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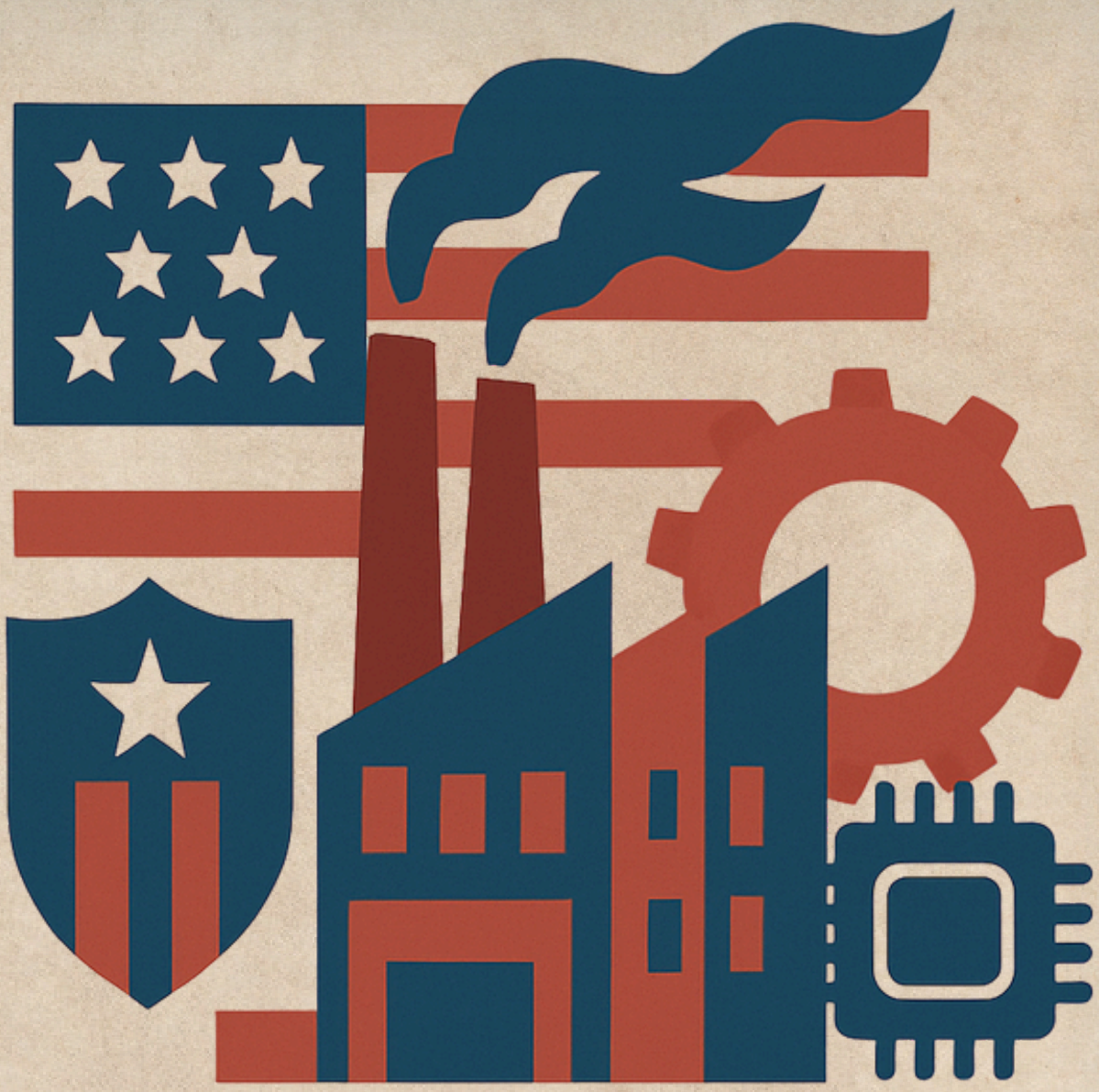

Marshaling National Power Industries to Preserve America's Strength and Thwart China's Bid for Global Dominance

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NOVEMBER 2025

ITIF | INFORMATION TECHNOLOGY & INNOVATION FOUNDATION
HAMILTON CENTER ON INDUSTRIAL STRATEGY

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China is on the march to dominate advanced industries that underpin national power in the 21st century. To protect U.S. economic strength and national security, policymakers must jettison old techno-economic and trade policy doctrines and adopt a new national power industry strategy.

KEY TAKEAWAYS

- Certain technologically advanced industries—from semiconductors to aerospace to AI—serve as the wellsprings of national power and security in the 21st century. China's strategic campaign to dominate those industries is an existential threat to America.
- These industries are globally traded. When China captures market share, it is at America and the West's expense—and losing market share usually leads to downward spirals in innovation and investment, or even irrevocable loss due to high reentry barriers.
- The CCP follows a predictable strategy across industries: attract foreign investment, coerce tech transfer and steal foreign IP, provide massive subsidies, close domestic markets, and then capture global market share.
- Prevailing policy narratives in Washington largely ignore techno-economic and trade warfare and its implications for U.S. power. Neither engagement, nor denial, nor false confidence in American innovation will suffice in the face of the threat China poses.
- We must abandon consumer-welfare economics and neo-New Dealism and go beyond competitiveness and innovation strategy. We need a "national power industry strategy" that adapts from the field of corporate strategy, where competition is win or lose.
- Time is short. Policymakers must recognize that industries differ in strategic importance, markets won't automatically preserve critical capabilities, production matters as much as innovation, and long-term strategic positioning trumps short-term efficiency.

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FORWARD

The United States risks losing its technological leadership to China at the expense of its economic and national security.[1] That is why the Information Technology and Innovation Foundation (ITIF) established the Hamilton Center on Industrial Strategy.[2] It is dedicated to advancing a comprehensive framework and specific policy agenda to maintain America's competitive edge.[3]

With America now facing an aggressive and often malign challenge from China, there is an urgent need for stronger policy advocacy and thought leadership that articulates the case for robust national strategic-industry policy.[4] This policy must focus on critical, dual-use technologies and industries in advanced, traded sectors of the economy. Such an approach requires firmly rebutting the deeply held view of most economists and many policymakers that all industries are created equal. In other words, no more "potato chips, computer chips—what's the difference?" Strategic-industry policy demands making tough political choices and "picking winners"—not individual firms or specific technologies, but rather certain industries and categories of technology that are critical to the nation's future. Finally, it requires a government that is knowledgeable and sophisticated about industry operations and the effects of policy on traded sectors.[5]



Under the Hamilton Center, ITIF has launched a major research project focusing on China's industrial goals and strategies, their impact on U.S. industrial power, how U.S. policymakers and experts should think about this challenge, and what a detailed and comprehensive policy agenda should look like. The project's core thesis is that a specific set of industries acts as a vital wellspring of national power, either because they directly support the defense industrial base or because they limit dependence on U.S. adversaries that could be used for coercion. ITIF calls them "national power industries."

Without major structural change in U.S. policy—akin to the strategy America implemented at the beginning of the Cold War—we believe that the United States' national power industries will weaken significantly, if not die, in turn weakening the U.S. defense industrial base and giving China techno-economic leverage over America in a broad range of areas, not just rare earth minerals. At its core, this challenge requires formulating and implementing a national power industry strategy grounded not just in economics but also in corporate strategy literature.

This project focuses on several objectives. First, this report provides an overarching analytical framework and an enumeration of the stakes, including an assessment of the Chinese Communist Party's (CCP's) intent. It then proposes the concept of national power industries, classifying U.S. industries into four categories of relative importance to the power industry

competition. The report examines why current techno-economic and trade policy doctrines that dominate Washington, DC, are flawed and misguided, then summarizes 18 different strategic directions offered by conventional foreign policy thinking and explains why these approaches are inadequate. Following this analysis, the report draws on corporate strategy literature to outline what a coherent and effective grand strategy for the national power industry competition should look like. Finally, it examines the political economy of implementing such a strategy.

