

JOURNAL OF ADVANCED MILITARY STUDIES

JAMS

Vol. 16, No. 1, 2025



Reauthorizing the Defense Production Act in the Era of Defense Mobilization and Supply-Side Industrial Policy

Michael Hikari Cecire

Abstract: The 1950 Defense Production Act (DPA) is one of the most significant tools the U.S. government uses to mobilize the civilian economy for national defense. As the United States approaches the DPA's statutory termination and likely reauthorization in 2025, this article surveys its recent employment during the COVID-19 pandemic and potential for policy iteration, assessing its evolution from postwar and early Cold War origins to a broader industrial policy tool. By analyzing DPA usage, legislative actions, and public interest trends, this study aims to extract key lessons from its recent implementation. The article argues that while the DPA has become increasingly central to the government's industrial policy initiatives, its application has been broadly inconsistent, unevenly coordinated, and insufficiently integrated into broader strategic frameworks. Reauthorization of the DPA could include creating a more permanent and coordinated executive branch infrastructure, clarifying its use as an emergency versus routine policy tool, and identifying gaps in future deployment. **Keywords:** Defense Production Act, DPA, reauthorization, industrial policy, defense mobilization, national defense, COVID-19 response

The Defense Production Act (DPA) of 1950 remains one of the most pivotal legislative frameworks for mobilizing the U.S. economy in service of national defense. Originally conceived during the Cold War, the DPA

Michael Hikari Cecire teaches on the Black Sea region at Georgetown University's Walsh School of Foreign Service and on global security at the University of Pennsylvania's Fels Institute of Government. He served as a senior policy advisor at the Commission on Security and Cooperation in Europe, as a senior-level analyst at the Congressional Research Service, and in a variety of policy advisory and analysis roles supporting the Department of Defense. He defended his PhD in politics and international relations at the University of St Andrews. <https://orcid.org/0009-0002-9568-2544>.

Journal of Advanced Military Studies vol. 16, no. 1

Spring 2025

www.usmcu.edu/mcupress

<https://doi.org/10.21140/mcu.j.20251601004>

has evolved significantly, transitioning from the national mobilization context of the preceding War Powers Acts (1941) designed to bolster the defense industrial base to a steady state mechanism increasingly integrated into broader industrial and economic policy.

The evolving role of the DPA highlights critical vulnerabilities in the U.S. approach to securing and leveraging strategic resources—issues that are central to the bases of U.S. power and countering the economic and geopolitical strategies of near-peer competitors such as Russia and China. For example, Russia's weaponization of hydrocarbons amid the Ukraine conflict and China's dominance over rare earth elements and lithium highlight the necessity for robust, preemptive policies that integrate resource security into national defense frameworks. This article explores the current relevance of the DPA, particularly in the context of its statutory termination and likely reauthorization in 2025, and examines its recent use in addressing critical national challenges, most notably during the COVID-19 pandemic.

As the United States approaches the upcoming reauthorization, this article seeks to reflect on the lessons learned from the DPA's recent application and to consider potential reforms that could enhance its utility in both emergency and peacetime scenarios. This article proposes a syncretic analysis of the DPA, drawing on historical context and recent policy developments, validated by descriptive data elements. Through this approach, it aims to illuminate strategies regarding how the DPA can be reauthorized and optimized to meet the demands of contemporary defense mobilization and an increasingly bipartisan industrial policy consensus.

Background on the Defense Production Act

The Defense Production Act was enacted in 1950, a period marked by Cold War tensions and a need for rapid mobilization of the U.S. economy to address the national security concerns posed by the threat of Soviet aggression. The DPA provided the president with a broad suite of powers aimed at harnessing civilian industrial capabilities for defense purposes. Modeled after the War Powers Acts of World War II, the DPA initially granted the government extraordinary powers, including the ability to fix prices and seize private property—measures designed to prevent disruptions in the supply of critical goods and services during wartime.

However, the DPA has undergone significant changes over the decades. Early provisions related to price controls and property seizures were phased out, with the U.S. Supreme Court striking down the latter in 1952. The act was instead refined into a more targeted set of tools designed to facilitate the efficient allocation of resources in times of national crisis. Today, the DPA consists of

three primary sections—Titles I, III, and VII—each addressing a distinct aspect of defense production and industrial mobilization.¹

Title I: Priorities and Allocations

Title I grants the president the authority to prioritize the production of specific goods and services deemed essential to national defense. This provision allows the president to direct private industry to fulfill government contracts ahead of others, ensuring that critical materials and services are available during times of need. The Department of Defense (DOD) makes extensive use of this authority, reportedly issuing approximately 300,000 priority-rated orders annually as part of its routine procurement process.² Although less frequently employed, the allocation power within Title I was notably used during the COVID-19 pandemic to redirect supplies such as personal protective equipment (PPE) and medical devices to areas of critical need. However, this use of allocation power also led to some controversy, as reports surfaced of federal interventions in private and state supply chains, raising questions about the limits and transparency of the DPA's application in nondefense contexts.

Title III: Expansion of Productive Capacity and Supply

Title III enables the president to invest directly in industries that are deemed essential to national defense, with the goal of expanding their productive capacity. This title authorizes a range of financial interventions, including direct financial assistance, loans, loan guarantees, and purchase commitments. Prior to the COVID-19 pandemic, the DOD was the sole active user of Title III authority, primarily focusing on the defense industrial base. However, the pandemic prompted the Department of Health and Human Services (HHS) to establish its own DPA Title III program to support the production of critical public health supplies.³ In essence, if Title I is about opening the flow of goods and services, Title III is about ensuring that the infrastructure is in place to meet future demand surges.

Title VII: General Provisions

Title VII encompasses a range of supporting measures that enhance the efficacy of Titles I and III. These provisions include industrial base assessments, authority for the establishment of voluntary agreements between the federal government and private industry (which might otherwise raise antitrust concerns), small business preferences, and the establishment of an executive reserve to rapidly mobilize expertise in times of crisis. Notably, Title VII also includes the statutory authorization for the Committee on Foreign Investment in the United States (CFIUS), an interagency body responsible for reviewing and approving foreign investments in U.S. companies that could pose a threat to na-

