



The Marathon Initiative

Broadening the Base: A Blueprint for Expanding Defense Industrial Capacity

This report examines politically plausible policy architectures for significant defense industrial base reform.

Given the American federal system's grounding in a separation of powers, it is very difficult to advance meaningful, durable reforms without a broad public-private, geographically distributed coalition linking private sector and political interests.

The reform package best adapted to generate the broadest possible corporate and state-based coalition is by focusing on strengthening what this report designates as the defense industrial "sub-base" (DISB), or the domestic market for fundamental, lower value-added inputs for higher-value projects

Robert Almelor Delfeld
with contributions from Elbridge A. Colby

Sponsored by the Common Good Economics Grant Program

The Marathon Initiative

Broadening the Base: A Blueprint for Expanding Defense Industrial Capacity

Robert Almelor Delfeld

with contributions from Elbridge A. Colby

CONTENTS

<i>Introduction</i>	2
1. Background	2
2. Problem Statement	3
3. Approach	5
<i>Goal: Bipartisan DIB Objectives</i>	8
1. Executive Orders	8
2. Policy Proposals	11
<i>A Case Study of Deficiency: 2022 CHIPS Act</i>	14
<i>Blueprint: Defense Industrial Sub-Base (DISB) Reform</i>	15
<i>Conclusion: A Broader, Stronger Base</i>	21

INTRODUCTION

I. BACKGROUND

Interest in defense industrial base (DIB) policy was, during the unipolar moment, confined to relatively niche circles within the military and foreign policy elite. This was for understandable, if not necessarily ‘good,’ reasons. Without a peer competitor after the collapse of the Soviet Union in 1989, the United States could readily deal with emergent military threats both at a fraction of the relative cost (as a percentage of GDP) and force level of the Cold War period.

That geopolitical reality, alongside domestic political demand for a “peace dividend,” resulted in reductions in the defense budget and the famous 1993 “Last Supper,” during which Secretary of Defense William Perry pressed for significant consolidation of the Pentagon’s network of prime defense contractors.¹ Thereafter, the industry followed that trajectory: shifting from over fifty primes in the early 1990s down to roughly five at present.² It could be said that before this point, for America’s powerful, vertically-integrated manufacturing sector, the DIB represented just one among many business lines; only afterward did the “defense sector” truly emerge as a specialized, standalone entity.

Until recently, what little discernible impact this development had on U.S. military readiness could be remedied through ad-hoc infusions of defense expenditure, and further mitigated by the absence of any great power threats. Defense spending increased after 9/11, which, combined with the relatively small scale and sequencing of the wars in Iraq and Afghanistan, did not place acute strain on the DIB.³ Further minimizing the impact of any supply chain inefficiencies and disruptions, defense planners could rely on strategies of “iron mountains” designed to overwhelm opponents with massive, gradual force capability buildups – such as the “AirLand Battle” doctrine in the First Gulf War and its “Full-Spectrum Operations” descendent – that accommodated longer lead times for suppliers.⁴

At the turn of the decade, however, these factors each inverted: the defense budget flatlined and great power threats re-emerged. Anxiety about the U.S. fiscal deficit following the 2008 Great Recession resulted in the 2011 Budget Control Act, which placed procedural controls around increasing defense spending – leading overall to a flat (even declining, in real terms) Department of Defense (DoD) budget.⁵

Simultaneously, increasingly aggressive behavior and an unprecedented military buildup by China’s People’s Liberation Army (PLA), particularly the 2013 onset of artificial island construction in the South China Sea, alongside the 2014 annexation of

Crimea by Russian forces signaled the return of “great power competition” – a fact initially telegraphed by the Obama Administration’s “pivot to Asia” and finally codified in the Trump Administration’s 2017 National Security Strategy and 2018 National Defense Strategy, which identified China as DoD’s pacing threat and promoted a one-war force planning construct focused on “winning the big war” over simultaneity.⁶

Since then, a series of stressor events, including the COVID-19 pandemic, the war in Ukraine, heightened concerns about a Taiwan conflict, and the resurgence of Tehran-backed proxies – have exposed weaknesses in the DIB and raised questions about its ability to meet mounting challenges, accelerating policymaker and media interest in this critical issue.

Even setting aside healthy policy debates over the relative strategic importance, or linkage between, the European, Indo-Pacific, and Middle Eastern theatres⁷, it has become clear that the current DIB is ill-equipped to produce matériel adequate to satisfy plausible mission objectives in *either* theater, let alone *both*. Thus, DIB reform ranks among the most pressing U.S. national security priorities – and therefore deserves its still-increasing share of public attention. Additionally, within a gridlocked political system, the issue is one of the few remaining areas of bipartisan interest and consensus.

2. PROBLEM STATEMENT

Paradoxically, however, the more attention DIB reform has recently received in Washington – a policy priority enjoying rare bipartisan congressional, presidential, and media focus – the less *politically realistic* enacting major legislative reform has become.

This is chiefly for two related reasons:

1. recommendations underrate the need for (and therefore neglect to identify) a broad cross-section of private sector support for an enduring reform agenda (which, in turn, translate into lobbies for congressional majorities⁸); and consequently,
2. recommendations neglect to design policy prescriptions that align such a critical mass of support with adequate DIB reform.

Given the American federal system’s grounding in a separation of powers, it is very difficult to advance meaningful, durable reforms without a broad public-private, geographically distributed coalition linking private sector and political interests. Unlike software production (a capital-light, high-margin process), designing durable legislative regimes is more akin to industrial production: capital-intensive, low-margin propositions requiring symbiotic, long-term partnerships between private- and public-sector actors.⁹

Certainly, marginal reforms can be achieved without such a coalition, but not solutions required to meet the objectives of the 2018 or 2022 National Defense Strategies. Partial reforms are at this point inadequate: DIB reform is a national security challenge requiring generationally significant, wholesale reform.

In June 2022, Air Force Major General Cameron Holt noted that the Chinese military was acquiring capabilities at five to six times the speed of the U.S., and that they spent one dollar to our twenty for the same capability.¹⁰ A series of war games conducted by the Center for Strategic and International Studies (CSIS) estimated that the U.S. would, in the event of a Taiwan contingency, run out of key munitions within a week.¹¹ Rectifying these issues requires a paradigm shift. Thus, identifying a cross-section of public-private interests, then constructing a policy architecture to sustain those interests, should be policymakers' primary objective. Successfully implemented, these kinds of reforms result in what has been described as "quiet politics" – a strong, durable marriage of interests between market forces and bipartisan government imperatives.¹²

History underscores the necessity of this kind of approach for achieving national security objectives. The "containment doctrine" that served as the guiding logic of the Marshall and Dodge Plans during the post-war era, for example, would not have been implemented without incentive-based support from both powerful manufacturing interests (intent on securing stable, preferential access to European and Asian import markets) and labor (whose continued bargaining power with capital depended that market access).¹³ Similarly, the Reagan defense buildup and neoconservative pivot towards a form of "rollback" would not have been sustained without allies in the financial industry (which, increasingly deregulated, sought greater access to international investment markets) and the ascendent telecommunications and information technologies industries (which, also increasingly deregulated, sought access to economies of scale to expand network effects within international markets).¹⁴

Conversely, a failure to conceptually prioritize the formation of a public-private, geographically-distributed coalition results in reforms that have marginal effects at best, and at worst, no or counterproductive effects.