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After this report, the project will conduct a series of quantitative and qualitative analyses examining the past and present performance of U.S. power industries, including comparisons to China. This analysis will examine impacts on the overall U.S. economy, the 50 states, and the competition between China and the United States for global market share in national power industries.

Finally, the project will outline a comprehensive agenda for U.S. industrial policy that can be implemented by Congress and the administration. This will include both specific policies and recommendations for reorganizing government.

EXECUTIVE SUMMARY

The Strategic Imperative

The United States faces an existential challenge in China's systematic campaign to dominate the advanced industries that enable national power in the 21st century. Unlike any competitor in American history, China combines the continental scale of a 1.4-billion-person economy with a Marxist-Leninist political system explicitly committed to achieving techno-economic supremacy over the Western democratic world. This is not normal economic competition between market economies—it is a carefully orchestrated, multi-decade strategic campaign to displace U.S. industrial capabilities, weaken allied nations, and fundamentally reshape the global order under CCP leadership.

The stakes transcend economics. National power today depends on strength in what this report terms "national power industries"—a spectrum of sectors spanning pure defense production, dual-use technologies employed in both military and commercial applications, and enabling industries that support the broader industrial commons. These include semiconductors, aerospace, biopharmaceuticals, telecommunications equipment, advanced chemicals, precision machinery, robotics, artificial intelligence (AI) systems, and dozens of other sectors in which weakened or fatally injured firms would grant China dangerous leverage over the United States and its allies, as well as weaken U.S. defense production capabilities.

On its current trajectory, it is likely that China will soon amass significantly greater capabilities than the United States will in national power industries.

This competition occurs against a backdrop of American policy failure. For over two decades, U.S. leaders across both parties have operated under the assumption that China was becoming a "normal" market economy that would gradually liberalize politically and economically. That assumption has proven catastrophically wrong. China today is more authoritarian, more aggressive internationally, and more committed to state-directed capitalism than at any point since Mao's death.

On its current trajectory, it is likely that China will soon amass significantly greater capabilities than the United States will in national power industries. With those greater capabilities will come geostrategic hegemony over the West, unless the United States forestalls that outcome by adopting a new, transformative national power industry strategy that goes beyond a mere competitiveness or national innovation strategy. This is not a war that the United States and allies can win in the sense of significantly weakening or retarding the growth of China's own national power industries. The only way Chinese attacks will end is if China becomes a free, democratic country. But the United States and allies can avoid defeat—keeping their national power industries relatively strong—by working together and adopting national power industry strategies.

Understanding the Chinese Communist Party's True Objectives

Perhaps the most damning evidence of Chinese intentions comes from internal Communist Party documents and speeches intended for party members rather than foreign audiences. As China scholar Daniel Tobin has documented, these reveal a regime explicitly committed to Marxist-

Leninist global ambitions that go far beyond merely moving up the value chain and growing its economy.

Xi Jinping has repeatedly framed China's rise in ideological terms, stating that "scientific socialism is full of vitality in 21st century China" and that China offers "a new option for other countries and nations who want to speed up their development while preserving their independence." In a 2013 speech to senior party officials, Xi declared that "the viewpoint of historical materialism that capitalism is doomed to failure and socialism will prevail" remains valid, and that China must "seize the initiative, win the competitive edge, and secure our future" in a "long-term cooperation and rivalry between the two social systems."

Documents from the party's 20th Congress state that China's success has "significantly shifted the worldwide historical evolution of the contest between the two different ideologies and social systems of socialism and capitalism in a way that favors socialism." Chinese leaders explicitly describe their work as part of a "great struggle" and "systems contest with Western capitalist democracy," using terminology that leaves no ambiguity about their intentions.

On technology and industry specifically, party documents are equally explicit. The minister of Science and Technology wrote in the *People's Daily* that "the scientific and technological revolution and the contest between major powers are intertwined; the high-tech field has become the forefront and main battlefield of international competition." Another official commentary stated: "To a certain extent, those who gain access to the Internet will gain the world. Core technology is an important weapon for the country."

China's Made in China 2025 plan, while officially downplayed after international backlash, clearly articulates the goal: "Building an internationally competitive manufacturing industry is the only way China can enhance its comprehensive national strength, ensure national security, and build itself into a world power." The plan calls for China to "seize the commanding heights of a new round of competition in the manufacturing industry" and achieve innovation leadership "ranking first globally."

The CCP follows a predictable playbook across industry after industry.

Leading Chinese scholar Lu Yongxiang stated in 2024 that "by 2035, 'Made in China' will surpass the United States and become the global leader," noting this would thrust the world into a "new era"—explicitly referencing an era of Chinese dominance. These are not the words of a nation seeking merely to "catch up" or achieve "legitimate development." They are the explicit articulation of a campaign for global advanced industrial hegemony.

China's actions match its rhetoric. The CCP follows a predictable playbook across industry after industry. First, attract foreign investment by promising market access. Second, coerce technology transfer through joint venture requirements and other mechanisms—pressure the U.S. Trade Representative has characterized as "particularly intense." Third, support domestic firms in copying and incorporating foreign technology while building indigenous capabilities through programs such as the 2006 Medium- and Long-term Program for Science and Technology Development, which identified 402 core technologies to master.

Fourth, carve out and protect the Chinese market for Chinese firms, excluding foreign competitors once domestic champions can reasonably serve the entire Chinese market. Fifth, provide massive subsidies—estimated at minimum 1.73 percent of Chinese gross domestic product (GDP) annually, or over $400 billion per year, though actual figures are likely far higher accounting for provincial and local support. Finally, support Chinese firms "going out" to capture global market share, particularly in developing nations through Belt and Road Initiative investments exceeding $1 trillion. These dwarf the minimal industrial subsidies the U.S. government (USG) provides.

The scale of Chinese subsidies dwarfs anything in Organization for Economic Cooperation and Development (OECD) nations. A German institute found that in 2022, 99 percent of listed Chinese firms received direct government subsidies, with electric vehicle (EV) maker BYD alone receiving over $3.7 billion. Chinese industrial subsidies were 4.5 times greater than U.S. subsidies as a share of GDP. Combined with a chronically undervalued currency, suppressed domestic consumption, and closed markets, these subsidies have enabled Chinese firms to sell below cost for years or decades, systematically destroying foreign competitors' market positions.

This is not to say that all Chinese efforts or innovation are win-lose. If China invents a cure for Alzheimer's, the world benefits (assuming the United States or its allies would not also do so). But this would also reduce U.S. (and allied) strength in the pharmaceutical industry.

Three Flawed Strategic Responses

Overall, the policy debate about China is largely dominated by international relations scholars and experts, not business or industrial strategy experts. The former are aware of the global competition for leadership in advanced industries, but they largely see it as subservient to overall foreign policy considerations and goals. Moreover, few understand the operation of advanced industries, the nature of the competition, or the importance of barriers to entry and reentry. As such, the prevailing narratives largely ignore techno-economic and trade war implications and the implications for U.S. power.

Current U.S. thinking about China coalesces around three main strategic approaches, all of which are inadequate to the challenge.

The Engagers: Cooperation Above All

The first camp, still influential in much of the U.S. foreign policy establishment, prioritizes maintaining cooperative relations with China, even in the face of CCP behavior that harms U.S. national power industry capabilities. These experts argue that China's growth benefits global prosperity, that Chinese cooperation is essential for addressing climate change and other global challenges, and that confrontation risks becoming a catastrophic conflict.

A 2019 open letter signed by over 100 prominent scholars claimed that "we do not believe Beijing is an economic enemy or an existential national security threat" and argued that "the fear that Beijing will replace the United States as the global leader is exaggerated."