Table 1. Defense Production Act provisions at a glance

Title	Description	Key uses	Notable applications	Challenges
Title I: Priorities and Allocations	Grants the president authority to prioritize the production and allocation of goods and services essential to national defense	<ul style="list-style-type: none"> • Directs private industry to fulfill government contracts • Issuance of priority-rated orders 	<ul style="list-style-type: none"> • Approximately 300,000 orders annually by DOD • Used during COVID-19 for PPE and medical devices 	<ul style="list-style-type: none"> • Controversies regarding federal intervention in private and state supply chains • Questions about limits and transparency in nondefense contexts
Title III: Expansion of Productive Capacity and Supply	Authorizes investment in industries critical to national defense to expand their productive capacity through financial interventions	<ul style="list-style-type: none"> • Direct financial assistance, loans, loan guarantees, purchase commitments • Primarily used by DOD; expanded use by HHS and Department of Energy during COVID-19 	<ul style="list-style-type: none"> • Focused on defense industrial base prepandemic. • Post-pandemic expansion to public health and energy supplies 	<ul style="list-style-type: none"> • No major controversies reported, but challenges include ensuring infrastructure meets future demand surges
Title VII: General Provisions	Includes supporting measures to enhance Titles I and III efficacy, such as industrial base assessments and voluntary agreements	<ul style="list-style-type: none"> • Small business preferences • Establishment of executive reserve • Authorization for CFIUS 	<ul style="list-style-type: none"> • Broad range of national security concerns addressed • CFIUS reviews foreign investments in U.S. companies 	<ul style="list-style-type: none"> • CFIUS operates somewhat independently of other authorities in both function and treatment

Source: Pub. Law 81-774, 50 U.S.C., § 4501.

tional security. While CFIUS operates somewhat independently from the core DPA functions, its inclusion in the act underscores the broad scope of national security concerns addressed by the DPA.⁴

The DPA is, at its core, a presidential authority. Although Congress plays a role in overseeing the use of DPA powers, including specifying certain notification requirements and committees of jurisdiction, the act is designed to provide the president with the flexibility to respond swiftly to national emergencies. Although the president has designated executive branch delegates department and agency heads in Executive Order 13603, National Defense Resource Preparedness, those delegations may be amended or superseded by the president at any point, as they were in several instances during the COVID-19 pandemic, even if they did not fundamentally change the overall delegations.⁵

Formally, the Federal Emergency Management Agency (FEMA) is the lead federal executive branch agency for coordinating and advising the president on DPA issues, having assumed those residual responsibilities from the defunct

Office of Defense Mobilization after its creation in 1979.⁶ However, in practice, FEMA's role is largely incidental and its perceived indifference to the portfolio has been a subject of scrutiny from Congress.⁷ As such, active coordination during periods of high activity or public awareness has been from the White House, which was a major dimension of congressional oversight and public concern during the COVID-19 pandemic.⁸ In response, the Joseph R. Biden administration appointed a supply chain coordinator in its early days in office that advised the president on DPA-related matters, which would transmogrify into a White House Council on Supply Chain Resilience.⁹

Understandably, the practicalities of presidential authority have led to some tensions over the years, particularly concerning the extent of executive power in domestic industrial policy. The current authorization of the DPA, extended by the National Defense Authorization Act (NDAA) for fiscal year 2019, is set to expire at the end of fiscal year 2025, prompting the need for a comprehensive review of its provisions and applications.

Analyzing DPA Efficacy

The upcoming reauthorization of the DPA presents an opportunity to assess the lessons learned from its recent use and to explore potential reforms that could enhance its effectiveness in the future. In particular, the COVID-19 pandemic revealed both the strengths and limitations of the DPA as a policy tool for addressing large-scale national contingencies. The pandemic's disruption of global supply chains, coupled with economic and industrial dislocations caused by strategic competition with near-peer adversaries such as China, has renewed interest in the DPA as a central component of U.S. industrial policy. Notably, the COVID-19 pandemic emergency represents a singular event for the DPA's employment, as it was the first time its authorities had been so widely applied in service of something approaching national mobilization since the Korean War. This makes it a particularly unique case study, and thus a major test for evaluating the DPA's efficacy in a protracted contingency environment.

One of the key questions driving the reauthorization debate is whether the policy lessons from the pandemic should be reflected in future iterations of the DPA. The frequent use of the act to mitigate supply chain disruptions during the pandemic, as well as its broader application to support strategic competitiveness efforts, suggests that the DPA's role has expanded to a wider set of challenges. Until the COVID-19 pandemic, DPA usage came to be narrowly focused on Department of Defense-oriented procurement (under Title I) and blue-sky technology development (under Title III), with much smaller if nonetheless meaningful efforts for broader national mobilization and preparedness. In some respects, given the Defense Production Act's more expansive original mandate in service of mobilizing the civilian economy, its broader application

more recently is arguably a closer reflection of its original intended purpose, albeit without the accompanying policy infrastructure.

This shift raises important questions about how the DPA can be reformed to better align with the realities of modern industrial policy, where government intervention in the economy is increasingly viewed as necessary to ensure national security and economic resilience. Moreover, the DPA's use in addressing supply chain vulnerabilities highlighted the need for strengthened coordination between federal agencies and the private sector. The pandemic exposed significant gaps in the government's ability to efficiently mobilize resources, leading to inconsistent application of DPA powers and confusion among state and local officials. As the United States continues to face strategic challenges related to global supply chains, economic decoupling, and industrial resilience, it can be argued that a more comprehensive approach to DPA implementation will be needed to ensure its continued relevance in the future.

Gathering Evidence

To address the question of how recent experiences with the DPA should inform its reauthorization, this article uses qualitative case studies of its application during key national events, which is validated by data on recent DPA usage patterns. This integrated methodology allows for a more holistic understanding of the DPA's current role in U.S. industrial and defense policy.

The first step in this analysis is to situate the DPA within the broader policy literature on defense, emergency preparedness, and industrial policy. This contextualization not only provides insight into the historical evolution of the DPA but also allows for a comparison of past and present thinking on the role of government in economic mobilization. This review draws on foundational texts on the DPA, as well as more recent scholarship on its use during the COVID-19 pandemic and in response to strategic competition with near-peer competitors.

In addition to the literature, this article uses validating data sources to assess the recent interest and utility of the DPA. Congressional appropriations for DPA-related activities serve as a direct indicator of legislative intent and provide insight into the perceived value of the DPA as a policy mechanism. Similarly, legislative actions tracked through Congress.gov offer a snapshot of the frequency with which the DPA has been invoked or discussed in recent legislative sessions. Finally, Google Trends data is used as a proxy for public and elite interest in the DPA, particularly during the height of the COVID-19 pandemic.

That analysis is supplemented by qualitative case studies of three key DPA use cases: the COVID-19 public health emergency, strategic competitiveness with near-peer adversaries, and efforts to bolster supply chain resilience. These case studies provide a deeper understanding of how the DPA has been employed in practice and highlight the challenges and opportunities associated

with its use in different contexts. For example, the case study on COVID-19 reveals both the successes and shortcomings of the DPA in responding to a public health crisis, while the case study on strategic competitiveness examines the DPA's role in supporting industries critical to national defense, such as semiconductor manufacturing. The COVID-19 case study is particularly important given its scope and scale; while it does deal with public health, it is arguably the most significant national defense mobilization effort using DPA authorities since the Korean War. This makes it a more compelling test case for potential future mobilization efforts of the civilian economy in the event of a protracted contingency, including high-intensity war.