In practice, DIB reform proposals that fall short of that objective often take one of three basic shapes:

- *Technocratic Adjustments and Greater Spending*: These reforms prioritize technocratic adjustments to the procurement process or, more simplistically, entail blunt calls for significantly greater defense expenditure under the existing procurement regime.
 - *Weakness*: Any technocratic adjustments to the procurement process will likely have only marginal effects, and therefore unlikely to amount to

sufficiently transformative reforms, such as with the 2022 CHIPS bill.¹⁵ Attempts to compensate for DIB inefficiencies with sustained levels of significant defense expenditure growth, similarly, are both wasteful and politically unreliable.¹⁶

- *Executive Action*: These reforms prioritize policy options at the President's direct disposal – especially via the Defense Production Act (DPA) and trade authorities – paired with domestic agency-level reforms and adjustments to international bodies.
 - *Weakness*: While the policy tools with most immediate effect on the DIB lie at the White House's disposal, these can only amplify the significant, long-term Congressional increases in procurement funding firms require to justify investment in new capital-intensive production lines. Further, the practical 'state capacity' (compliance with local legal authorities, corporate actors, and labor force) to actually *implement* reforms lies scattered throughout the states themselves. As the Biden Administration is learning via its implementation of CHIPS and the Inflation Reduction Act (IRA), building the capacity for centralized control over funding processes requires a significant amount of time via trial and error.
- *Antitrust Action*: These reforms prioritize legal antitrust actions or enacting new competition laws to break up primes and/or accommodate a wider array of new market entrants.
 - *Weakness*: As with antitrust policy in general, incumbent primes maintain massive legal resource advantages over the government, and potential corporate beneficiaries of antitrust action are often themselves subcontractors for primes. Such disruptive antitrust measures would further handicap the DIB in the near-term. Most importantly, even successful interventions in the medium- to long-term are likely to handicap the DIB's ability to scale up in the near-term to meet pressing challenges, especially from China.

3. APPROACH

In light of these observations, this white paper approaches the problems attached to DIB reform by assuming the following:

1. That the baseline deficiency of most current DIB reform proposals is that they are not *primarily* optimized to generate a public-private sector, geographically-distributed coalition motivated to underwrite substantive, durable alterations to the DIB.
2. That the most effective way to generate such a coalition is *not* by focusing primarily, as most proposals do, on increasing appropriations and generating efficiencies affecting the procurement of full weapon systems (or even relatively high-value added commodities such as semiconductors) but rather the defense industrial “sub-base” (DISB), or the domestic market for lower value-added inputs to those higher-value projects, such as minerals, alloys, plastics, oil, active pharmaceutical ingredients (APIs), and so forth.

While private sector lobbies for higher value-added inputs tend to be highly concentrated both in terms of market share and geographic distribution (limiting their utility in attracting congressional support), it is by comparison much easier to generate a raw materials lobby spanning necessary majorities, if not supermajorities, of states and their legislators by focusing on the DISB.

3. That addressing DISB reform will trigger mandatory, parallel adjustments to DoD’s budgeting statistics, thereby increasing in real terms the purchasing power of the current defense budget.
4. Further, that successful DISB reform is the optimal prerequisite coalitional platform for a suite of other salutary DIB proposals, including: better enabling greater real defense expenditure and output, enhanced competition between both new and incumbent defense contractors, and more efficient use of executive powers.

Methodologically, this paper will proceed under those assumptions as follows:

1. Provide a brief background and summary of objectives identified by:
 - The Trump Administration’s Executive Order (E.O.) 13806 audit of the defense industrial base.
 - The Biden Administration’s E.O. 14017 audit of supply chains for key commodities and critical minerals, as well as the first National Defense Industrial Strategy (NDIS).
 - Think tank and analyst responses to these government reports, and DIB reform more broadly.
2. Using the 2022 CHIPS bill as a case study, identify the specific ways in which conventional DIB reform policy packages are likely to fall short of political reality

tests: namely, their inability to generate coalitions with two features: broad geographic distribution and public-private sector interests spanning multiple sectors.

3. In light of those shortcomings, generate a blueprint for an optimal DISB reform agenda that sufficiently compensates for these realities.

...

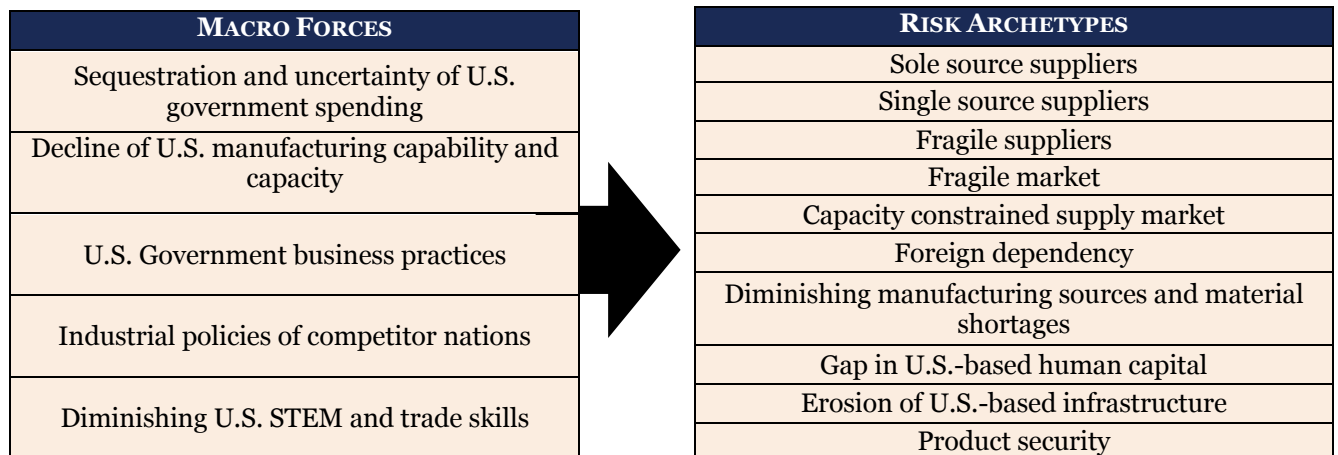
GOAL: BIPARTISAN DIB OBJECTIVES

I. EXECUTIVE ORDERS

Both the Trump and Biden Administrations have commissioned studies via executive order to study and identify weaknesses within both the DIB itself and adjacent critical supply chains.

Beginning in late 2017, the Trump Administration's E.O. 13806 undertook an inter-agency audit of the defense industrial base, initiated by the White House Office of Trade and Manufacturing Policy and led by DoD's Office of Industrial Policy, culminating in a September 2018 report.¹⁷ Drawing on inputs from 16 working groups and more than 300 subject matter experts, the report identified five macro forces presenting challenges to the DIB and derived ten 'risk archetypes' from those forces:¹⁸

DIAGNOSIS OF DIB DEFICIENCIES, E.O. 13806 (TRUMP)¹⁹



To address these issues, the working groups generated a classified Action Plan for DoD, which it summarized in the unclassified report as having eight parts:

- Create an industrial policy in support of national security efforts, as outlined in the National Defense Strategy, to inform current and future acquisition practices;
- Expanding direct investment in the lower tier of the industrial base through DoD's Defense Production Act Title III;
- Initiating analysis and sustainment programs to address critical bottlenecks, support fragile suppliers, and mitigate single points-of-failure;

- Diversifying away from complete dependency on sources of supply in politically unstable countries who may cut off U.S. access; diversification strategies may include reengineering, expanded use of the National Defense Stockpile program, or qualification of new suppliers;
- Working with allies and partners on joint industrial base challenges through the National Technology Industrial Base and similar structures;
- Modernizing the organic industrial base to ensure its readiness to sustain fleets and meet contingency surge requirements;
- Accelerating workforce development efforts to grow domestic science, technology, engineering, mathematics (STEM), and critical trade skills;
- Reducing the personnel security clearance backlog through more efficient processes; and
- Further enhancing efforts to explore next generation technology for future threats.