This camp consistently minimizes Chinese malfeasance while emphasizing supposed benefits of engagement. They cite Chinese economic growth as driving global prosperity (ignoring that China's persistent trade surpluses actually reduce GDP elsewhere). In arguing that cooperation is needed on issues such as climate change, pandemic response, and AI governance, they gloss

over the question of why the United States should be the supplicant when China has equal or greater interest in addressing these challenges.

Their fundamental error is treating China as a partner rather than a strategic competitor. Engagers assume that continued dialogue and economic ties will moderate China's behavior, when two decades of evidence proves otherwise. They prioritize the process of engagement over the substance of outcomes, accepting Chinese predatory practices as the price of maintaining access and conversation.

The Deniers: Wait for China's Collapse or Assume Inherent U.S. Superiority

A second camp acknowledges China's rise but counsels patience, predicting that internal contradictions will lead to Chinese economic stagnation or political crisis. These analysts point to demographic decline, the housing bubble, government debt, and the inefficiencies of state capitalism as harbingers of inevitable Chinese failure. To be sure, many advance the well-trodden prescriptions such as improved K-12 education, more high-skill immigration, smarter regulation, and more government spending on science. But they will not go so far as to support a national power industry strategy.

This "Peak China" thesis is seductive because it requires no painful U.S. policy changes. If China is destined to collapse under its own weight, the United States need only wait and maintain its existing approaches to the economy, trade, and national security. Proponents cite any negative Chinese economic news as evidence that their predictions are materializing, while ignoring continued Chinese gains in technological capabilities and global market share of advanced industries.

The fatal flaw is mistaking China for the Soviet Union. Unlike Soviet command economics, Chinese state capitalism has proven remarkably effective at generating growth and technological advancement. The CCP studied why the Soviet Union failed and adopted fundamentally different economic management—allowing market forces to operate within state-directed strategic frameworks rather than attempting to centrally plan everything.

Moreover, even if China faces economic headwinds from demographics or debt, these business-cycle challenges do not negate its structural advantages in the techno-economic competition. Chinese firms will continue benefiting from massive subsidies, protected markets, and patient capital regardless of GDP growth rates. Waiting for China to self-destruct while Chinese companies dismantle Western industries one after another is a prescription for defeat.

The Innovationists: Technology Will Save Us

The third camp acknowledges the challenge China presents but argues that American innovation superiority will enable the United States to prevail. These "dynamists" focus on deregulation, immigration reform, scientific research funding, and nurturing entrepreneurship—particularly in cutting-edge fields such as AI, quantum computing, and synthetic biology.

This view holds that the United States need not defend legacy industries because American innovators will create entirely new sectors and the United States will lead them. Why fight over solar panels or EVs when we can dominate AI and quantum? The prescription is to boost science funding, reduce regulatory barriers, import more STEM (science, technology, engineering, and math) talent, and trust that Silicon Valley-style innovation will deliver victory.

The problems with this strategy are multiple. First, with a few exceptions (e.g., AI), it is industry-agnostic—there is no guarantee that market-driven innovation will produce capabilities in sectors that matter most for national power. Second, the United States has repeatedly lost production of technologies it invented, from televisions to solar panels to batteries, as other nations have commercialized American discoveries. Innovation alone does not ensure domestic production or competitive strength.

Third, advanced defense systems increasingly rely on commercial technologies (spin-on rather than spin-off), making a strategy that abandons commercial sectors to China while hoping to maintain defense-only production unrealistic and prohibitively expensive. Fourth, the "industrial commons"—the ecosystem of suppliers, skilled workers, and manufacturing capabilities—erodes when industries disappear, making future innovation harder. Intel founder Andy Grove's warning resonates: "Abandoning today's 'commodity' manufacturing can lock you out of tomorrow's emerging industry."

Finally, China is not ceding emerging technologies. Chinese firms are competitive or leading in AI (see Alibaba, Baidu, and DeepSeek), quantum communications, commercial space, robotics, and biotechnology. The notion that the United States can retreat to "higher ground" in emerging tech while China dominates established industries ignores that Chinese firms are aggressively pursuing both.

Why Current U.S. Economic Policy Frameworks Fail

The deeper problem is that dominant U.S. economic doctrines are fundamentally mismatched to the era of *national* power industry competition.

Consumer Welfare Economics

The reigning paradigm in U.S. economic policymaking—which critics call "neoliberalism"—treats all industries as equivalent. Financial services and semiconductor fabrication are no different; both simply respond to market signals. The goal is to maximize consumer welfare through efficient resource allocation, which markets achieve better than governments do.

The reigning paradigm in U.S. economic policymaking—which critics call "neoliberalism"—treats all industries as equivalent.

In this framework, Chinese subsidies (including low labor costs and lax environmental regulations) are gifts to American consumers (lower prices!), not strategic attacks. Trade deficits reflect American prosperity (we're rich enough to buy foreign goods!), not industrial weakness. Offshoring production to China demonstrates smart capital allocation by U.S. firms seeking higher returns, not a national security vulnerability.

Consumer welfare economics has no concept of strategic industries or national power. Its proponents argue that "countries don't compete, only companies do" and that concerns about industrial structure reflect economically illiterate protectionism. The Peterson Institute epitomizes this view, arguing that U.S.-China trade is "clearly win-win" and that "Chinese companies have a right to compete with U.S. companies and succeed in any sector, including in high-tech."

This doctrine might have been adequate when America faced no serious techno-economic competitor; it is catastrophically inadequate against China's state capitalist predation. Markets have no inherent reason to preserve semiconductor fabrication, aerospace, or pharmaceutical production domestically. They are equally happy producing legal services, retail, and hospitality, none of which enable national power.

But the reality of this techno-economic and trade attack fundamentally undercuts the foundation of consumer welfare economics and exposes its inability to address the current challenge. If national power is the ultimate goal, not consumer welfare, then this doctrine fails, at least in guiding the share of the economy composed of national economic power industries. If a nation's industrial mix is critical, then a doctrine that gives equal weight to potato chips and computer chips fails.

Neo–New Deal Progressivism

The ascendant alternative on the Left is equally unsuited to the challenge. Neo–New Dealism focuses on redistribution, social justice, and worker welfare overgrowth and competitiveness. Its industrial policy priorities are human services (childcare, eldercare), climate-focused sectors (renewable energy), and breaking up large corporations through aggressive antitrust.

While rhetorically supporting "industrial policy," progressives' actual agenda—drug price controls, restricting intellectual property (IP), mandating labor standards that limit automation, attacking profitable corporations as exploitative—systematically weakens the large advanced-technology firms that must serve as national champions against Chinese competitors.

Moreover, neo–New Dealism's massive social spending agenda would consume the fiscal resources needed for strategic industrial investment. Its anticorporate ideology and deep suspicion of business-government collaboration make the public-private partnerships required for an effective national power industry strategy politically toxic.

The reality of the CCP's techno-economic and trade war on the West undercuts the foundations of neo–New Deal progressivism. If the United States is in an existential contest for global power, then boosting taxes and regulations on business is especially ill-advised, as are the neo-Brandeisian campaign to destroy large corporations and separate unrestrained demands from organized labor. Progressive advocates know this quite well, which is why they go to any end to deny that China is even a competitor.

What's Required: National Power Industry Strategy

The United States needs a fundamentally new framework: a national power industry strategy. This approach recognizes the following:

- **Industries differ fundamentally in strategic importance.** Semiconductors and furniture are not equivalent. Some sectors—defense, dual-use, and enabling—are critical to national power and must be prioritized even at short-term economic cost.
- **Markets are indifferent to national power.** Unregulated market forces will not automatically preserve strategic capabilities. Government must actively shape industrial structure through strategy, not just generic competitiveness or innovation policies.
- **China is a strategic competitor, not a normal trading partner.** Chinese mercantilism requires defensive measures (restricting imports produced unfairly) and offensive support

(strengthening domestic champions in national power industries) that violate free-market and progressive orthodoxies.