However, there are several limitations to this approach. Congressional appropriations data, while useful for gauging intent, does not provide detailed information on how funds are actually spent. Similarly, legislative actions do not always translate into concrete policy outcomes, and Google Trends data, though indicative of public interest, may not fully capture the nuances of elite or governmental attitudes toward the DPA. Moreover, the case studies presented in this article focus primarily on recent events, potentially limiting the ability to draw broader conclusions about the long-term evolution of the DPA. While these limitations were not assessed to be fatal to a faithful policy analysis at the present, the topic would benefit from a more in-depth examination of historical case studies, as well as interviews with key stakeholders involved in DPA implementation.

Overall, the Defense Production Act has played an increasingly prominent role in U.S. industrial and defense policy, particularly in the context of the COVID-19 pandemic and strategic competition with global competitors and adversaries. Its impending termination and potential (and likely) reauthorization presents a potential opportunity to reflect on the lessons learned from recent applications and to explore potential reforms that could enhance its efficacy in future crises. By employing a mixed approach that combines validating data analysis with qualitative case studies, this article seeks to provide a comprehensive framework for understanding the DPA's role in modern defense mobilization and industrial policy.

The DPA—Analyzed

A survey on Defense Production Act (DPA) literature reveals its multifaceted role in both economic stabilization and crisis management. The DPA was initially enacted to address broad-based national security concerns through the mobilization of civilian industrial capacity, prompting a range of scholarly inquiries. Richard H. Field's seminal 1950 analysis in the *Harvard Law Review* emphasized the need for a flexible approach to policy implementation under the DPA, particularly advocating for a robust administrative infrastructure to

ensure the effective application of its provisions.¹⁰ Field's early insights remain relevant, as the flexibility of the DPA has allowed it to adapt to the evolving nature of national emergencies over the decades. This is particularly relevant in the context of reauthorization following a particularly intense period of DPA activity and scrutiny, as it has evolved from a secondary instrument to a major presidential mechanism for effecting public policy.

More contemporary studies, particularly in the wake of the COVID-19 pandemic, highlight the DPA's critical role in addressing nontraditional security threats. For example, Chad P. Bown's 2022 analysis of COVID-19 vaccine supply chains in the *Oxford Review of Economic Policy* underscores the DPA's utility in accelerating vaccine production through strategic planning and international collaboration.¹¹ Bown's work highlights how the DPA, originally designed for defense purposes, was successfully repurposed for public health, showcasing its flexibility in crisis management. One of the key findings was that the COVID-19 pandemic revealed the drawbacks of concentrating only on domestic production during a global crisis, emphasizing the need for wider, international strategies and policies to strengthen supply chains. It suggests that in future emergencies, national defense measures like the DPA should be paired with global cooperation and proactive planning to effectively tackle global challenges. Conversely, recent literature has increasingly pointed to Operation Warp Speed (OWS) as a defining case in the modern use of the Defense Production Act. Scholars and practitioners alike have noted how the DPA's Title I and III authorities were instrumental in scaling vaccine manufacturing and resolving supply chain bottlenecks during the pandemic. Carlo Notaristefani offers a firsthand account of how these authorities enabled rapid coordination between federal agencies and private industry, underscoring the DPA's evolving role as a tool for industrial mobilization in public health emergencies.¹²

However, a recurring theme in the literature is the need for transparency and accountability in the execution of DPA powers. Reports from the U.S. Government Accountability Office (GAO) and the Congressional Research Service (CRS) frequently emphasize that the DPA must be implemented with clear oversight mechanisms to avoid misuse or inefficiency.¹³ These reports, drawing on near-real-time lessons from the COVID-19 response, suggest that the DPA has at times been applied inconsistently, and accountability structures have not always been robust enough to manage its broad and expanding authorities. To wit, the GAO reports emphasize that while the DPA was instrumental in scaling production, its implementation was often inefficient, leading to missed opportunities and fragmented supply chains. These findings underscore the need for better coordination and strategic planning to enhance the DPA's effectiveness in future emergencies. Similarly, the CRS reports provide an overview of the DPA's effectiveness and its limitations, emphasizing the need for clearer

strategic planning, better resource allocation, and oversight to ensure the DPA can be more efficiently used in future crises—particularly in the context of the COVID-19 pandemic.

Further reinforcing these elements, Ariel F. Coto's 2022 article in the *Southwestern Law Review* highlights how essential accountability is to the DPA's long-term legitimacy, especially as it is increasingly used outside of traditional defense contexts.¹⁴ Coto's findings align with the arguments presented in Dani Rodrik's widely cited 2004 monograph on industrial policy, which advocates for a balanced approach that leverages state interventions without abandoning the market's role. Rodrik's call for a pragmatic industrial policy resonates with current debates on the DPA's role, as the act's expanded use for economic interventions during the pandemic has positioned it as a critical tool for modern industrial policy.¹⁵

For another policy treatment, a paper published by the Bipartisan Policy Center presents a timely analysis of the DPA's evolving role in shaping U.S. industrial policy.¹⁶ The authors argue that the DPA can be repurposed to drive domestic manufacturing investment, especially in strategic industries critical to both defense and economic resilience. The paper highlights the DPA's capacity to foster private sector investments in areas such as advanced manufacturing, emphasizing its potential to strengthen the nation's economic and defense infrastructure in an era of increasing global competition and supply chain vulnerabilities. In the context of future crises, the paper advocates for a more proactive and strategic use of the DPA to enhance the nation's industrial base, particularly in sectors crucial for economic security and public health, thus contributing to the broader discourse on the DPA's role in crisis management and industrial policy.

In sum, the literature reflects a broad consensus on the need for a flexible, transparent, and accountable framework for the DPA's implementation. This is particularly relevant as the U.S. government increasingly looks toward active industrial policy, with the DPA playing a pivotal role in addressing both defense-related and broader economic challenges. The intersection of defense mobilization and economic resilience, as evidenced in recent scholarship, supports the view that the DPA is well-positioned to serve as a cornerstone of U.S. policy in both traditional defense contexts and beyond.

Key Findings

Appropriations Data

Appropriations data serve as a kind of signal of demand, or at least intent, by Congress. An analysis of appropriations data from the last decade shows a clear upward trend in funding allocated for DPA-related activities, particularly in response to the COVID-19 pandemic. Between fiscal years (FY) 2020 and 2022,

Table 2. Total appropriations (in millions USD, by FY)

Fiscal year	DPA Fund	Non-DPA Fund
2023	\$372.90	—
2022	\$888.30	\$11,100.00
2021	\$174.60	—
2020	\$1,064.40	—
2019	\$53.60	—
2018	\$67.40	—
2017	\$64.10	—
2016	\$76.70	\$45.00
2015	\$51.60	\$45.00
2014	\$60.10	\$45.00
2013	\$223.50	—

Source: data aggregated from Congressional Research Service and Congress.gov.

there was a substantial increase in DPA appropriations, with approximately \$12 billion earmarked for DPA-related uses in FY 2022 alone. Notably, \$10 billion of this total was appropriated to the Department of Health and Human Services through the American Rescue Plan Act of 2021, signaling a marked shift in the DPA's application toward public health industrial base interventions.