The Biden Administration has undertaken similar initiatives to address issues with DIB-adjacent critical supply chains. In February 2021, soon after taking office, President Biden signed E.O. 14017, directing DoD and the departments of Commerce, Energy, and Health and Human Services – comprising a task force of more than a dozen working groups – to produce a compendium of reports to “identify risks, address vulnerabilities and develop a strategy to promote resilience” within four identified critical supply chains. The final report identified five drivers of vulnerability within these systems²⁰:

DIAGNOSIS OF CRITICAL SUPPLY CHAIN VULNERABILITIES, E.O. 14017 (BIDEN)²¹

CRITICAL SUPPLY CHAINS		DRIVERS OF SUPPLY CHAIN VULNERABILITY
Semiconductor manufacturing and advanced packaging		Insufficient U.S. manufacturing capacity
Large capacity batteries		Misaligned incentives and short-termism in private markets
Critical minerals and materials		Industrial policies adopted by allied, partner, and competitor nations
Pharmaceuticals and active pharmaceutical ingredients (APIs)		Geographic concentration in global sourcing
		Limited international coordination

To address these issues, the report suggested six key steps²²:

- Rebuild our production and innovative capabilities;

- Support the development of markets that invest in workers, value sustainability, and drive quality;
- Leverage the government's role as a purchaser of and investor in critical goods;
- Strengthen international trade rules, including trade enforcement mechanisms;
- Work with allies and partners to decrease vulnerabilities in the global supply chains; and
- Monitor near term supply chain disruptions as the economy opens from the COVID-19 pandemic.

Taken together, these reports from successive administrations – and both parties – represent a clear mandate for government intervention to improve the domestic productive capacity of the DIB. Rather than simply focus on greater defense expenditure or technocratic adjustments to procurement, as was largely the case during the unipolar moment, the stressor events of the past five years – the COVID-19 pandemic, the 2022 Russian invasion of Ukraine, the unprecedented Chinese military buildup in the Indo-Pacific, and the resurgence of Hamas in October 2023 – have forced the U.S. government to conclude that critical supply chains ought to include more robust domestic production. Further extending the logic of these reports, the Biden administration released the first National Defense Industrial Strategy (NDIS) in January 2024.²³

This is not to say, however, that budget size and procurement issues have been sufficiently or satisfactorily addressed, but simply to point out that the official remit of concern regarding DIB and critical supply chain weakness has over time expanded to focus on domestic production issues.

Indeed, addressing domestic productive capacity weaknesses identified by these successive government audits has been the primary public rationale for the flagship components of the Biden Administration's legislative agenda. As a representative example, the White House has explicitly tied the Bipartisan Infrastructure Law, CHIPS and Science Act, and Inflation Reduction Act to E.O. 14017, stating in a June 2023 "Report Card" that through these bills "more than 70 recommendations across the report have been completed to date."²⁴ Further, the Biden Administration recently released the first ever National Defense Industrial Strategy (NDIS) in January 2024, with an unclassified implementation plan set to follow later this year.²⁵ While interesting (and consequential) intra-party debates over these bills' design and implementation are ongoing, some form of "supply side progressivism" seems likely endure as a core component of the Democratic Party's platform.²⁶

The conversation among Republicans is directionally similar, if less mature. In line with the Trump Administration's E.O. 13806, Republicans have also identified DIB reform as a key priority for their next administration. This is true even across the increasingly diverse and fractious center-right coalition. Notably, many 'establishment' institutions

have generated policy recommendations for expanding domestic DIB capacity.²⁷ Less surprisingly, the reform-oriented Heritage Foundation's current edition of its *Mandate for Leadership* mentions such reforms on 28 separate occasions, and newer right-of-center think tanks, such as American Compass, have placed them at the core of their policy agenda.²⁸

In a Washington seemingly destined for gridlock on most major policy fronts for the foreseeable future, both across the aisle and within caucuses, DIB reform via expanded domestic production capacity stands apart as a rare exception. Capitalizing on the issue's favorable bipartisan political status, however, is far from inevitable – nor simply a matter of deft committee and procedural maneuvering. It is in the first place a matter of policy design.

2. POLICY PROPOSALS

Analysts and think tanks have produced numerous proposals to address DIB and supply chain deficiencies. However, despite favorable bipartisan backing, many current DIB reform proposals are unlikely to pass political reality tests given their inability to muster sufficient corporate lobby or congressional support, which are highly correlated. In simplified terms, these recommendations might be grouped within three broad verticals: “Technocratic Adjustments & Greater Spending,” “Executive Action,” and “Antitrust Policy.”

Technocratic Adjustments & Greater Spending

These reforms prioritize technocratic adjustments to the procurement process, increasing the number of government-owned production processes, or, more simplistically, calls for significantly greater defense expenditure under the existing procurement regime.

These types of tools might include:

- Expanding the topline defense budget;
- Providing the defense budget ‘on time’ and avoiding budgets passed by continuing resolution;
- Increasing multi-year procurement contracts and economic order quantity, block buys, etc.;
 - Conversely, reducing ‘indefinite delivery, indefinite quantity’ (IDIQ) contracts, allowing for greater procurement predictability;
- Eliminating bureaucratic red tape, burdensome regulations, and curtailing unhelpful politicization within the Pentagon;

- Expanding the use of Other Transaction Agreements (OTAs) to enable ‘greater innovation’ and greater procurement speed; and
- Increasing DoD control over munitions facilities operations, especially by building additional government-owned, government operated (GOGO) and government-owned, contractor operated (GOCO) facilities.

Weaknesses: Most plausible corporate or political lobby interests for these agenda items are vested in the status quo, thereby maintaining political leverage over the budget and procurement process. As a result, plausible corporate and trade group sponsors for DIB reform have little interest in significant deviation from the current system, and the business models for most plausible insurgent sponsors – primarily smaller defense contractors – rely on subcontracting for primes, also favoring the status quo.

Further, defense contract awards are unevenly distributed amongst states, lowering the likelihood of generating powerful congressional coalitions for reform.²⁹ Any passable technocratic adjustments – or even supplemental spending increases – will likely have marginal effects, and are therefore unlikely to amount to satisfactory or timely reforms fitting DoD’s needs, as was seen with the 2022 CHIPS bill.³⁰

Separately, attempts to compensate for DIB inefficiencies with sustained levels of significant defense expenditure growth are politically unreliable, especially given the 2023 Fiscal Responsibility Act’s restoration of budget caps for FY 2024-2025.³¹

Executive Action

These reforms prioritize policy options at the President’s direct disposal – especially via the Defense Production Act (DPA) and trade authorities – paired with domestic agency-level reforms and adjustments to international bodies. These types of tools might include:

- Expanding cooperation and harmonizing regulations with members of National Technology Industrial Base (NTIB), Five Eyes, Quadrilateral Security Dialogue (QSD), or AUKUS to expand co-productive capacity;
- Enhancing cooperation and harmonizing regulations with members of Indo-Pacific Economic Framework (IPEF) to expand productive capacity; and
- Creating a dedicated undersecretary and/or dedicated offices within the Department of Commerce to routinize and harmonize usage of DPA Title III, which “authorizes appropriate incentives to create, expand or preserve domestic industrial manufacturing capabilities for industrial resources, technologies, and materials needed to meet national security requirements.”³²

Weaknesses: The policy levers with the most immediate effect lie with the White House, but they are best seen as amplifiers of appropriated funds – not substitutes for it. For example, even as the Biden Administration has used DPA tools to procure commitments from manufacturers to surge munitions production capacity, they cannot deliver on them without appropriated funds on the other end.³³

Further, given the relative scarcity of GOGO and GOCO facilities, and that the practical state capacity and manpower to actually *implement* reforms at required scale requires financing support from Congress and, ideally, from the states, DPA tools alone will likely have marginal effects.

Finally, while attempts to leverage the collective power of international bodies³⁴ – such as NTIB, AUKUS or IPEF – to address market destabilization might eventually be necessary, the combination of their highly technical nature and detachment from Congress make them suboptimal catalysts for reform.