- **Production matters as much as innovation.** The United States cannot rely on inventing technologies that China then produces. Manufacturing capabilities, supply chain resilience, and industrial commons must be preserved domestically in strategic sectors.
- **Long-term strategic positioning trumps short-term efficiency.** Maintaining redundant capacity, subsidizing strategic industries, and accepting higher consumer prices are necessary costs of not losing the techno-economic war.

This requires jettisoning the deeply held view that governments should not "pick winners." Markets might optimize GDP growth, but only by happenstance will this generate needed national power industry capabilities. Policymakers must embrace strategic industry selection and support, drawing on business strategy frameworks rather than consumer welfare economics.

Implementation Barriers

The political economy obstacles to a national power industry strategy are severe. U.S. business leaders, shaped by decades of financial capitalism prioritizing quarterly returns and shareholder value, distrust government involvement and focus myopically on firm-level profitability rather than systemic strength. Unlike their predecessors from the 1940s–1970s who saw themselves as corporate statesmen with responsibilities to the broader capitalist system, today's executives view government industrial policy as either incompetent interference or the thin edge of socialist control.

Labor unions pursue short-term wage gains that often undermine firms' long-term global competitiveness because they are unable to escape the prisoner's dilemma of aggressive bargaining today leading to job losses to less-constrained Chinese rivals tomorrow.

Conservative organizations reflexively oppose the government activism required for industrial strategy, while progressive organizations reflexively oppose supporting corporations. Neither party's dominant coalition supports the combination of strong state capacity and empowered corporate champions that a national power industry strategy requires.

Perhaps most critically, the USG itself lacks the analytical capacity, institutional structures, and personnel with expertise to formulate and execute sophisticated industrial strategy. Unlike China, where officials study industrial policy as a discipline and spend careers mastering sectoral dynamics, U.S. policymakers typically have backgrounds in law or generalist economics divorced from operational understanding of specific industries and technologies.

The Path Forward

The United States requires political, policy, and institutional transformation comparable to previous pivots after the War of 1812, the Civil War, and World War II. In all three cases, war provided the spur to overcome inertia and interest group resistance. We certainly hope it will not take a physical war to achieve similar transformation today. Either way, the organizing principle of economic policy must shift from maximizing consumer welfare or spurring social justice to ensuring that the United States maintains superior capabilities in national power industries relative to China. The simplest measures of this are the share of these industries' global output that is produced in the United States and the share of U.S. production that occurs in allied

nations. Related measures are the technological sophistication of U.S. products and services in national power industries compared with those of Chinese competitors.

This demands classifying industries by strategic importance, developing sophisticated strategies for priority sectors informed by business strategy principles rather than economics, restricting unfairly traded Chinese goods' access to allied markets, substantially increasing public and private investment in strategic sectors (on the order of $100 billion per year in tax incentives and direct expenditures for at least a decade), coordinating with allies to present unified responses, and building government institutional capacity for industrial strategy.

The United States requires political, policy, and institutional transformation comparable to previous pivots after the War of 1812, the Civil War, and World War II.

The costs will be significant: Implementing a national power industry strategy will bring higher prices for certain consumer goods, increased government spending, greater fiscal discipline elsewhere, and reduced returns for some investors as capital is channeled toward strategic rather than merely profitable uses. But the alternative is worse: a future in which Chinese dominance of advanced industries leaves the United States dependent on an adversary for critical technologies, unable to defend its interests or protect its allies, and relegated to second-tier status in a China-dominated world order.

Conclusion

History shows that America can make fundamental pivots when circumstances demand. Whether it can do so absent the shock of military conflict—which might come too late, after critical capabilities are already lost—remains the defining question of our era. The window for effective action is narrowing. Chinese positions in industry after industry are becoming entrenched, protected by economies of scale, learning curves, network effects, and the enormous barriers to reentry that characterize advanced manufacturing. The reality is that once advanced industry capabilities are lost, they are extremely difficult to resurrect.

The choice facing America is stark and unavoidable: Fundamentally reform techno-economic policy now by embracing the uncomfortable truth that some industries matter far more than others—and by recognizing that preserving them requires active government strategy—or accept a managed decline into second-tier status while China's techno-economic dominance translates into geopolitical supremacy. There is no third option, no magical innovation breakthrough that will solve the problem without hard choices and real sacrifices.

The United States remains far stronger than any declining power in history. Its advantages in innovation ecosystems, allied networks, capital markets, universities, and democratic legitimacy provide a foundation for successful competition if properly mobilized. But time is not on America's side. Every industry lost makes recovery harder; every year of Chinese industrial expansion shifts the balance further; every failure to act because it violates free-market or progressive orthodoxies surrenders ground that cannot be regained. The techno-economic war with China is the central challenge of the 21st century. America's response will determine not just its own future but the future of the liberal democratic world.

INTRODUCTION

National power is a country's ability to both prevent other states from taking actions against its core interests and impose its will on other nations. Traditionally, national power was largely determined by military power. In the globally integrated economy of the 21st century, a key enabler of national power is strength in industries that not only support weapons system development and production, but also provide leverage over adversaries and limit their leverage over us. This leverage can be directly related to defense, as when China produces key materials and parts going into U.S. weapons systems (which it currently does) or indirectly such as when China is able to cripple key U.S. industries.[6] We call these key industries that are vital to the country's strategic interests "national power industries."

With this context, let's start with a series of key questions that, if answered in the affirmative, should form an immutable logic chain in support of a paradigmatically different kind of U.S. techno-economic and trade policy.

First, does the United States need to be the strongest power nation on Earth, especially over China? If it doesn't, then status quo economic and trade policies from the Left and Right will suffice.

Second, if it does, then to what extent does national power come from relative strength in certain industries, particularly military, dual-use, and industries that enable the industrial commons that defense and dual-use industries rely on? If power is only loosely related to those types of industries, then the status quo policies will suffice.

Third, if national power is significantly enabled by a certain class of industries, then to what extent is China seeking and capable of gaining relative strength over the United States and its allies in these industries? Related to that, is competition in these industries mostly win-lose, wherein China's gains come at the expense of U.S. (and allied) losses? If the answer is either that China is not succeeding in these industries or that its success does not come at the expense of U.S. capabilities, then status quo policies will suffice.

But if the answer to all these questions is yes—as ITIF argues for in this report—then the implications are profound. The logic chain points inexorably to the conclusion that unless the United States (and its allies) is stronger than China in particular industries and thus has more techno-economic leverage over China than China has over us, then U.S. power vis-à-vis China will be limited and there will be transformative consequences for the global balance of power and U.S. national interests.

That logic chain has, or at least should have, profound implications for U.S. techno-economic and trade policy. It establishes that the conventional neoclassical, consumer-welfare–based economics that has dominated U.S. policymaking for more than 50 years needs to be scrapped for the simple reason that it is agnostic to national industry structure. As such, unless the country adopts a new strategy, not losing the power industry war with China will come down to happenstance and luck. This is because the dominant view in Washington, even among most Democrats, is that markets determine industry structure and all industries are of equal value. Financial services are no different than semiconductor production. It cannot be stressed enough that the acceptance of this core doctrine underpins virtually all U.S. techno-economic and trade policy. It explains the support for free markets and free trade and the aversion to "picking

winners." It explains why economic policy on the Right is about enabling market forces and on the Left about achieving better social policy outcomes by taxing and regulating the private sector. Both are indifferent to industry structure.