A key feature of DPA-related appropriations is the use of the DPA Fund, which operates as a “no-year” fund, meaning that appropriated monies do not expire at the end of a fiscal year. However, there are limitations on how much of this funding can be carried over. Specifically, the DPA Fund has a \$750 million cap on its carryover authority, although this restriction was temporarily suspended in 2020 to address the exigencies of the pandemic. It is also important to note that while most DPA funds are subject to the no-year provision, some appropriations, particularly those not allocated directly to the DPA Fund, expire at the end of FY 2025. This has the effect of spreading roughly \$11 billion in appropriations across three fiscal years, with a subsequent decline in FY 2023 figures reflecting this amortization.

These appropriation trends underscore the growing recognition of the DPA as an important tool for addressing not only defense-related concerns but also broader national defense issues, including public health and economic challenges. The pandemic-induced surge in DPA funding indicates a shift in how policymakers view the act, highlighting an increased acceptance of the DPA as a viable mechanism for broader applications.

Legislative Actions

Like appropriations, tallying legislative actions can be considered a kind of proxy for interest in DPA application in Congress—but also potentially of dissatisfaction with the current way the DPA is employed, functions, or construct-

ed. Drawing from data from Congress.gov, the legislative history of the DPA shows a significant shift in congressional interest and activity over time. From the 82d Congress (1951–52), which followed shortly after the DPA's enactment, to the present, there have been periods of relatively low legislative activity surrounding the act, punctuated by occasional surges in interest. One of the most notable increases occurred during the 107th Congress, coinciding with the aftermath of the 9/11 attacks and the onset of the Global War on Terrorism.

However, the most dramatic increase in legislative activity occurred during the 116th Congress, which coincided with the COVID-19 pandemic. During this period, legislative actions related to the DPA reached unprecedented levels, driven by the urgent need to address the public health crisis and stabilize supply chains. Although interest has somewhat declined since then, the level of legislative attention remains significantly higher than historical norms, reflecting the sustained relevance of the DPA in contemporary policy discourse.

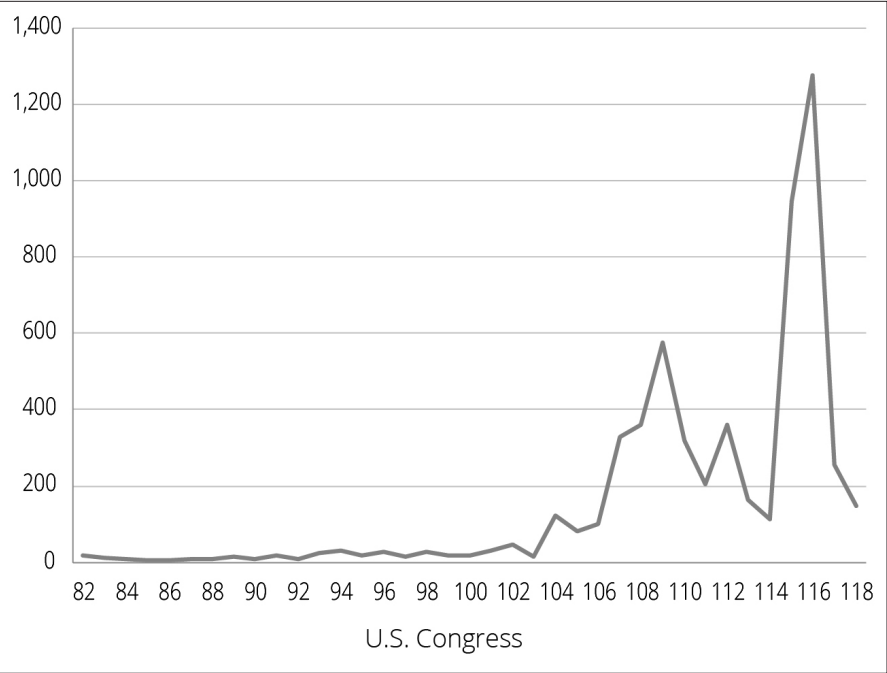
While this data is informative, it should be interpreted with caution. The figures do not distinguish between different types of legislative actions, such as introduced bills, reporting requirements, and communications. Moreover, legislative activity alone is not necessarily indicative of substantive policy outputs, as many introduced bills may not advance beyond initial stages. Nevertheless, the increase in legislative attention during critical periods—such as the post-9/11 era and the COVID-19 pandemic—demonstrates the act's enduring significance as a policy tool. It is worth noting that this data was collected at the midpoint of the 118th Congress, and so the precipitous decline shown is likely a visualization of incomplete data.

Public Awareness: Google Trends Data

In addition to congressional interest, we can employ Google Trends to look at broader popular interest. Analysis of Google Trends data provides additional insights into public awareness and elite interest (as measured in news citations) in the DPA. Notably, search trends for the DPA saw a marked increase during the early stages of the COVID-19 pandemic, mirroring the surge in legislative and appropriations activity during the same period. Interestingly, there is a significant divergence between general search trends (represented in blue) and news-specific search trends (represented in orange), particularly from 2008 onward.

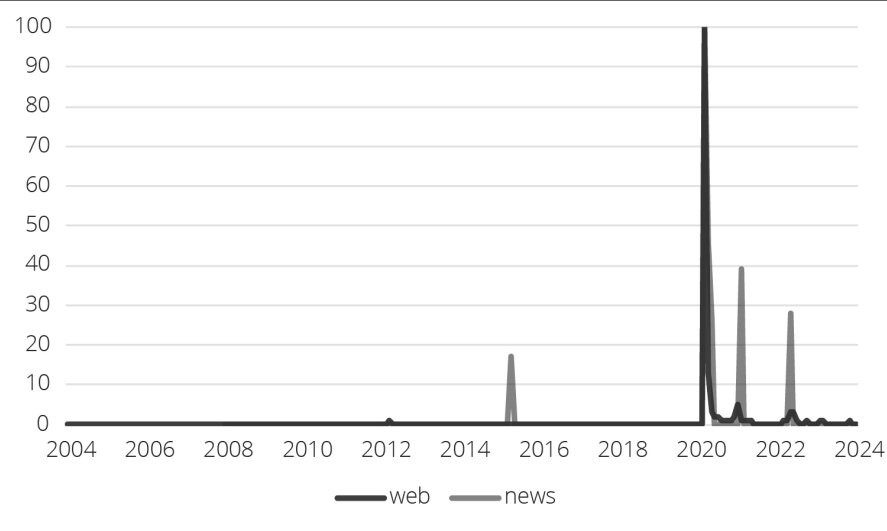
This divergence may reflect differing levels of awareness between the general public and elite or specialized audiences. News search trends, which tend to reflect the interests of a more informed cohort, may indicate a higher baseline level of interest in the DPA, even outside of major crises. In contrast, general search trends show more pronounced spikes during periods of heightened public attention, such as the pandemic. This suggests that while the DPA may have

Figure 1. All DPA legislation (by numbered Congress)



Source: Congress.gov.