Antitrust Policy

These reforms prioritize pursuing antitrust cases or enacting new competition laws to break up primes and/or accommodate new entrants. DoD undertook an internal review on the “State of Competition within the Industrial Base” in February 2022, which might serve as a premise for these lines of effort.³⁵ These types of tools include:

- Undertaking Federal Trade Commission (FTC) efforts to break up major defense primes, or at least limit further consolidation within the industry;
- Ceasing “contract-to-monopoly” practices that award munitions large contracts to single manufacturers;
 - Conversely, expand use of models based on U.S. Army’s Medium Caliber Family Acquisition (MCFA), which spread awards to multiple facilities; and
- Procuring the intellectual property for major end products (platforms, munitions, etc.) and then contracting to multiple manufacturers and integrators for production.

Weakness: As with antitrust policy in general, incumbents within a sector – in this case, defense primes – have massive legal resource advantages over the FTC, Department of Justice, etc., significantly degrading timely action and diminishing its effect. Further, even if these efforts had positive effects in the longer term, they would likely hamstring efficiently scaling up production in the near-term. Given the urgency required to rapidly counter China’s military buildup, this would be imprudent.

Further, given that potential corporate candidates for a ‘counter-prime’ political coalition are often subcontractors for primes (and therefore dependent upon them), congressional means for advancing this agenda are limited. It is notable that the promising insurgents frequently refrain from taking on incumbents frontally, opting instead for suggestions that budget quotas be carved out for their particular contracting vertical (e.g., enterprise software).

A CASE STUDY OF DEFICIENCY: 2022 CHIPS ACT

It would be unfair to assess the previous three verticals – technocratic adjustments and greater topline spending, executive actions, and antitrust policy – or any of their constituent parts as standalone proposals. Indeed, they are often presented as synthetic packages. However, the development of the bills that became the 2022 CHIPS Act, hailed as successful by some corners, stands as a representative case study of how even policy proposals combining elements from all three of the above three verticals are likely to be insufficient.

Even setting aside the bill’s lax restrictions on grant recipients continuing to invest in China³⁶, the CHIPS Act took three long years to pass, hardly the timeline required by an urgent national policy priority.³⁷ This significant delay occurred despite substantial bipartisan support for its objective: the partial domestic reshoring of semiconductor supply chains – ones critical not only to fielding current and future American military capabilities, but also a wide range of non-military applications.

Its earliest antecedent bill, the “Endless Frontier Act” was initially proposed in 2019. Next, two separate “CHIPS for America” bills were merged and passed into law via the 2020 National Defense Authorization Act (NDAA), but lacked appropriated funding for implementation.³⁸ CHIPS funding, alongside proposed increases for R&D spending drawn from Endless Frontier, were folded into two larger bills: the Senate’s “United States Innovation and Competition Act” (USICA), and the House’s “America Competes Act.” Both bills, lacking sufficient lobby constituencies to advance them, got mired in committee.³⁹

At this point, the sole pair of industry lobbies involved in shaping the final CHIPS bill intervened: the Semiconductor Industry Association (SIA) and groups representing university research centers. They commenced a campaign to strip away constraints on funding to transform the bill into what effectively became block grants to large semiconductor industry incumbents and research universities. Proposals for technocratic reforms to enhance competition and attract private investment, such as “manufacturing investment company”⁴⁰ vehicles, and executive action-level reforms, such as Commerce Department powers to prevent funds from being used for direct investment in Chinese facilities, fell by the wayside.⁴¹

Further, there was little to no effort within this bill to *also* re-shore the ultimate customers for the kinds of legacy chips that might be produced by CHIPS-funded facilities, particularly, electronics manufacturers. Consequently, these projects will still largely rely on Asian, especially Chinese, demand for integration into higher value-added systems and consumer electronics.⁴²

Even worse, given China's recent progress on indigenous chip production in the face of "small yard, high fence" U.S. export controls, Asian customers may eventually have little use for these American suppliers struggling to get off the ground.⁴³

Taken as a whole, the key failure of this bill – despite its synthetic approach to the DIB reform verticals listed in the previous section, and despite substantial, vocal bipartisan support for its objectives – was a flaw in its design. It lacked a public-private, geographically distributed coalition for substantial reshoring of the semiconductor industry. Over its three-year history, the legislation failed to attract more than one major industry to its cause and, further, did not register profit-based motives for companies located in a majority of U.S. states. Had the bill been designed to service this kind of coalition, it might have had stood a better chance to succeed.

The bottom-line lesson from CHIPS? Paradoxically, when it comes to DIB reform, the broader and more ambitious a proposal is (that is, the greater the number of industries and states brought into the coalition), the less likely failure will be; conversely, the more 'targeted' or 'calibrated' the reform's remit (that is, the fewer states and industries brought into the coalition), the greater the prospect of failure.

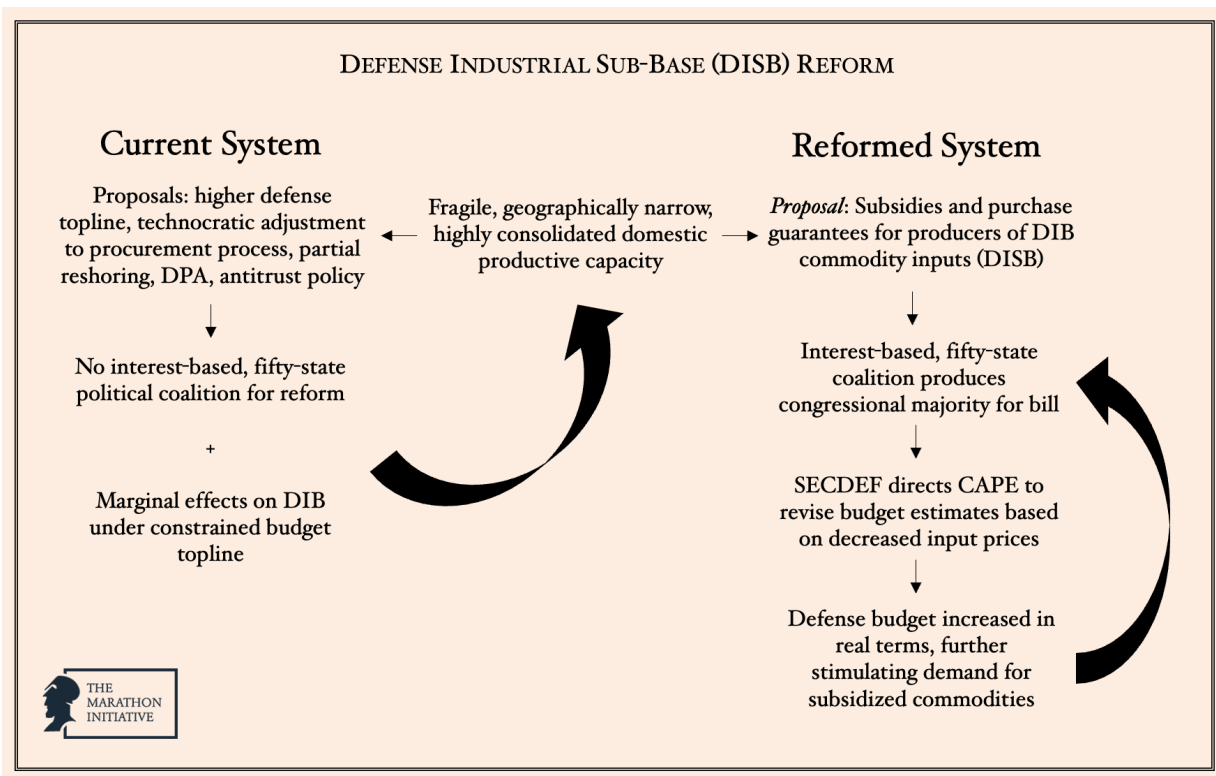
BLUEPRINT: DEFENSE INDUSTRIAL SUB-BASE (DISB) REFORM

Taking the lessons of CHIPS into account, the most effective way to generate a critical-mass coalition is *not* by focusing primarily on increasing procurement of finished systems or munitions contracts via topline or special defense budget increases, nor on more 'targeted' efforts at reshoring the production of relatively high-value added commodities, such as semiconductors or batteries.