In the past, this industry-agnostic, market-economics framework was not detrimental to national power because the United States did not face a competent techno-economic adversary in the form of the Soviet Union. In fact, the Soviet economy was incredibly fragile, and it made the U.S. economy seem like a goliath by comparison.[7] That unfortunately instilled a dangerous hubris into policy thinking that America suffers from to this day. Now that America faces a likely superior techno-economic adversary in the form of China led by the CCP, that doctrine and the policies that flow from it are no longer purpose-fit and need to be retired as quickly as possible.

A world in which the United States (and allies) cannot lose power industry strength is a world that calls for a fundamentally new kind of techno-economic and trade policy.

But the next question is whether the usual alternatives to free-market economics—competitiveness policy, innovation policy, technology policies, and/or manufacturing policy—are the right paths to follow. To be sure, these differ from free-market frameworks in that they privilege certain things over others: a better trade balance in advanced industries, more innovation, more output, and jobs in technology industries and manufacturing. However, while certainly a better fit for the world the United States and allied nations now find themselves in, these approaches are still inadequate because they advocate only for broad outcomes, and like free-market doctrine, they are indifferent to power industry strategy. Even if these policies are adequate and successful—to date, they have been inadequate—there is no guarantee that adopting them would produce requisite capabilities in the industries that the United States most needs to bolster in order to have superior power over China. If we get more toy and lumber manufacturing, but not more machine-tool and semiconductor manufacturing, the United States will lose out to China.

In short, the United States (and its allies) need to be stronger than China in the industries that are wellsprings of national power in order to prevent China from asserting power and leverage over the United States and its allies. And a world in which the United States and its allies cannot lose strength in national power industries is a world that calls for a fundamentally new kind of techno-economic and trade policy.

Circumstances have compelled the United States to make significant structural techno-economic and trade policy changes before: after the War of 1812, after the Civil War, and after WWII. It is once again time for America to make such fundamental changes in policy. The stakes then were less significant for the simple reason that there was much less global integration, and our adversaries were weaker. Today, the stakes and the conditions are fundamentally different. China is the first nation in over 125 years with the ability to challenge the United States from a techno-industrial perspective.

In previous instances, it took wars to trigger this kind of fundamental structural change in policy and institutions. Hopefully, it will not take a kinetic war to bring needed change today. Because if it did, there is every reason to believe that the United States and allies will already have

irrevocably lost many of their power industry capabilities and prohibitive barriers to entry will leave slim prospects for regaining them.

Unfortunately, status quo thinking and vested interests hinder power-industry economics from emerging. First, most foreign policy experts, even while acknowledging the authoritarian rule of Xi Jinping, continue to believe that China is a normal, market-oriented, emerging economy and that "socialism with Chinese characteristics" is just a slogan used for domestic purposes to mask China's true capitalist nature. Second, while there is growing awareness of the West's techno-economic dependence on China, that dependence is generally seen as limited to a few narrow areas, such as rare earth minerals, which are said to be easily fixed with the right policies. Third, the conventional view of international economics is both that trade is welfare-maximizing for all parties and that while companies may compete, countries do not. In other words, there is no battle for global market share in key national power industries. Finally, even the most die-hard China hawks and manufacturing supporters do not view the world in terms of power-industry competition with China. For them, getting more U.S. manufacturing jobs is the goal, whether they support national power or not.

In a world with these assumptions, status-quo responses suffice. The United States and its allies compete with China and others for market share in advanced industries, and we win some and lose some. And to the extent we lose, we just create new industries and firms because of our inherent innovation strengths. Besides, old industries are for losers. To the extent trade barriers arise, they are handled through normal bilateral or multilateral processes. And domestically, the United States can rely on existing economic policies and institutional structures to ensure reasonable levels of competitiveness and prosperity.

U.S. techno-economic and trade policy needs to have as its inspiration and fundamental organizing principle not ensuring economic freedom and efficiency, not social justice, and not stopping climate change—but also not losing in a wide array of strategic industries.

Too many U.S. experts, pundits, and policymakers see the CCP as perhaps a bit more focused on industrial policy and a bit less interested in obeying global trade rules than the West is, but not an assertive Marxist-Leninist actor that stands apart. As such, there is no need for a radical overhaul of U.S. techno-economic and trade policy. (Obviously the Trump administration and most China hawks are not in this camp.) As described herein, there are many reasons for the resistance to accept this new reality. But this new reality needs to be accepted and acted upon.

This report proceeds from the fundamental view that the CCP seeks global hegemony, that it views techno-economic dominance in national power industries as a key pillar of that long-standing campaign, and that it will do virtually anything to win that quest. As such, the United States and its democratic allies who stand for freedom and human rights need to respond by fundamentally rethinking and restructuring their techno-economic and trade policies.

This boils down to a simple but fundamentally far-reaching proposal: U.S. (and allied) techno-economic and trade policy needs to have as its inspiration and fundamental organizing principle, not ensuring economic freedom and efficiency, not prioritizing social justice, not stopping climate change, and not keep AI from taking over—but instead not losing in a wide array of strategic industries. I say "not losing," as opposed to winning, because China is such a

formidable competitor—with a massive domestic and friendly international market (e.g., Belt and Road nations) and an enormous "bank account" to subsidize its way to power industry market share—that it is likely not be possible to keep Chinese firms from being the leaders in many national power industries, especially in non-OECD markets. But what the West can and must do is to avoid losing its own power industry capabilities.[8]

National power industries are not just any manufacturing or even technologically advanced industries. They can be thought of as three categories, from most important to least: military industries, dual-use industries, and enabling industries. Examples of military industries are guided missiles and tank production. Examples of dual use are electronic displays and semiconductors, which are used in both defense and commercial industries. Imagine as a thought exercise that China dominated optics and displays. This would give China the ability to cripple U.S. defense capabilities because optics and display technologies are critical for night-vision goggles, heads-up instrument displays for fighter pilots, rifle scopes, and myriad other military applications. Enabling industries include automobiles and heavy construction equipment, which help support the industrial commons needed for dual-use and defense industries.

Industries such as furniture, cosmetics, sporting goods, wind turbines, wood products, cement, and toys are not national power industries, in part because losing them would not create any serious vulnerabilities to China. Kids might not have many toys, but we can live with that. The same is true for virtually all nontraded sectors, which are, by definition, not subject to competition from foreign imports (e.g., barber shops, personal service providers, etc.)

It is time for the United States government to craft a coherent power industry strategy.

Because maintaining allied strength in national power industries is critical, policymakers must jettison the deeply held view that governments should not pick winners and that market outcomes are Panglossian in nature—the best of all possible worlds. Markets might optimize per-capita GDP growth (although even here, there are market failures that suggest some government intervention is needed to maximize per-capita GDP growth), but only by luck and happenstance will this generate the power-industry capabilities the United States needs to maintain superiority over China. There is no inherent reason why the United States will produce telecom equipment, semiconductors, electronic displays, circuit boards, and more.

And even with robust defense spending, weakness in dual-use and enabling industries would undermine the defense sector, requiring massively larger defense budgets to produce the weapons systems the Department of Defense (DOD) needs in specialized factories with limited economies of scale. Markets, for all their value, are happy to enable the production of financial advisors, legal services, and high-end garments, while allowing dual-use sectors to wither and die in the face of subsidized Chinese production. This is true even with a robust national manufacturing strategy, which might end up with more production of shoes, golf clubs, and two-by-fours, but not optics, machine tools, and lasers, which weapons systems need.

Policymakers already understand this when it comes to the production of weapons such as fighter aircraft and guns. While private companies make these, they do so under government contracts. It's time to extend that thinking to dual-use and enabling industries too—not that in

all or even most cases would these industries be supported by government contracts. But in all cases, there should be well-crafted and effectively implemented government strategies to ensure continued dynamic capabilities in national power industries.