Figure 2. DPA Google Trends (web and Google News, indexed)



Source: Google Trends. Note: “Defense Production Act” search term.

entered broader public discourse during crises, its relevance and significance have long been recognized by policymakers, academics, and industry leaders. The analysis of appropriations data, legislative actions, and public awareness collectively reveals the growing and evolving role of the Defense Production

Act in addressing not just national defense concerns but broader public health and economic challenges, particularly in times of crisis. The marked increase in appropriations for DPA-related activities, especially during the COVID-19 pandemic, signals a shift in the act's application, with funding directed toward enhancing public health infrastructure and stabilizing critical supply chains. Legislative actions further reflect this shift, with unprecedented activity during the pandemic reflecting Congress's heightened interest in leveraging the DPA for pandemic-related interventions. Meanwhile, Google Trends data highlights a parallel surge in public awareness, particularly during periods of heightened crisis, underscoring the DPA's growing visibility and relevance across various sectors. These findings suggest that the DPA's utility as a policy tool has expanded significantly, gaining traction as a flexible mechanism for addressing a wide range of contemporary challenges.

Case Studies

Case Study: COVID-19 Public Health Emergency

The trajectory for contemporary policy development regarding the implementation of the Defense Production Act (DPA) was significantly shaped by the COVID-19 public health crisis. The pandemic highlighted the need for large-scale governmental interventions and exposed gaps in understanding and applying this decades-old legislation, which was originally designed to mobilize the U.S. economy in the service of national defense. As early as February 2020, it became apparent that the DPA might be a crucial tool in the United States' response to the COVID-19 pandemic, not only for facilitating production but also for directing the allocation of essential resources.¹⁷ Initial policy recommendations included economic countermeasures such as expanded unemployment insurance, demand-side stimulus, and stabilization measures for both businesses and government entities. Among these, the potential utility of the DPA to scale up production and coordinate resource distribution was recognized, but this would require a broader mobilization than had been historically associated with the DPA.

The pandemic precipitated a surge of interest in DPA policies and a significant shift in how they were implemented—as evidenced in the previously discussed data. Prior to COVID-19, the DPA had seen limited use outside of defense-related industries, with applications in energy and emergency preparedness being relatively sporadic. However, the scale and urgency of the pandemic necessitated a dramatic expansion of its scope, as the U.S. government sought to harness its authorities as part of a broad countermeasures package to a novel and rapidly spreading virus. Although the DPA provided the legal framework necessary to stimulate domestic manufacturing, allocate critical medical supplies, and organize the supply chain, it quickly became apparent that both Con-

gress and the broader administrative apparatus lacked a deep understanding of how to effectively wield these powers.

Historically, the DPA's role had been narrowly confined to the Department of Defense, and its potential for nondefense applications was largely unfamiliar to most policymakers. During the early stages of the pandemic, the urgency to mobilize industrial production and distribute medical supplies often outpaced the government's ability to coordinate these efforts effectively. For example, priority-rated orders for personal protective equipment (PPE) were frequently unfulfilled due to reliance on supply chains that extended to countries like China, which had imposed temporary export bans. Additionally, efforts to allocate medical equipment resulted in misallocations, with critical supplies being sent to areas that did not ultimately need them, and confusion surrounding supply chain coordination leading to tensions between federal and state governments.¹⁸

Furthermore, the allocation of Title III funds, initially intended to support public health initiatives, was redirected toward the defense industrial base, which raised concerns about congressional intent and statutory adherence. The inconsistencies in how the DPA was applied, coupled with an apparent lack of centralized coordination, compounded the confusion. The overlapping responsibilities across various government agencies and departments further exacerbated these challenges, leading to a response that often seemed ad hoc and fragmented.¹⁹

Although the federal government's early use of DPA authorities during the COVID-19 pandemic was, at best, inconsistent, the DPA proved to be a crucial part of the federal response. One of the clearest examples came with Operation Warp Speed (OWS), the public-private effort launched in April 2020 to fast-track vaccine development and distribution. Through its Title I and Title III authorities, the DPA allowed the government to prioritize key contracts and ramp up domestic production across the vaccine supply chain—from raw ingredients to specialized machinery. Leaders like Army general Gustave F. Perna, who oversaw logistics for OWS, and Carlo Notaristefani, who led manufacturing coordination, emphasized how these tools helped bypass potential bottlenecks in everything from vials to cold storage. In that light, the DPA did not just serve as a procurement workaround—it became a central pillar of the country's broader industrial mobilization strategy.²⁰

In essence, the COVID-19 pandemic served as a stress test for the DPA, revealing significant weaknesses in its application for large-scale nondefense emergencies, but also critical successes. While the DPA did play a material role in the pandemic response, the confusion surrounding its boundaries, authorities, and practical implementation undermined its potential effectiveness. These challenges were anticipated, at least in part, by a 2019 tabletop exercise conducted by the Department of Health and Human Services, which simulated

the impact of a novel pathogen outbreak. The after-action report from this exercise noted a general lack of awareness and understanding regarding how to apply DPA authorities, an issue that would resurface throughout the pandemic response.²¹

As such, the COVID-19 pandemic exposed critical gaps in the knowledge and operationalization of the DPA within the U.S. government. While the DPA remains a powerful tool for industrial mobilization, its use during the pandemic was hampered by inconsistent application, a lack of coordination, and widespread misunderstanding of its provisions and capabilities. Addressing these shortcomings will be essential for future policy planning, particularly in the face of potential future crises requiring rapid and coordinated national responses.

Case Study: Strategic Competitiveness

The Defense Production Act is often closely associated with the Department of Defense and military-related applications. However, the scope of the DPA extends far beyond purely military concerns, reflecting a broader understanding of national defense. Even before the onset of the COVID-19 pandemic, the DPA was designed to serve as a mechanism for mobilizing the civilian economy to meet national defense needs. This broader scope is evident in the statute's assignment of jurisdiction over the DPA to civilian-oriented committees such as the House Financial Services and Senate Banking Committees, both of which oversee sectors representing the broader civilian economy.

The DPA allows for financial incentives under Title III, which are granted to domestic industrial operations deemed critical for national defense. Notably, the statute is flexible in its approach to these transactions, allowing for the prioritization of various industries, depending on the strategic needs of the time. Over the decades, U.S. administrations have used DPA authorities to enhance strategic competitiveness in a range of industries. For example, under the Barack H. Obama administration, the DPA was leveraged to launch an advanced biofuels project, which sought to develop alternatives to conventional jet fuels that could serve both civilian and military purposes.²² This initiative also reflected concerns about U.S. dependence on foreign energy sources. During the Donald J. Trump administration, before the COVID-19 pandemic, DPA authorities were used to invest in the development of a domestic market for small unmanned aerial systems (UAS), a largely civilian market segment, as well as to promote rare earth mining, an industry crucial to a wide range of defense technologies.

