of scientists, and became advocates of arms control or abolition of nuclear weapons, the Pugwash group internationally. So there's no guarantee that everybody's going to buy into this. And so I think that is a helpful note. There's somebody's whole class is watching this, which is a good way to build your numbers. And so one of the students asked, would nationalization of the military industrial complex curb the influence of venture capital?

**Shana Marshall 52:04**

I remember, we had this previous Quincy event, maybe like a year ago, and that was my sort of big sign-off was, you know, if you don't want profit, the profit motive to be driving foreign policy decision making, you have to take the profit motive out of the process of foreign policy, and yeah, the only way to do that is to literally nationalize the military industrial industry. You know, lots of other countries have much more sort of direct control over their industry. I don't think that there's, you know, so so often, when we think about these really transformative policies, you know, people say, well, that's just not possible. But if you look back maybe a decade or two decades or three decades previous turns out that those policies actually did exist, you know, the US did have price controls under Nixon. Right. I mean, we, you know, we have had massive mobilizations of the entire population in the pursuit of of one sort of outcome, you know, you think of like war, mobilizations, and all of the things that would be possible, if the government if if the state would actually do something, right. And I think control over the military industrial complex, and military industrial production would go a long way into making foreign policy decisions less about the profit driven interests of extremely powerful lobbies in the US. And, you know, we would have better outcomes sort of across the board, not just in terms of employment, the provision of public infrastructure, but also in terms of the US repeatedly getting itself involved in these really, sort of endless overseas conflicts.

**William Hartung 53:55**

Um, so we're getting up on five minutes. I want to give the panelists a chance, if they have any, you know, final comments or questions that we should look into going forward. So whoever wants to volunteer or I can call on people, whatever works?

**Edward Ongweso Jr. 54:14**

Um, you know, I think, you know, when we were looking at specifically venture capital, but also private equity, right, these are, these are fields that have already, you know, in the limited time that they've existed. Totally perverted incentives, the development of entire sectors and industries. And, you know, in the case of venture capital specifically, this also applies to private equity. They're now places that they've influenced whether it's the gig economy, or whether it's healthcare, where we face the real prospect of like a permanent privatization or permanent barrier that they've instituted themselves from taking care of workers and their from ensuring good inhumane working conditions, but also from integrating that into, you know, a better vision for kind of transit or healthcare system that we might want. And so, you know, that should be also a warning sign that the desire to emulate them, whether it's different branches of the military trying to make their own venture capital funds, whether it's, you know, increased networking with these people, whether its attempts to bring them on in and replicate the ecosystem that has done so much damage to the rest of the country, and the way in which labor is able to operate the way in which capital and private decisions dictate the course of people's life, that should be a warning sign to try to figure out how do we, you know, either create a firewall or purge it because if they have their way, you know, we will now have to deal with even more fanatic, dangerous, delusional profit seeking, and on top of an already dangerous lethal endeavor, which is like, you know, weapons development than, you know, independency and ease with which it will go towards war mongering or ginning up a conflict, and what, you know, knockdown effects that will have on the rest of society. So, I think like, this is a very important topic, right? You know, how do you get financiers out, that is a part of the puzzle of how to also ensure that we can, you know, stop wars and conflicts from happening.

**William Hartung 56:24**

Yeah, that's right. This is a whole other flow of money on top of that, you know, government investment that's, you know, spiraling towards a trillion dollars a year. Yeah, Shana or Jonathan, who wants to weigh in next?

**Shana Marshall 56:35**

I'll just quickly say that, you know, that tension between private equity, venture capital defense tech, on the one hand, and the majors, right, the primes, are they OEMs, Lockheed, etc. On the other hand, you know, you would you think that there that there is necessarily attention. But, you know, in the past, most of the innovation that happened was from the primes, just buying up these very early stage, defense technology solutions, right. So they were not innovating internally, right, they were finding these little tiny tweaks that existed for that apply to their weapon systems. And they were bought just buying up those firms, right, and they have their own corporate venture capital arms, right in these big firms. And so now basically, the that defense tech ecosystem, you know, they want to exist outside being gobbled up by the primes, because because they're being driven by the, the, the sort of the logic of investment capital that says, if you can hold out longer, right, if you can get bigger, you know, then we can have multiple rounds of investment. And we can have more and more people more and more investors who are actually take who are who are profiting from these multiple multiple rounds of investment, so that there's actually more sort of surplus capital being produced from that process, as opposed to just getting gobbled up in that very initial instance by the primes. So you do have these sort of different factions, I guess, of capital that are battling it out. And I think that's sort of what you're seeing right now. And who wins? I don't know. But we all lose, I guess, regardless of which, of which one of them wins.

**William Hartung 56:24**

Yeah, that's right. This is a whole other flow of money on top of that, you know, government investment that's, you know, spiraling towards a trillion dollars a year. Yeah, Shana over Jonathan, who wants to weigh in next? And, Jonathan, do you have any final thoughts?

**Jonathan Guyer 58:26**

I just I want to make one final point, which is more in the specific than the general, which is, there's this private equity group called Pine Island Capital Partners. And what would you know, by coincidence, Secretary of Defense, Lloyd Austin had to have a seat there, as did Secretary of State Tony Blinken. And this is a private equity firm that invests in some new military related technology, machining parts. And I remember Axios did a story around the time of nomination campaign zone, which said, you know, we're going to be hearing expect to hear a lot more about Pine Island Capital Partners. And sort of surprisingly, or not, so surprisingly, we haven't heard much about it. So I think that's the role of researchers and reporters here is to keep reminding citizens, voters, people that are paying their taxes toward these new technologies and advancements that many of our public figures of public servants of both parties are immensely tied up in investment groups, but it's sort of it happens very quietly. So I just want to thank you all for hosting this conversation, because it's important that we draw attention to these quiet trends.

**William Hartung 59:46**

Thanks. Well, I want to thank our panelists and everybody who tuned in a Quincy is going to stay after these issues in various forms. Because one of our goals is to both expose how the military industrial complex works but also trying to figure out if there's ways to reduce its political and economic power and its influence over our military and foreign policies. So if you want to know more about what we're up to, if you go to quincyinst.org you can hit the events, you know a tab and find out about future events. You can read our reports and articles and if you go to responsible statecraft, you'll get kind of breaking stories about things like this. So, thanks again to the panelists. Thanks to all of you. And let's do this again.