The implications of this simple yet profoundly important change in thought are significant. In short, it is time for the United States government to craft a coherent power industry strategy. No, this does not mean state socialism or crony capitalism and Solyndra. No, it does not mean corporate welfare. But it does require embracing the concept of national power industry strategy, some of which, as described ahead, can be built on the insights from the scholarly and professional literature on corporate strategy.

TODAY'S HISTORICAL TURNING POINT

Despite what some free-market conservatives argue, America's economic and trade policies have not been consistent since the founding of the Republic. Rather, key inflection points have occurred, leading to new beliefs, institutional arrangements, and policies. And each time, America's leaders have made the right choice, although often through trial and error and incremental adjustments. But the transformations have been made that have enabled a more powerful and wealthier nation.

It's worth reviewing these historical pivots. From its colonial founding until the second war with the British (the War of 1812), American leaders largely saw the colonies and then the nation as a peripheral, natural resource economy, dependent on Britain for trade in manufactured goods that were to be paid for through exports of staples (wood, fish, tobacco, furs, etc.). After the revolution, some, such as Alexander Hamilton, recognized that this was fundamentally a relationship of dependency. That is why he "believed that in industry lay our great national destiny."[9] He did not want America to remain a "hewer of wood and drawer of water." Indeed, he argued that government should "cultivate particular branches of trade ... and to discourage others."[10] That's why America's first successful manufacturing firm, the Society of Useful Manufacturers, was funded by the state of New Jersey and leading American financiers that Hamilton convinced to fund it.

Even Jefferson embraced national developmentalism, including protective tariffs.[11] As president, his goal was to repay the national debt and then use the revenues to fund "rivers, canals, roads, arts, manufacturers, education and other great objects."[12] He "encouraged new branches of industry that may be advantageous to the public, either by offering premiums for discoveries, or by purchasing from their proprietors such inventions as shall appear to be of immediate and general utility, and rendering them free to the citizens at large."[13]

But it wasn't until the shock of the war of 1812 that a true consensus for industrial development emerged. Indeed, in 1816 Jefferson wrote, "You tell me I am quoted by those who wish to continue our dependence on England for manufactures. There was a time when I might have been so quoted with more candor, but within the 30 years, which have since elapsed, how are circumstances changed!"[14]

Jefferson was a man who was willing to change his thinking when conditions required doing so. Indeed, the war broadened and heightened calls for more efforts to develop American industry. Henry Clay and other Whigs devised "the American System," consisting of tariffs to protect and promote industry; a national bank to foster commerce; and federal subsidies for roads, canals,

and other domestic improvements. The latter also involved subsidies to targeted industries, including at the state government level. When running in 1832 as a Whig, Abraham Lincoln stated, "[M]y politics are short and sweet, like the old woman's dance. I am in favor of a national bank ... in favor of the internal improvements system, and a high protective tariff."[15] These changes enabled the development of American industries, many driven by waterpower, including textiles, muskets and rifles, shipbuilding, and others.

The next pivot was the Civil War. This time the core change domestically was whether the United States would fully embrace industrialization to become a world power, with the centralization of power and high tariff walls that entailed. Or would it allow industrialization to occur at its own pace with much of the U.S. economy maintained as an agrarian and plantation export economy. Southern plantation states opposed this mission and the institutional changes that it entailed, in part because it meant higher prices for what farmers consumed and reduced overseas markets for what they sold. The Civil War made the choice inexorable, and with the victory of the Northern States, the United States proceeded to industrialize at a rapid rate behind a high tariff wall and with the support of defense industry purchases.

Indeed, for the rest of that century, the United States was the China of its day: an economy in which industrialization was everything and growth was off the charts. This led European countries to despair. As David Kedrosky wrote:

> Frederick Arthur McKenzie's *The American Invaders* and WT Stead's *The Americanization of the World* (both 1901) were just two of an avalanche of publications advertising the rot of Britain and the inevitability of its supersession by its youthful, vigorous former colony. Economists cast about for something, or someone, to blame.[16]

He went on to cite leading British economists Alfred Marshall, who sounded the alarm in 1903 (wish that we had more Alfred Marshalls today in the United States):

> Sixty years ago England had leadership in most branches of industry. It was inevitable that she should cede much to the great land which attracts alert minds of all nations to sharpen their inventive and resourceful faculties by impact on one another. It was inevitable that she should yield a little of it to that land of great industrial traditions which yoked science in the service of man with unrivalled energy. It was not inevitable that she should lose so much of it as she has done.[17]

The next major pivot came with the American victory in WWII and then the rise of an aggressive and expansive Marxist-Leninist Soviet Union. After WWII, the forces for returning to the pre-war status quo were strong. In 1946, Truman's State of the Union speech called for bringing most troops home and demobilizing.[18] And his economic policy was to continue New Deal social programs but embrace Keynesian cycle management.

But it was only after Soviet expansionism into Eastern Europe, the development in 1947 of the "Truman Doctrine," a few years later Stalin giving the green light for Kim Il Sung to invade South Korea, and seven years later the Soviets launching Sputnik that America responded with overwhelming force. The United States chose to assume leadership of the free world, in part because of the fall of the British Empire and the benefits that came with hegemony, but also become someone needed to stop Soviet expansionism.

Indeed, NSC-162-2, a new national security policy generated through the Solarium project initiated by President Eisenhower, argued for a new approach to national policy to address the Soviet threat.[19] Among other things, it called for, "in the face of the Soviet threat, the security of the United States requires … A mobilization base, and its protection against crippling damage, adequate to insure victory in the event of general war."

This new strategic approach meant several things: first, the rejection of tariffs and the embrace of free trade and global integration, in part to ensure more stable democracies around the world aligned with the United States, because at home, the Cold War meant unprecedented massive funding for science and technology.

Second, starting in WWII, the federal government dramatically ramped up its support for advanced industry. By the early 1960s, it spent more on research and development (R&D) than the rest of the world combined.[20] That fueled an enormous array of breakthroughs, including computers, semiconductors, jet aviation, lasers, numerically controlled machine tools, satellites, relational databases, and of course, the Internet. Indeed, NSC-162-2 called the United States to "[c]onduct and foster scientific research and development so as to insure superiority in quantity and quality of weapons systems, with attendant continuing review of the level and composition of forces and the industrial base required for adequate defense and successful prosecution of general war."[21]

Starting in WWII, the federal government dramatically ramped up its support for advanced industry. By the early 1960s, it spent more on R&D than the rest of the world combined.

Turning points are hard. There is a reason societies establish routines, fixed institutions, and common rules. Changing them is hard. Vested interests oppose them. Few experts have the intellectual fortitude to challenge their own frameworks. Voters get comfortable with the status quo. And democratic politics makes change hard. But as history shows, when the disjuncture between external reality and internal frameworks and approaches becomes wide enough, America has been able to successfully embrace pivot points. Perhaps the most important question facing the nation today is, does the U.S. political economy have the capability, absent a military conflict with China, to make the needed changes? The final part of this report examines this question.

America's Current Techno-Economic and Trade System and Why Support for It Persists

After the Soviet threat evaporated in the early 1990s, American leadership assumed that the United States was not only in a unipolar moment, but that, as Francis Fukayama argued, history itself had ended.[22] In other words, Western liberal democratic capitalism had triumphed over all. If he had in fact been correct, there would be no need to write this report, as China would be well on the way to a free-market democracy. But also, he and most others were so enthused by the collapse of the Soviet Union that enthusiasm overrode reality.

As a result, the ideological and policy ideas that went with this phase have not only remained as core to U.S. techno-economic and trade governance, but at least until recently, become even more embedded in American thinking. Since America won, there was and is no real historical turning point other than one that reinforced the primacy of the U.S. system. Four core ideas remain.