In recent years, there has been growing recognition of the strategic importance of semiconductors, leading to multiple rounds of Title III funding aimed at ensuring the viability of a domestic semiconductor industry. Additionally,

the scope of DPA authorities has been expanded to other departments such as the HHS and the Department of Energy. These expansions have enabled Title I actions and Title III investments in areas such as the health industrial base and advanced renewable energy infrastructure. In a more recent application of DPA powers, the Biden administration issued an executive order on artificial intelligence (AI), invoking the industrial base assessment provisions of Title VII to compel private companies to provide proprietary data to the federal government.²³

The increasing reliance on the DPA as a tool for industrial policy reflects a broader shift toward embracing industrial policy in the wake of the COVID-19 pandemic. This trend is also indicative of the “dual-use revolution,” a concept that highlights the growing significance of commercial technologies for both national competitiveness and military applications. The Russian invasion of Ukraine has further emphasized the importance of dual-use technologies, as Ukraine has effectively employed commercial off-the-shelf innovations to counter a materially superior adversary. These technologies have demonstrated not only tactical and operational utility but also strategic impact, challenging traditional paradigms of military production and deployment.

The DPA’s role is critical in this evolving landscape, as it enables the U.S. government to support industries where rapid innovation is key to both commercial and military success. The traditional long-cycle processes of governmental technology development, testing, and deployment are increasingly being supplanted by more agile, iterative innovation models from the commercial sector. As such, the DPA continues to serve as an essential tool in ensuring that the United States remains competitive in an era where national defense is inextricably linked with the civilian economy.

Case Study: Supply Chain Resilience

The health and resilience of supply chains has emerged as critical considerations for national competitiveness, particularly in the context of the COVID-19 pandemic. The disruptions experienced across various sectors, from semiconductors to food production—including meat, poultry, and infant formula—have highlighted the vulnerabilities inherent in global supply chains. The Defense Production Act has been used to address many of these disruptions, underscoring the importance of non-defense critical goods in maintaining national security.

A notable example of the DPA’s broadening popular relevance is illustrated in the response to the discontinuation of Klondike’s Choco Tacos, a popular American treat. Senator Christopher Murphy (D-CT) humorously tweeted that he would introduce legislation to invoke the DPA to mandate the continued production of Choco Tacos. While this statement was made in jest, it

symbolized how the DPA has entered the wider policy discourse, extending well beyond its traditional association with national defense. The episode highlights the increasing comfort with invoking the DPA in contexts far removed from its original defense-oriented mandate.

This shift in the use of the DPA was further exemplified by the Department of Energy's (DOE) announcement of a \$500 million investment in domestic energy-related manufacturing. Of this, \$250 million was allocated to boosting the production capacity of high-efficiency heat pumps, a technology essential for electrified residential and commercial heating. The Biden administration has also convened the first interagency White House Council on Supply Chain Resilience, which leverages DPA authorities through HHS to expand domestic production of key medicines and their components.

The DPA is, however, just one of several tools employed in the broader U.S. industrial policy framework, particularly under the Biden administration. This broader policy approach includes a variety of initiatives aimed at strengthening domestic manufacturing and enhancing supply chain resilience. Despite its expanded use, the DPA remains central to these efforts, reflecting its ongoing importance beyond COVID-19-related measures or competition with near-peer adversaries.

Some might argue that this broader application of the DPA, especially for domestic economic interventions, diverges from its original intent to support national defense. However, the historical purpose of the DPA always extended beyond the production of military equipment. From its inception, the DPA was intended to address more mundane aspects of the civilian economy, with the understanding that a robust and resilient civilian industrial base was inextricably linked to national security. The DPA's current use to safeguard supply chains and promote domestic industrial capacity continues this tradition, acknowledging that economic resilience is a cornerstone of strategic defense in the modern era.

In sum, the DPA has evolved from its origins as a tool for military mobilization to become a critical instrument for ensuring the stability of supply chains and supporting key sectors of the civilian economy. Its expanded use reflects a growing recognition that economic and industrial resilience are foundational to national security, particularly in a globally interconnected world.

Summary of Observations

The analysis of the Defense Production Act reveals several key insights that underscore its increasing importance in modern U.S. industrial and defense policy. During the past few decades, and especially since the onset of the COVID-19 pandemic, interest in the DPA has grown significantly, particularly among policymakers. This growing interest is not limited to its traditional wartime uses,

where the DPA's primary function was to mobilize civilian resources for defense purposes. Instead, the DPA's expanded application to nondefense areas such as public health, supply chain resilience, and industrial competitiveness marks a significant evolution in the use of this authority.

The data highlights an expansion in the DPA's application to cases that go beyond a narrow, military conception. Arguably, this expansion is more in line with the original intent of the DPA, which contemplated mobilizing the civilian economy to support national defense as more broadly defined, including the maintenance of economic and industrial stability. Today's challenges, such as global supply chain disruptions, growing strategic competition, and the need for a robust industrial base, have increasingly necessitated the use of the DPA in areas previously unanticipated. This shift reflects broader trends toward a more active industrial policy approach within the U.S. government, whereby government interventions in the economy are seen as vital for national security and economic resilience.

However, despite its increased use, the DPA remains poorly understood across many parts of the federal government. Inconsistent application of DPA authorities, especially during the COVID-19 pandemic, has exposed significant gaps in interagency coordination and understanding. While agencies such as the Department of Defense have long relied on the DPA for defense procurement, other critical agencies like the Department of Health and Human Services and the Department of Energy (DOE) faced challenges in mobilizing DPA powers to respond effectively to the pandemic. There are no permanent administrative structures in place to oversee DPA implementation across varying agencies of responsibility, and this has led to inefficiencies and miscommunication during periods of crisis. For instance, in some cases, vital supplies such as personal protective equipment were misallocated, causing significant delays in resource deployment.

In addition to these operational shortcomings, efforts to centralize and coordinate DPA authorities have been ad hoc, particularly in response to the pandemic. While there have been attempts to create a more coherent system for managing the DPA, these have not yet resulted in the establishment of a comprehensive, whole-of-government approach. As a result, the DPA remains fragmented in its application, with different offices and agencies taking varied approaches to its implementation. This fragmented approach highlights the need for better coordination and a more institutionalized framework for administering DPA authorities.

Policy Implications and Reauthorization Options

The upcoming reauthorization of the DPA presents a critical opportunity to address many of the challenges that have been identified in recent years. The

data strongly indicates that the demand for the DPA remains robust. Whether in response to public health emergencies like COVID-19, strategic competition with global adversaries such as China, or vulnerabilities in global supply chains, the DPA has proven to be an essential tool for addressing a wide range of national challenges. However, the reauthorization process should not only focus on extending the DPA's powers but also on reforming its implementation mechanisms to ensure that it can be used more effectively in the future.