Rather, the reform package best adapted to generate the broadest possible corporate and state-based coalition is by focusing on strengthening what this report designates as the defense industrial "sub-base" (DISB), or the domestic market for fundamental, lower value-added inputs for higher-value projects, such as metals, alloys, ores and compounds, minerals, plastics, oil, active pharmaceutical ingredients (APIs), and so forth. In sharp contrast to relatively narrow legislative efforts such as CHIPS, reforms targeted at the DISB have much more expansive appeal to both political and private sector actors. Consequently, broadening the coalition – *the political base* – for DIB

reform by focusing policy intervention a level down – *at the DISB* – increases the probability of political success for timely and durable reform.

While private sector lobbies for higher value-added products and/or commodities tend to be highly concentrated both in terms of market share and geographic distribution (which limits their utility for attracting congressional support), focusing policy design on the DISB is, by comparison, a more effective avenue toward generating a lobby spanning necessary majorities of states and their legislators.



This approach would recommend a policy model with the following features:

- A. *Lower and Stabilize Prices by Pulling Demand Forward for Key Inputs*: Building upon the current list of critical material reserves maintained by DoD's Defense Logistics Agency (DLA)⁴⁴, new executive orders and supporting legislation would identify a wider circle of 'strategic commodities' for intervention by the federal government to pull demand forward, laying a foundation for broader private sector investment within critical supply chains.⁴⁵ Depending on the distribution of political capital within a given environment, this line of effort could be initiated at either the congressional or executive level. Ideally, though, an optimal attempt at DISB reform would employ both approaches in tandem:

A.1. Congress-Led: Expansion of Strategic Commodities Stockpiles:

One set of levers could feature a newly designated “DLA Strategic Commodities Portfolio” to receive long-term, renewable, guaranteed purchase agreements from the federal government (modeled on the Strategic Petroleum Reserve (SPR), and primarily administered by DLA⁴⁶) in order to dramatically expand reserves of these commodities.⁴⁷ In a slightly different framing, Congress could pass legislation modeled on a “Farm Bill” for designated strategic commodities, which would authorize federal funds for a combination of subsidies and purchase agreements between producers and the government.

A.1.1. As part of these negotiations, Congress might need to consider raising the authorized volume of relevant strategic reserve caps. The SPR, for example, is currently capped at 714 million barrels by statute.⁴⁸

A.1.2. The fossil fuel industry, especially shale drillers likely facing exhausted well inventories within the next decade, is in search of its next financial paradigm. The same goes for producers of numerous other commodities – both domestically and abroad – who face of a looming slowdown in Chinese and developing world manufacturing.⁴⁹ An attractive alternative financial paradigm based on an investment partnership with the U.S. federal government could be designed and facilitated with inter-agency support from DoD, the Departments of Commerce, Energy, and Treasury.

A.1.3. Further, a broader coalition might be able to revive a version of the “manufacturing investment company” (re-cast, perhaps, as “defense investment companies”) policy concept that was stripped from earlier versions of the CHIPS Act designed to attract private equity lobby support.⁵⁰

A.1.4. This package might also include tax credit and loan guarantee support for base-layer “process gaps” that act as bottlenecks for manufacturers, including software for creating more transparent markets for newly-subsidized commodities, enrichment and refining processes, and machine tooling.

A.2. Executive-Led: Secretary of Treasury’s Exchange Stabilization Fund:

Alternatively, as analysis by policy group Employ America suggests, another lever for this line of effort rests with the executive branch, which could direct the Treasury Department to employ its powers over the Exchange Stabilization Fund

(ESF) to guarantee forward demand and therefore dramatically de-risk investment in new projects.⁵¹ Deploying a combination of both put option purchases and loan guarantees, the Secretary of the Treasury could effectively lower industry investment hurdle rates (the rate of return firms require to justify greenfield investment) to facilitate production and commodities production from smaller firms and more speculative projects.⁵²

A.2.1. The President's DPA Title III authorities could be used complementarily to augment this mechanism.

A.2.2. This concept could also be paired with a version of the "manufacturing investment company" concept; without additional authorized congressional funding, perhaps the U.S. Small Business Administration (SBA) could create such a classification and prioritize its funding as a beachhead for further congressional support.

B. Supplemental De-Risking of New Commodities Projects:

Concurrently with either approach, Congress (via legislation modeled on the Inflation Reduction Act) and the White House (primarily via DPA Title III, and in coordination with state and local governments) could issue a coordinated package of loans, loan guarantees, tax incentives, and subsidies to de-risk investment in new projects aimed at: a) filling new strategic stockpiles; and/or b) responding to Treasury-led signals to stabilize commodities prices.

B.1. At the state level, policymakers in both parties could lean on state legislatures and promote candidates in favor of enacting permitting reform and deregulation for relevant projects. Modeled on extant state-level policies incentivizing data center investment, for example, passing state level legislation to further incentivize investment in commodities production via tax credits and loan guarantees would make an attractive addition to state partisan political platforms, creating a race to the top amongst state capitals and drawing in additional bipartisan allies at the county and local political levels.

B.2. A model DISB bill should account not only for state legislatures, but their executive branches as well. Several state governments, including Republican states theoretically opposed to state intervention in markets, have robust state economic development agencies. JobsOhio (the semi-privately administered, publicly-funded Ohio state development agency) is a powerful example. Proactively designing legislation with these agencies in mind would generate further support at the state and state donor levels, pressuring federal delegations

to support DISB reform.

- B.3. In addition to financing new commodities projects themselves, additional financing for projects required to retool the logistical infrastructure to get these strategic inputs to market (and enable their broader inventory processes by DoD and other agencies) could be assigned by statute or via agency action to regional banks and financial institutions, in addition to aforementioned “manufacturing investment companies.”

These regional entities could be granted contracting priority over multinational banks alongside supporting tax credits, justified by the former’s greater local lending expertise and relationships with regional defense bases and infrastructure firms. Alternatively, as Michael Lind has proposed, Congress could direct the IRS to grant favorable tax treatment to bonds, qualifying as related to DISB and DIB business activities, issued by states and municipalities.⁵³ This would incentivize yet another industry lobby to join the coalition.

- B.4. More ambitiously, a broad enough coalition may aggregate the political capital to institutionalize DISB reform funding as a renewable government resource in the form of a national bank. This could occur within the initial policy package or, more likely, once the architecture is more mature and has attracted more capital and users. In exchange for the federal government’s underwriting these new revenue streams, current strategic commodities producers and, say, newly formed “strategic commodities investment companies” might agree to divert some percentage of guaranteed government revenues toward capitalizing next generation production projects within a “National Defense Resource Bank.”

INCREASING THE DEFENSE BUDGET’S REAL PURCHASING POWER

Ideally, DISB reform along the above lines would have the following effect on DoD’s budget:

1. Implemented at sufficient scale, these policy measures would over time both stabilize supply and decrease the price of inputs into higher value-added DIB outputs, thereby increasing the real purchasing power of the U.S defense budget over the long term.