First, it is America's role to advance free trade and globalization even if it was not in our narrow interest. Free trade, especially other nations selling to America, helped ensure that they entered the American orbit and not the Soviet one or remained unaligned. The U.S. economy was so strong that it could afford uneven trading arrangements. Indeed, until the early 1970s, the U.S. economy enjoyed trade surpluses. Later, as those surpluses turned to trade deficits and the United States became the importer of last resort, the view was that the U.S. economy was still the strongest, and besides, trade deficits not only didn't matter, but they were also a reflection of economic strength. Ahh, the power of wishful thinking.

On top of that was the pervasive idea held by the foreign policy establishment and economists that not only was *all* trade good, but so too was the movement of U.S. business operations overseas. Indeed, a 2013 survey of Council on Foreign Relations (CFR) members found that 73 percent believed that the U.S. economy would be strengthened if more U.S. companies set up operations overseas. In contrast, just 23 percent of the U.S. public believed this.[23] One is reminded of William Buckely's quip that he would rather live in a society governed by the first 2,000 names in the Boston phone book than one governed by 2,000 Harvard faculty members.[24] Also, 52 percent of CFR members predicted that China would become more democratic by 2023 and 34 percent thought China would be a key future ally by then. President Xi, did you see this survey? If so, why did you not go along with the CFR folks?

As surpluses turned to trade deficits and the United States became the importer of last resort, the view was that the U.S. economy was still the strongest, and besides, trade deficits not only didn't matter, but they were also a reflection of economic strength.

Following in the intellectual path set by classical economist David Ricardo, the consensus view became that trade was always win-win, and there was a comparative advantage wherever a nation's industrial structure was based on—unless distorted by suboptimal government policies—inherent natural comparative advantages. Not only was there no reason for government to alter "natural" industrial structure, but it was also welfare reducing to do so. Moreover, to the extent there were foreign deviations from free trade, they were seen as barriers and distortions that hurt the countries putting them in place, not as attacks on U.S. companies and the U.S. economy. In this regard, free trade is seen as a natural phenomenon producing natural and superior results. The fact that most of the rest of the world neither believed nor practiced this only reinforced the messianic mission of America to teach the heathens the errors of their ways and convert them to the free trade religion.

Second, what ultimately buttressed this the way free booze buttresses an alcoholic was the fact that the U.S. dollar was the reserve currency. The dollar was accepted everywhere, and ultimately, if the United States needed more dollars, unlike any other nation, it could simply print more. This is termed the "exorbitant privilege" that let the United States run massive trade deficits for decades. In realty, it was not a privilege but an albatross around America's neck, allowing policymakers to be indifferent to structural trade deficits. With such massive trade deficits, any other nation would have had to devalue its currency and grow its exports and reduce imports. But not the United States. And so, U.S. manufacturing, including national power industries, shrank. And because there was no real consequence to this—foreign nations continued to pour money into the United States, in part to keep their currency values low and

exports high—it was easy for American pundits and experts to ignore and deny the decay of American power industry capabilities. Indeed, most to this day still defend the reserve currency status of the dollar as a key source of national power, instead of what it really is: a cancer on national power industry competitiveness.

Third, because the techno-economic power imbalance between the United States and the Soviets was so large, there was no need for a strategic industry policy. The Soviets might have had a peer-competitor military, but they by no means had a peer-competitor set of national power industries. And one reason was that Soviet command economics, unlike Chinese state capitalism, was incredibly limiting. Soviet Gosplan was in fact a central planner and allocator of goods and services.

Fourth, science and technology proceeded from funding to scientists to pursue basic research in whatever areas they chose (what FDR science advisor Vannevar Bush laid out as the linear model of basic science to commercial production) and company-funded research based on market forces alone. This meant that just as "computer chips, potato chips what's the difference?" prevailed in economic thinking, "astrophysics, quantum physics what's the difference?" prevailed in science funding. In other words, the United States was so far ahead of other nations in science that it had the luxury of funding a large share of the world's basic, exploratory research that other nations used to build their advanced industry export economies.

As such, neoclassical, non-goal-oriented economic policy became accepted as all-time truth. It was true everywhere and always. Short-run efficiency generated from market actors operating in response to market-determined price signals was the lode star. Externalities, with perhaps the exception of pollution, were few and far between, and government's efforts to intervene in this natural, indeed beautiful, process were, by definition, welfare-reducing.

This truth still dominates U.S. expert, pundit, and policymaker thinking. An emblematic example is a *Washington Post* op-ed excoriating President Trump's conditioning CHIPS Act grant funding to Intel on the federal government getting an ownership share. Yes, this was a bad decision, but not because it violated free-market dogma, but because it ultimately weakened Intel, clearly a power industry company.[25] The *Post's* statement is a perfect reflection of what current U.S. consensus is regarding techno-economic and trade policy where power industry concerns are nonexistent:

> This deal is the culmination of America's resurgent interest in industrial policy, the same interest we always develop when we sense a challenge to our global economic dominance. Whenever we spot a new competitor on the horizon, we look wistfully at China — or Germany, or Japan — and wonder if it's a mistake to let the market decide what America produces. Maybe we should learn a lesson from the competition and let the government, with its deep pockets and longer time-horizons, take a bigger role in shaping the economy.
>
> This particular policy also risks distorting the free-market system that has delivered better results for America, and the world, than any state-managed competitor has ever achieved. And it is unlikely to fix the deep problems with Intel, which have been decades in the making.

> There is an argument for industrial policy in strategically vital products. The United States does not want to source critical defense inputs from geostrategic rivals. But that argument only works if you make three dubious assumptions: that the government can confine its efforts to strategically important industries (rather than, say, bailing out failing automakers with politically powerful unions); that it can spend the money wisely (rather than wasting huge sums on efforts that sounded better to planners than to buyers); and that the companies that find themselves showered with money will use it to turn themselves into globally competitive superstars, rather than to maintain a lackluster operation thanks to the subsidies.[26]

A few years ago, this op-ed would have been exactly the same, but without the reference to the need for "strategically vital products." At least now elite discourse has to include a passing reference to this, before it then breezes on praising the wonders of the free market.

There is one final component of the America's techno-economic and trade doctrine, one that did not emerge until the fall of the Soviet Union: American hubris.

In its close, the op-ed at least considers that it might be necessary for the United States to have strong national power industries, but the authors still couldn't help themselves and fall back into conventional thinking, claiming that the old model actually works when it comes to national power industries. Government, it claims:

> can also work harder on improving infrastructure and fixing government policies that drive up manufacturing costs, such as land-use regulations and taxes. But the United States should not try to beat China by becoming China. We should compete the way we always have: by relying on the free enterprise system that has served us so well for so long.[27]

If this is not a rejection of the need for a doctrinal shift in response to an historical turning point, I don't know what is.

There is one final component of the America's techno-economic and trade doctrine, one that did not emerge until the fall of the Soviet Union: American hubris. At least during the Cold War, leaders on both sides of the aisle were worried about the Soviet challenge, not just militarily but also technologically, especially in the 1950s and 1960s as Soviet space and nuclear technology advanced. In hindsight, the technology threat was overstated, but nonetheless, policymakers remained apprehensive, ever focused on maintaining our lead.

Now, absent that threat, America suffers from what Chinese political economist Heng-Fu Zou calls "status-quo-based optimism."[28] In other words, too many U.S. experts and policymakers still see the world as it was from 1990 to the mid-2000s when the belief was that United States was preeminent in virtually everything. Communism had been defeated and was consigned to the dustbin of history. China was a poor, developing market economy, not a development-oriented Marxist-Leninist dictatorship. And emerging signs that China might be becoming a peer competitor were almost completely ignored by the expert class, so much so that individuals and organizations that tried to issue warnings were dismissed as cranks. Case in point: the U.S.