One area that could be addressed during reauthorization is the DPA Fund. The DPA Fund has been instrumental in providing financial support for industrial mobilization projects, but its application has often been constrained by unclear rules and a lack of flexibility. For example, the \$750 million cap on carryover authority—while temporarily lifted during the pandemic—has historically created challenges in ensuring that funds are available for long-term projects. Reauthorization offers a chance to clarify the rules governing the DPA Fund, potentially removing restrictions that limit its utility. By making the fund more accessible and flexible, the government can better leverage the DPA to meet both immediate and long-term industrial challenges.

Another potential area for reform is the need for a permanent administrative infrastructure to oversee and effectively perform the use of the DPA. The COVID-19 pandemic made it clear that there is no central body responsible for coordinating DPA activities across the federal government. The DOD has traditionally been the primary user of DPA authorities, but other agencies, particularly HHS and DOE, found themselves ill-equipped to deploy DPA powers effectively during the pandemic. As a result, there were significant delays in the production and distribution of critical supplies, and many agencies struggled to understand how DPA authorities could be applied to their specific needs. One solution is to create a permanent Office of Defense Mobilization, modeled after the original office that existed when the DPA was first enacted. This office could serve as the central coordinating body for all DPA activities, ensuring that agencies like HHS and DOE are prepared to use DPA authorities when necessary. Additionally, this office would be responsible for studying and advising the president on the use of DPA powers, ensuring that the act is implemented in a coordinated and efficient manner across all relevant sectors.

Alternatively, policymakers could consider expanding the role of the existing Defense Production Act Committee (DPAC), which was established during the FY 2004 DPA reauthorization and further elaborated on in the 2009 reauthorization. The DPAC is an interagency body designed to coordinate DPA activities, but its role has been limited to date. With the right legislative modifications, the DPAC could be expanded to serve as the primary administrative body for overseeing DPA implementation across the federal government. This would provide a more formalized and professional structure for managing the

complexities of modern industrial mobilization, ensuring that the DPA is used in a coordinated manner across all agencies.²⁴

Another potential avenue for reform is building on the previous administration's White House Council on Supply Chain Resilience, which was established in response to the supply chain vulnerabilities exposed by the pandemic.²⁵ The council has already played a role in addressing critical supply chain issues, and it could serve as a precursor to a more permanent Office of Defense Mobilization or similar entity. By professionalizing the administration of the DPA, the federal government would be better equipped to manage the complex challenges of modern industrial policy and national security. Additionally, such an office would provide a central point of oversight for Congress, addressing many of the perceived failures in DPA implementation during the pandemic, which were often linked to a lack of coordination and understanding of DPA authorities.

Another option for reauthorization would be to reserve the DPA as a "break-glass" mechanism, used only in extreme emergencies. Using this model, the DPA would remain available for use in national crises but would not be applied to more routine industrial policy issues. Routine functions that currently fall under the DPA could be transferred to other legislative mechanisms. For example, the DOD could continue using the DPA for procurement processes, while other agencies could rely on separate authorities for industrial interventions. This approach would allow the DPA to remain focused as a wartime and emergency mobilization tool, while other more routine activities would be handled outside the DPA framework.

However, this approach comes with several limitations. First, the DPA has long been used routinely by the DOD for defense procurement, and restricting its use to emergencies could disrupt ongoing defense projects. Second, the DPA has proven to be a critical tool in areas such as semiconductor production and renewable energy infrastructure, which are both vital to U.S. economic and strategic competitiveness—which are uncontroversial aspects of national security. Given the increasing prevalence of dual-use technologies, which have both civilian and military applications, it may be difficult to justify limiting the DPA's use to emergency situations. As technologies and industries become more interconnected, industrial policy issues and national defense are inextricably linked, and the DPA may be better suited reflecting this reality.

A third option is to allow the reauthorization of the DPA to proceed without major reforms, leaving its future use to be dictated by the president and Congress on a case-by-case basis. This approach would provide the greatest flexibility, as it would allow the DPA to be adapted to the unique policy demands of the moment. For example, future administrations could decide to use the DPA to address specific supply chain issues or public health crises, without requiring legislative modifications. It also addresses the implied risk that estab-

Table 4. Policy options

Policy option	Description	Potential benefits	Potential risks
1. Expansion of the DPA	Expanding the DPA's scope and flexibility to better address long-term industrial challenges through increased funding, improved coordination, and enhanced capabilities	<ul style="list-style-type: none"> • Provides flexibility for addressing a wide array of challenges • Strengthens industrial policy and national security 	<ul style="list-style-type: none"> • Risk of overreach or inefficient use • Requires greater oversight to prevent misuse
2. DPA as a "break-glass" mechanism	Limiting DPA use strictly to emergency situations, reserving it for crises while routine functions are shifted to other legislative frameworks	<ul style="list-style-type: none"> • DPA remains focused on emergencies • Prevents overuse in noncrisis situations • Reduces routine dependency 	<ul style="list-style-type: none"> • Disrupts ongoing defense procurement • Limits use in dual-use and strategic industries like semiconductors
3. Reauthorization without major reforms	Allowing the DPA to continue without significant changes, providing maximum flexibility for use in varied situations by future administrations	<ul style="list-style-type: none"> • Flexible and adaptable to evolving needs • Avoids complex reforms • Allows case-by-case adjustments 	<ul style="list-style-type: none"> • Inconsistent application • May perpetuate current inefficiencies in coordination and oversight
4. Allowing the DPA to expire and reconstituting authorities	Letting the DPA expire, requiring new legislation to be passed for future crises, enabling tailored legislative responses to specific events	<ul style="list-style-type: none"> • Tailored responses to individual crises • Encourages careful scrutiny of new powers 	<ul style="list-style-type: none"> • Politically difficult • Delays in crisis response • Challenges in rebuilding a similar broad mechanism

Source: compiled by the author.

lishing a more expansive administrative infrastructure might bring in terms of giving the federal government more direct control over the civilian economy, which could result in other forms of mismanagement. At the same time, avoiding DPA professionalization carries the alternative risk of perpetuating the same implementation challenges that have hindered the DPA's effectiveness in recent years, which could also contribute to mismanagement, inefficiency, or worse. Further, without clearer guidance and oversight, the DPA could continue to be applied inconsistently, limiting its potential to address future challenges.

Finally, policymakers could theoretically allow the DPA to expire and, if needed, reconstitute its authorities through new legislation later. Under this scenario, Congress would be responsible for enacting new laws to address specific crises, rather than relying on the DPA as a one-size-fits-all mechanism for industrial mobilization. However, this option would likely prove politically and logistically challenging. The DPA's broad suite of powers, which include the ability to prioritize production, allocate resources, and provide financial incentives to critical industries, would be difficult to reconstitute piecemeal.

Moreover, reenacting such powers without the benefit of immediate precedent or trained staff would likely lead to significant delays in responding to future crises.