- 1.1.1. Specifically, implementing measures to guarantee lower input prices would necessarily initiate a statistical re-evaluation of future cost estimates within DoD's Office of Cost Assessment and Program Evaluation (CAPE) program, which reports directly to the Secretary of Defense (SECDEF) and, via an eight step project-based cost modeling protocol, informs the Planning, Programming, Budgeting, and Execution Process (PPBE) within DoD.⁵⁴ A directive from SECDEF could accelerate this statistical update by triggering a snap audit to level-set CAPE benchmark estimates for inputs. These would be based upon the estimated price effects of the new policy package.
- 1.1.2. SECDEF would also issue a similar directive to the military branches, given that the acquisition arms of the Army, Navy, and Air Force (in addition to the Missile Defense Agency (MDA)) maintain separate cost estimate handbooks in addition to CAPE's.⁵⁵ Ensuring that Congress, OSD, and the Services are using standardized assumptions based on lower input costs would be crucial. Further, an executive order could speed the adoption of these new input estimates by the Congressional Budget Office, fully permitting Congress an evidence-based aegis for issuing new procurement contracts and expanding and accelerating existing production lines under a fixed defense budget topline.
- 1.1.3. While versions of the above policy model might take T-5 to T-10 years to display real effects on the supply of commodities, the political signal and purchase guarantees of either "Farm Bill" or "Expanded DLA Strategic Reserve" models might help bend futures markets downward, in turn guiding CBO/government actuaries to adjust cost estimates, thus giving Congress/DoD force planners greater concrete leverage to be more ambitious and aggressive at T-0.
- 1.1.4. More ambitiously, this policy model might also facilitate increased commodities exports to European and allied industrial bases – again expanding the real purchasing power of the aggregate DIB of U.S. and allied militaries. A full audit of the Defense Security Cooperation Agency (DSCA), which administers Foreign Military Sales (FMS) and Foreign Military Financing (FMF) programs, might permit American commodity price supports for a "combined" allied DIB.

Taken together, some combination of the DISB policy reforms above would broaden the political-industrial coalition to four sectors with broad geographic reach (defense contractors, commodities producers, private equity, and regional finance), as well as

strong incentive-based ties between both elected representatives and bureaucratic officials on the state and federal levels.

Given a broadly and intelligently applied ‘strategic commodities’ label, the coalition of public-private incentives for elected representatives might encompass close to – if not all – fifty states.⁵⁶ This powerful confluence of interests may be sufficient to underwrite the kind of generational DISB reform that U.S. national security policy, on a bipartisan basis, clearly requires – and create a new platform for plausibly advancing other DIB reform proposals that were previously politically unrealistic.

CONCLUSION: A BROADER, STRONGER BASE

By broadening the political-electoral coalition described above, successful DISB reform could become the enabling platform for a further suite of DIB proposals:

- Pressing for greater real defense expenditure and DIB output: the reduced and stabilized cost of inputs would translate into greater potential supply of finished systems, as discussed at greater length above, and proposals for greater defense spending would be more likely to succeed, given greater geographic distribution of constituencies benefitting from defense production;
- Creating incentives for workforce training and promoting competition between new and incumbent firms/primes: cheaper, more plentiful inputs would incentivize the pursuit of more efficient and/or novel forms of complex coordination, in turn creating greater incentive to train and credential the next generation of DIB manufacturing workers⁵⁷;
- Constructing new GOGO and GOCO shipyards and facilities, as well as needed federal ‘translational’ research institutes linking basic R&D to scale-up capacity⁵⁸: the strong geographic distribution of a reformed DISB policy architecture would benefit more broadly from the construction and maintenance of these new public goods, in turn increasing the probability of broad congressional support for new GOGO/GOCO projects;
- Enhancing technocratic reforms to procurement processes: the re-sale of government-stockpiled inputs would motivate corporate lobbies to engage in political compromises around drawing on these reserves;

- Promoting greater emergency preparedness: DISB reform likely fails more gracefully than many other DIB reform options, as it would place the U.S. manufacturing base in a much stronger starting position than the status quo to quickly surge production than simply expanding the defense budget; and
- More effectively wielding executive branch powers: the executive's ability to support the domestic commodities market via measures such as the DPA, Section 301 trade authorities, and Treasury's ESF are likely to be most effective in complementing and amplifying the effect of congressional appropriations, not as a substitute for them.

Given scarce time and political attention, approaching DIB reform primarily through this wider lens focused on coalition building might enable more successful future attempts to solve discrete, technical issues with the DIB. With a fifty-state platform in place, defense issues would become more likely to rise to the top of the legislative agenda, driving the kind of sustained, virtuous cycle required to meet this pressing national security need.

...

¹ John Mintz, "How a Dinner Led to a Feeding Frenzy," *The Washington Post*, July 4, 1997, <https://www.washingtonpost.com/archive/business/1997/07/04/how-a-dinner-led-to-a-feeding-frenzy/13961ba2-5908-4992-8335-c3c087cdebc6>.

² NASA, "Final Report of the Commission on the Future of the United States Aerospace Industry," November 2002,

<https://history.nasa.gov/AeroCommissionFinalReport.pdf>: p 134.

³ Doug Berenson, Chris Higgins, and Jim Tinsley, "The U.S. Defense Industry in a New Era," *War on the Rocks*, January 13, 2021, <https://warontherocks.com/2021/01/the-u-s-defense-industry-in-a-new-era>.

⁴ COL Dennis Wille, "The Army and Multi-Domain Operations: Moving Beyond AirLand Battle," October 1, 2019, New America Foundation, <https://www.newamerica.org/future-security/reports/army-and-multi-domain-operations-moving-beyond-airland-battle>.

⁵ While caps related to the Budget Control Act (BCA) expired in 2021, the 2023 Fiscal Responsibility Act (FRA) will have similar effects on defense planning. See: Seamus P. Daniels, "What the Fiscal Responsibility Act of 2023 Means for Defense Spending," Center for Strategic and International Studies, June 15, 2023, <https://www.csis.org/analysis/what-fiscal-responsibility-act-2023-means-defense-spending>; and Todd Harrison, "What Has the Budget Control Act of 2011 Meant for Defense?" Center for Strategic and International Studies, August 1, 2016, <https://www.csis.org/analysis/what-has-budget-control-act-2011-meant-defense>.

⁶ Department of Defense, "Summary of the 2018 National Defense Strategy of the United States of America," United States Department of Defense, January 2018, <https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>.

⁷ See, e.g.: John P. Walters and Elbridge Colby, “Debate: Winning in Ukraine Is Critically Important for Deterring a War in Taiwan,” Hudson Institute, April 24, 2023, <https://www.hudson.org/events/debate-winning-ukraine-critically-important-deterring-war-taiwan>.

⁸ See, e.g.: Matt Grossmann, “Interest Group Influence on US Policy Change: An Assessment Based on Policy History,” *Interest Groups and Advocacy* 1, no. 2 (October 2012): 180; Cornelia Woll, “Corporate Power beyond Lobbying,” *American Affairs* 3, vol. 3 (Fall 2019): 38–55; Holly Brasher, *Vital Statistics on Interest Groups and Lobbying* (Washington, D.C.: CQ Press, 2014); and Pepper D. Culpepper, *Quiet Politics and Business Power: Corporate Control in Europe and Japan* (Cambridge: Cambridge University Press, 2010).

⁹ Matt Grossmann, “Interest Group Influence on US Policy Change: An Assessment Based on Policy History,” *Interest Groups and Advocacy* 1, no. 2 (October 2012): 180; see also: Cornelia Woll, “Corporate Power beyond Lobbying,” *American Affairs*, Fall 2019, (Volume 3, Number 3): 38–55, <https://americanaffairsjournal.org/2019/08/corporate-power-beyond-lobbying>. For a broader theory of how these dynamics map onto contemporary partisan politics, see: Robert Almelor Delfeld, “Grand Next Party: American Politics in the Age of Nonalignment,” *American Affairs*, Spring 2023 (Volume VII, Number 1), <https://americanaffairsjournal.org/2023/02/grand-next-party-american-politics-in-the-age-of-nonalignment>.

¹⁰ Maj. Gen. Cameron Holt, “Air Force Keynote Address (w/ Q&A): Maj. Gen. Cameron Holt,” Government Contract Pricing Summit, June 24, 2022, <https://www.youtube.com/watch?v=uyxJ36I2dLo>

¹¹ Mark F. Cancian et al., “Report Launch—The First Battle of the Next War: Wargaming a Chinese Invasion of Taiwan,” Center for Strategic and International Studies, January 9, 2023, <https://www.csis.org/events/report-launch-first-battle-next-war-wargaming-chinese-invasion-taiwan>.

¹² Holly Brasher, *Vital Statistics on Interest Groups and Lobbying* (Washington, D.C.: CQ Press, 2014); and Pepper D. Culpepper, *Quiet Politics and Business Power: Corporate Control in Europe and Japan* (Cambridge: Cambridge University Press, 2010).

¹³ Gary Gerstle, *The Rise and Fall of the Neoliberal Order: America and the World in the Free Market Era*, (New York, NY: Oxford University Press, Kindle Edition, 2022); and Herman M. Schwartz, *States versus Markets Understanding the Global Economy*, (London, UK: Bloomsbury Academic, 4th edition, reprint, 2022).

¹⁴ Gerstle, *ibid.*

¹⁵ Julius Krein, “Where the Chips Fell,” *American Affairs*, August 30, 2022, <https://americanaffairsjournal.org/2022/08/where-the-chips-fell>.

¹⁶ See: Seamus P. Daniels, “What the Fiscal Responsibility Act of 2023 Means for Defense Spending,” Center for Strategic and International Studies, June 15, 2023, <https://www.csis.org/analysis/what-fiscal-responsibility-act-2023-means-defense-spending>

¹⁷ Department of Defense, “Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States,” September 2018, <https://media.defense.gov/2018/Oct/05/2002048904/-1/-1/1/ASSESSING-AND-STRENGTHENING-THE-MANUFACTURING-AND%20DEFENSE-INDUSTRIAL-BASE-AND-SUPPLY-CHAIN-RESILIENCY.PDF>

¹⁸ Department of Defense, “Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States,” *ibid.*

¹⁹ Chart adapted from: Department of Defense, “Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States,” *ibid.*

-
- ²⁰ The White House, “Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth: 100-Day Reviews under Executive Order 14017,” June 2021, <https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf>.
- ²¹ Chart adapted from information within: The White House, “Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth: 100-Day Reviews under Executive Order 14017,” *ibid*.
- ²² The White House, “Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth: 100-Day Reviews under Executive Order 14017,” *ibid*.
- ²³ Joseph Clark, “DOD Releases First Defense Industrial Strategy,” DOD News - Department of Defense, January 12, 2024, <https://www.defense.gov/News/News-Stories/Article/Article/3644527/dod-releases-first-defense-industrial-strategy>.
- ²⁴ The White House, “Report Card: Two Years of Building Stronger Supply Chains and a More Resilient Economy,” June 8, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/06/08/report-card-two-years-of-building-stronger-supply-chains-and-a-more-resilient-economy>.
- ²⁵ Press release, “DOD Releases First-Ever National Defense Industrial Strategy,” U.S. Department of Defense, January 11, 2024, <https://www.defense.gov/News/Releases/Release/Article/3643326/dod-releases-first-ever-national-defense-industrial-strategy>; and Department of Defense, “National Defense Industrial Strategy,” January 2024, <https://www.businessdefense.gov/docs/ndis/2023-NDIS.pdf>.
- ²⁶ For an overview of these debates, see for example: Adam Tooze, “Chartbook 221 The IRA (& the Fed) debate - bringing hegemony back in,” *Chartbook*, June 17, 2023, <https://adamtooze.substack.com/p/chartbook-221-the-ira-and-the-fed>; “Varieties of Derisking,” *Phenomenal World* (Jain Family Institute), June 7, 2023, https://www.youtube.com/watch?v=rSH3ioiBN_I; J.W. Mason, “Varieties of Industrial Policy,” June 16, 2023, <https://jwmason.org/slackwire/varieties-of-industrial-policy>; and Dylan Riley, “Drowning in Deposits,” *New Left Review – Sidecar*, April 4, 2023, <https://newleftreview.org/sidecar/posts/drowning-in-deposits>.
- ²⁷ American Enterprise Institute, “Defense industrial base,” <https://www.aei.org/tag/defense-industrial-base>; The Vandenberg Coalition, “A Path to Victory: A Conservative Strategy to Advance American Interest in Ukraine,” April 4, 2023, <https://vandenbergc coalition.org/a-path-to-victory-a-conservative-strategy-to-advance-american-interests-in-ukraine>; and Forum for American Leadership, “Common Sense Defense Reforms,” April 3, 2023, <https://img1.wsimg.com/blobby/go/1d008308-a2e8-48d3-ac4d-11267653d021/FAL%20Common%20Sense%20Defense%20Reforms-b612749.pdf>.
- ²⁸ The Heritage Foundation, “Mandate for Leadership: The Conservative Promise,” April 21, 2023, <https://www.heritage.org/press/project-2025-publishes-comprehensive-policy-guide-mandate-leadership-the-conservative-promise>; American Compass, “Moving the Chains: 9 Strategies for Retaking Global Leadership in Industry and Innovation,” June 8, 2020, <https://americancompass.org/moving-the-chains>; and Michael Lind, “Industrial Security Policy: New Missions for DoD, SBA and CFIUS,” American Compass, August 10, 2020, <https://americancompass.org/industrial-security-policy-new-missions-for-dod-sba-and-cfius>.
- ²⁹ Anne Stauffer, Colin Foard, and Laura Pontari, “Spending on Contracts Drives Growth in Federal Defense Dollars to States,” Pew Charitable Trusts, July 20, 2020, <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/07/20/spending-on-contracts-drives-growth-in-federal-defense-dollars-to-states>.

-
- ³⁰ Julius Krein, “Where the Chips Fell,” *American Affairs*, August 30, 2022, <https://americanaffairsjournal.org/2022/08/where-the-chips-fell>.
- ³¹ Seamus P. Daniels, “What the Fiscal Responsibility Act of 2023 Means for Defense Spending,” Center for Strategic and International Studies, June 15, 2023, <https://www.csis.org/analysis/what-fiscal-responsibility-act-2023-means-defense-spending>
- ³² John Costello, Martijn Rasser, and Megan Lamberth, “From Plan to Action: Operationalizing a U.S. National Technology Strategy,” Center for a New American Security, July 29, 2021, <https://www.cnas.org/publications/reports/from-plan-to-action#fn30>.
- ³³ Jack Detsch, “The Pentagon is Trying to Rebuild the Arsenal of Democracy,” *Foreign Policy*, January 4, 2024, <https://foreignpolicy.com/2024/01/04/united-states-pentagon-defense-industrial-base-china-taiwan-ukraine-israel>. See, for example: “Some of the weapons still have to be funded. Congress has already agreed to fund SM-6 and GMLRS. Other projects, such as the Pentagon’s plan to get up to 100,000 rounds of 155 mm artillery produced by 2025, need Congress to pass the supplemental budget, LaPlante said. With Congress out for the holidays, that’s on hold until at least January. And across the Atlantic, the European Union has fallen far behind its target of producing 1 million artillery rounds per year to feed Ukraine’s voracious appetite for ammunition while replenishing NATO stockpiles.”
- ³⁴ Arnab Datta and Alex Turnbull, “IPEF’s OPEC Moment,” *American Affairs*, Spring 2023, <https://americanaffairsjournal.org/2023/02/ipefs-opef-moment>; and Arnab Datta and Alex Turnbull, “Contingent Supply: Why Spodumene Reserves May Be the Key to a More Secure Lithium Supply Chain,” *Employ America*, April 5, 2023, <https://www.employamerica.org/researchreports/contingent-supply-why-spodumene-reserves-may-be-the-key>.
- ³⁵ U.S. Department of Defense, “State of Competition within the Defense Industrial Base,” February 2022, <https://media.defense.gov/2022/Feb/15/2002939087/-1/-1/1/STATE-OF-COMPETITION-WITHIN-THE-DEFENSE-INDUSTRIAL-BASE.PDF>.
- ³⁶ Marco Rubio, “Industrial Policy, Right and Wrong,” *National Affairs*, Spring 2024, <https://www.nationalaffairs.com/publications/detail/industrial-policy-right-and-wrong>.
- ³⁷ Global Tech Security Commission, “History of the \$280B Bipartisan Chips and Science Act,” <https://globaltechsecurity.com/history-of-the-chipsand-science-act>.
- ³⁸ Julius Krein, “Where the Chips Fell,” *American Affairs*, August 30, 2022, <https://americanaffairsjournal.org/2022/08/where-the-chips-fell>.
- ³⁹ United States Congress, “S.1260 - United States Innovation and Competition Act of 2021,” <https://www.congress.gov/bill/117th-congress/senate-bill/1260/text>; and United States Congress, “H.R.4521 - United States Innovation and Competition Act of 2021,” <https://www.congress.gov/bill/117th-congress/house-bill/4521/actions>.
- ⁴⁰ Lee Harris, “Commerce Department Could Pay Manufacturers to Reshore Critical Production,” *The American Prospect*, May 25, 2022, <https://prospect.org/economy/commerce-department-could-pay-manufacturers-to-reshore-critical-production>.
- ⁴¹ Kate O’Keefe, “U.S. Approves Nearly All Tech Exports to China, Data Shows,” *The Wall Street Journal*, August 16, 2022, <https://www.wsj.com/articles/u-s-approves-nearly-all-tech-exports-to-china-data-shows-11660596886>.
- ⁴² Katherine Hille et al., “US missing pieces of AI chip puzzle despite TSMC’s \$65bn bet,” *Financial Times*, April 11, 2024, <https://www.ft.com/content/10eadba6-f58d-4f88-8ac9-b5180550b7fc>.
- ⁴³ Paul Triolo, “China’s Semiconductor Industry Advances despite U.S. Export Controls,” Center for Strategic and International Studies, March 7, 2024, <https://www.csis.org/analysis/chinas-semiconductor-industry-advances-despite-us-export-controls>; and Qianer Liu, “Huawei makes processor