Conclusion

The Defense Production Act remains one of the most important tools in the federal government's arsenal for addressing national emergencies and ensuring the resilience of critical industries. Over the past several decades, the DPA has evolved from a narrowly focused defense mobilization mechanism into a more versatile instrument that can be applied to a wide range of industrial, economic, and public health challenges. Its expanded use during the COVID-19 pandemic, as well as in response to strategic competition and supply chain vulnerabilities, underscores its growing relevance in contemporary policymaking.

However, despite its increasing importance, the DPA's implementation has been hindered by a lack of understanding and coordination across the federal government. The fragmented nature of its administration has led to inefficiencies, particularly during the pandemic, when the need for a more unified approach to resource allocation and industrial mobilization became apparent. The upcoming reauthorization process presents an opportunity to address these shortcomings and reform the DPA to better meet the demands of the twenty-first century. Key policy options for reauthorization include expanding the administrative infrastructure that oversees DPA activities, either by creating a new Office of Defense Mobilization or by enhancing the role of the existing DPAC or the White House Council on Supply Chain Resilience. By professionalizing the administration of the DPA, the federal government would be better positioned to manage the complex challenges of modern industrial policy and ensure that the DPA can be effectively used in both routine and emergency situations.

Alternatively, policymakers could consider reserving the DPA as an emergency authority, with routine functions transferred to other legislative mechanisms. However, this approach risks limiting the DPA's ability to address ongoing industrial challenges, particularly as dual-use technologies and industries become more prevalent. The flexibility of the DPA has been one of its greatest strengths, and restricting its use to emergencies may undermine its broader potential.

Ultimately, the DPA's continued relevance depends on the federal government's ability to administer it effectively. By strengthening the administrative infrastructure, clarifying the rules governing the DPA Fund, and ensuring that all relevant agencies are prepared to use DPA authorities, the government can ensure that the DPA remains a vital tool for addressing the complex and evolving challenges of national defense and industrial policy in the years to come.

While this article explores these issues within the context of reauthorization, they are also largely relevant and applicable outside of that context. Questions of management, efficiency, and “right sizing” the DPA to varying definitions of national security and national defense, not to mention questions of applying the policy intent of the DPA in the immediate aftermath of World War II and in the early Cold War period to contemporary challenges, will continue to demand attention and deliberation. Another aspect of discussion that is outside of the scope of this article is the potential for governmental overreach through the employment of DPA authorities. While some of the explicitly coercive tools of the DPA are no longer active parts of the statute, the DPA could nonetheless be wielded inappropriately, and even maliciously, by an adept presidential user should they choose, with few obvious and effective safeguards, much less precedent. Of course, this question is also inseparable from the discussion of implementation; mechanisms for effective management and implementation of DPA authorities would be critical for questions of oversight and regulation of authorities.

Endnotes

1. For a more extensive treatment of DPA history and policy issues, see Michael Hikari Cecire and Heidi Peters, *The Defense Production Act of 1950: History, Authorities, and Considerations for Congress* (Washington, DC: Congressional Research Service, 2020).
2. *Defense Production Act Committee Report: Calendar Year 2020 Report to Congress* (Washington, DC: Department of Homeland Security, 2021), 16.
3. “Title III—Expansion of Productive Capacity and Supply,” Administration for Strategic Preparedness and Readiness, accessed 3 September 2024.
4. For the purposes of this article, as for most DPA-related commentary and policy issues, CFIUS is treated as an independent function of broader DPA authorities as a whole. It is also worth noting that the CFIUS provisions in the DPA do not terminate with the rest of the statute.
5. Exec. Order No. 13603, National Defense Resource Preparedness (16 March 2012).
6. “Defense Production Act Authority and Functions of the FEMA Administrator,” FEMA, accessed 4 September 2024.
7. Michael Hikari Cecire, *The Defense Production Act Committee (DPAC): A Primer* (Washington, DC: Congressional Research Service, 2021).
8. For a more expansive exploration, see Michael Hikari Cecire et al., *COVID-19 and Domestic PPE Production and Distribution: Issues and Policy Options* (Washington, DC: Congressional Research Service, 2020).
9. “FACT SHEET: President Biden Announces New Actions to Strengthen America’s Supply Chains, Lower Costs for Families, and Secure Key Sectors,” White House, 23 November 2023.
10. Richard H. Field, “Economic Stabilization under the Defense Production Act of 1950,” *Harvard Law Review* 64, no. 1 (November 1950): 1–26. <https://doi.org/10.2307/1335879>.
11. Chad P. Bown, “Covid-19 Vaccine Supply Chains and the Defense Production Act,” *Oxford Review of Economic Policy* 38, no. 4 (Winter 2022): 771–96, <https://doi.org/10.1093/oxrep/grac026>.
12. Carlo de Notaristefani, “Special Report: Operation Warp Speed—A View from the Inside,” *Pharmaceutical Engineering*, May/June 2022.

13. *COVID-19: Emergency Production Act: Opportunities Exist to Improve Transparency and Identify Future Needs* (Washington, DC: Government Accountability Office, 2020); *COVID-19: Agencies Are Taking Steps to Improve Future Use of Defense Production Act Authorities*. (Washington, DC: Government Accountability Office, 2021); see also Cecire et al., *COVID-19 and Domestic PPE Production and Distribution*; Cecire and Peters, *The Defense Production Act of 1950*; and Cecire, *The Defense Production Act Committee (DPAC)*, for key examples.
14. Ariel F. Coto, “Hero and Villain: The Defense Production Act in the Era of COVID-19,” *Southwestern Law Review* 51, no. 1 (Fall 2021): 1–34.
15. Dani Rodrik, *Industrial Policy for the Twenty-First Century* (Cambridge, MA: Harvard University, John F. Kennedy School of Government, 2004).
16. David M. Hart, *The Defense Production Act and National Security as a Potential Driver of Domestic Manufacturing Investment* (Washington, DC: Bipartisan Policy Center, 2024).
17. See Sarah Lister and Kavya Sekar, *Another Coronavirus Emerges: U.S. Domestic Response to 2019-nCoV* (Washington, DC: Congressional Research Service, 2020); and Michael H. Cecire, *COVID-19: Federal Economic Development Tools and Potential Responses* (Washington, DC: Congressional Research Service, 2020).
18. See Cecire et al., *COVID-19 and Domestic PPE Production and Distribution*, for more extensive treatment of these issues specifically.
19. Cecire et al., *COVID-19 and Domestic PPE Production and Distribution*.
20. Notaristefani, “Special Report.”
21. *Crimson Contagion 2019 Functional Exercise After-Action Report* (Washington, DC: Department of Health and Human Services, 2020).
22. “Obama Administration Announces New Investments to Advance Biofuels Industry and Enhance America’s Energy,” press release, Department of Agriculture, 2 July 2012.
23. Executive Order 14110, Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence (30 October 2023).
24. See Cecire, *The Defense Production Act Committee (DPAC)*.
25. Exec. Order No. 14123, White House Council on Supply Chain Resilience (14 June 2024).