breakthrough in flagship smartphone,” *Financial Times*, September 20, 2023,

<https://www.ft.com/content/11f1c1a3-4ac4-4b2a-99cd-e347928dc51f>.

⁴⁴ For a current list of “Materials of Interest” maintained by DLA, please see: U.S. Department of Defense, “Defense Logistics Agency Strategic Materials: Materials of Interest,” <https://www.dla.mil/Strategic-Materials/Materials>.

⁴⁵ U.S. Department of Defense, “Fact Sheet: Defense Logistics Agency,” February 2023, <https://www.dla.mil/Portals/104/Documents/PublicAffairs/FactSheets/DLAFactSheetFebruary2023.pdf>; U.S. Department of Defense, “About: DLA Strategic Materials,” <https://www.dla.mil/Strategic-Materials/About>; “An Organizational History of the Defense National Stockpile Center: America’s National Stockpile,” U.S. Department of Defense, <https://www.dla.mil/Portals/104/Documents/Strategic%20Materials/DNSC%20History.pdf>; and for a current list of “Materials of Interest” maintained by DLA, please see: U.S. Department of Defense, “Defense Logistics Agency Strategic Materials: Materials of Interest,” <https://www.dla.mil/Strategic-Materials/Materials>.

⁴⁶ DLA is here suggested as the primary administrator of the stockpiles given its extant legal authority and technical capacity for doing so. However, given the necessity for political compromise at the bureaucratic level to broaden support, splitting administration of these stockpiles, e.g., between the departments of Defense, Energy, and Commerce might be necessary.

⁴⁷ U.S. Department of Defense, “Fact Sheet: Defense Logistics Agency,” February 2023, <https://www.dla.mil/Portals/104/Documents/PublicAffairs/FactSheets/DLAFactSheetFebruary2023.pdf>; U.S. Department of Defense, “About: DLA Strategic Materials,” <https://www.dla.mil/Strategic-Materials/About>; and, “An Organizational History of the Defense National Stockpile Center: America’s National Stockpile,” U.S. Department of Defense, <https://www.dla.mil/Portals/104/Documents/Strategic%20Materials/DNSC%20History.pdf>.

⁴⁸ U.S. Department of Energy, “About the SPR,” <https://www.energy.gov/ceser/strategic-petroleum-reserve>.

⁴⁹ On the diminished prospects for shale drillers, see for example: Collin Eaton, “Oil Frackers Brace for End of the U.S. Shale Boom,” *The Wall Street Journal*, February 3, 2022, <https://www.wsj.com/articles/fracking-oil-prices-shale-boom-11643824329>; and Mari Novik and Benoit Morenne, “The Shale Industry Is Dropping Drilling Rigs, Fast,” *The Wall Street Journal*, July 17, 2023, <https://www.wsj.com/articles/the-shale-industry-is-dropping-drilling-rigs-fast-adb1ba0b>. On diminished prospects for commodities producers, see for example: Simon Constable, “Where Are Commodities Prices Headed?” *The Wall Street Journal*, November 4, 2023, https://www.wsj.com/finance/commodities-futures/commodity-prices-experts-predictions-2a1d7352?mod=finance_feat7_commodities-futures_pos5; Yusuf Khan and Joe Wallace, “Commodities Slide as Investors Bet on Economic Slowdown,” *The Wall Street Journal*, June 5, 2023, <https://www.wsj.com/articles/commodities-slide-as-investors-bet-on-economic-slowdown-233a6d3>; and David Oks and Henry Williams, “The Long, Slow Death of Global Development,” *American Affairs*, Winter 2022 (Volume VI, Number 4), <https://americanaffairsjournal.org/2022/11/the-long-slow-death-of-global-development>.

⁵⁰ Lee Harris, *ibid*.

⁵¹ Alex Williams, Arnab Datta, and Skanda Amarnath, “The Biden Administration Has the Power: Administrative Authority to Address the Crisis in Oil Supply Right Now,” *Employ America*, March 9, 2022, <https://www.employamerica.org/researchreports/spr-esf-dpa>.

⁵² Julius Krein, “Steering Finance,” *Boston Review*, September 15, 2021, https://www.bostonreview.net/forum_response/steering-finance.

⁵³ Michael Lind, “Public Purpose Finance,” New America Foundation, September 2010, <https://www.newamerica.org/economic-growth/policy-papers/public-purpose-finance>.

⁵⁴ For an overview of CAPE’s responsibilities and legal powers, please see: U.S. Department of Defense, “DoD Directive 5105.84: Director of Cost Assessment and Program Evaluation,” August 14, 2020, <https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/510584e.pdf?ver=2020-08-14-122443-813>.

⁵⁵ U.S. Department of Defense, “DOD Cost Estimating Guide,” Office of the Secretary of Defense - Cost Assessment and Program Evaluation, February 2022, https://www.cape.osd.mil/files/Reports/DoD_CEGuidev2_FINAL_PR.pdf: pp 24-25.

⁵⁶ Identifying candidates for this coalition at the firm- and trade-group levels within each state might merit future study as an annex to this white paper. Doing so might be a first step toward organizing 501c4 organization(s) backed by these firms in preparation for legislative efforts.

⁵⁷ Joseph Clark, “DOD Is Taking Steps to Shore Up Industrial Workforce,” *DOD News* (U.S. Department of Defense), September 27, 2023, <https://www.defense.gov/News/News-Stories/Article/Article/3540407/dod-is-taking-steps-to-shore-up-industrial-workforce>.

⁵⁸ For examples of how other industrial nations use ‘translational’ research institutes operationalize publicly-funded basic research breakthroughs within the private sector, see, for e.g.: Sridhar Kota and Tom Mahoney, “Reinventing Competitiveness,” *American Affairs*, Fall 2019 (Volume III, Number 3), <https://americanaffairsjournal.org/2019/08/reinventing-competitiveness>; and Erez Maggor, “Scale-Up Nation: The Role of IP-Transfer Restrictions in Israel’s Industrial Policy,” *American Affairs*, Winter 2021 (Volume V, Number 4), <https://americanaffairsjournal.org/2021/11/scale-up-nation-the-role-of-ip-transfer-restrictions-in-israels-industrial-policy>.