China Economic and Security Review Commission, an entity created by Congress as a sop to those worried about the effects of letting China in the World Trade Organization (WTO). For years, the view in Washington was that these were a bunch of crazed China hawks and it was largely frowned upon for experts to testify in front of this commission.

Because the United States had vanquished its foes and stood tall and unopposed (except by jihadists that turned airplanes into missiles), that meant, by definition, that the current techno-economic and trade system was optimal. It had led to the prosperous and strong America. No one could touch us. So why challenge what had worked so well?

This is perhaps the driving factor in why so many in the expert and political classes are so closed to considering new techno-economic and trade frameworks. The old/current system worked great. Why fix it if it ain't broke?

Accepting realities would mean a weakening of the foundations of the tripartite American techno-economic and trade doctrine: free trade, free markets, and reserve currency. That doctrine, and the professional reputations built upon it, must, at all costs, be defended.

And it is also why so many in the expert and political classes are almost completely impervious to data suggesting that reality no longer exists, especially the increasingly obvious Chinese techno-economic rise and the concomitant American decline, as well as Xi's Marxist-Leninist global hegemonic aspirations. Reams of data showing China's techno-economic rise are ignored or denied, as is data showing U.S. decline. Well, the data must be wrong. Or China is different. Or the data doesn't apply to the United States. Besides, we all know that China has a host of short-term business cycle challenges (e.g., housing glut), so no need to consider structural change. A bit more science spending, some regulatory tweaks, and some more high-skilled immigration and all will be ship-shape.

Accepting these realities would mean a weakening of the foundations of the tripartite American techno-economic and trade doctrine: free trade, free markets, and reserve currency. That doctrine, and the professional reputations built upon it, must, at all costs, be defended.

In other words, the consensus among the elite class is that the current system suffices. However, what is striking about past fundamental pivots in American techno-economic and trade systems is that all were in response to war: the Revolutionary War and the War of 1812; the Civil War; and WWII and the Korean War. Before each of these conflicts, the consensus view was for the then current system. Few policymakers and elites had any real desire to change, and those that did were in the minority with no real power. It was the shock and destruction of war that made the rejection of the old system and the embrace of a new system a virtual requirement.

Today, without a great-power war to spur change, there is little that is doing so. The Chinese national power trade attacks are not major battles, but rather a constant drip-drip of allied and U.S. losses that are either overlooked or rationalized as inconsequential. Better to defend the tripartite system of free trade, free-market economics, and reserve dollar and attack or ignore anyone who has the temerity to challenge it. Better to attack Trump as a clueless protectionist rather than to acknowledge that his concerns, if not necessarily his policies, reflect a new reality.

It is possible that a People's Republic of China (PRC) invasion of Taiwan might produce such a motive force. But it might not because U.S. leaders and the public could just give up and either not intervene or intervene but quickly withdraw after casualty numbers go up and missile stocks go down. If the PRC were smart and understood America, it would bide its time (it can no longer hide its light) until its GDP and power industry and military capabilities significantly outweigh those of the United States and the West. If it invaded then, even if the shock of war and defeat were enough to highlight the defects of the current system and motivate the embrace of a new one, it would be too late to do anything meaningful. U.S. and allied techno-organizational capabilities for renewal, including an existing advanced industrial base, would be below what is needed. As discussed ahead, the barriers to entry in most of these complex and capital-intensive industries would be too high. Even if the American populace and the elite class came together with a massive Sputnik-like movement and responded, the amount of effort and money needed to rebuild would be enormous. And so the techno-economic war would be over, and the United States would have lost most of its national power industry capabilities with virtually no way to get them back, akin to the United Kingdom after WWII. All the United Kingdom can do now is show nostalgic TV shows on BBC about when Britannia ruled the world.

Box 1: Britain's Failure to Grasp Its Turning Point

Like America, Britain faced a turning point during and after WWII, but unlike the United States, it failed to successfully turn, resulting in the permanent (at least to today), long-term deindustrialization and decline of the United Kingdom.

In his masterful book *The Audit of War: The Illusion and Reality of Britain as a Great Nation,* British historian Correlli Barnett documented the failures and why.[29] Like noted industrial historian Alfred Chandler, Barnett argued that British industry did not succeed in emulating American mass production and the management that went along with it. As Elbaum and Lazonick wrote:

Successful capitalist development in twentieth century German, Japan and the United States demonstrates the ubiquitous importance of the visible hand of corporate bureaucratic management. To meet with international challenge, British industries required transformation of their strategies of industrial relations, industrial organization, and enterprise management. Vested interests in the old structures, however, proved formidable obstacles to the old transition from competitive to corporate modes of organization.[30]

The result was significant lags in productivity and quality of manufactured goods, especially compared with Germany and the United States. And in many areas, Britain was completely dependent on other nations. For example, during the war, Britain was totally reliant on the United States for over 20 kinds of machine tools it had never been able to make itself.[31]

Some of this was due to poor management; many firms were still family owned and modest in size. Much of it was due to strong labor unions and their utter opposition to the kinds of industrial organization and job change that would be required to boost efficiency to be able to compete internationally.

It would have been one thing if Britain were losing its old industries but at least gained the new ones, such as chemicals, electronics, and aerospace. But it failed there as well, in part because of the persistence of the craft industry, as opposed to mass production—and also because the government spent so little on R&D. At the same time, the schools and university system, unlike

that of Germany and the United States, focused on traditional education, especially learning the classics, and neglected both skilled-trades education and STEM education.

It wasn't that certain groups and individuals in government were not aware of these challenges. Some were and proposed fairly far-reaching industrial policy changes that, if implemented, would have certainly reduced the scope and scale of deindustrialization and lack of progress in emerging science-based industries.

But at a political economy level, there were three forces that meant failure. The first was the long-standing British free-market ideology, especially among economists that eschewed any more than minimal government role in restructuring industry. And the Conservative Party's top priority was on "sound finance" and free trade. And many economists opposed scrapping out-of-date industrial machinery until that had been completely depreciated and was no longer working.

The second was the rise of the Labour Party and its massive embrace of what Barnett has called "The New Jerusalem": the idea that the state would provide a new almost utopian life for British citizens through public spending. Based in part on the 1942 "Beverage Report," which called for "cradle to grave" public support, including national health insurance, massive housing spending, and more money on education, the new Labour government under Atlee saw this as its overwhelming task to implement these wartime proposals. Indeed, the view of many was that Britain deserved this after its all-out fight to defeat Hitler. As Barnett wrote, "New Jerusalem was their [British 'enlightened' establishment Party officials] high-minded gift which they proceeded successfully to press on the British people between 1940 and 1945, with far-reaching effects on the British people's postwar chances as an industrial power struggling for survival and prosperity."[32] This massive new social services spending campaign crowded up virtually all needed public investment to be able to compete. It was not that the officials didn't know that this would cost a lot of money. Rather, as Barnett wrote, they pursued this vision "on the best romantic principle that sense must bend to feeling, and facts to faith," much like American conservatives and liberals push for tax cuts and spending increases, respectively, even when the till is empty.[33]

And ironically, the factor that held both the Conservative and Labour views together was the still prevalent individualism over communitarianism. School reform was based on freedom for the individual, rather than on what would boost national power. Spending was based on satisfying immediate needs, rather than boosting national power in the medium term. As a result, national investment was minimal, just one-third of post-war Germany levels.

In summary, Barnett stated, "If Britain after the war was to earn the immense resources required to maintain her cherished traditional place as a great power and at the same time to pay for New Jerusalem at home, she had to achieve nothing short of an economic miracle. Such a miracle could only be wrought through the transformation, material and human, of her essentially obsolete industrial society into one capable of triumphing in the world markets of the future."[34] Had all the most powerful groups and institutions in that society enthusiastically been willing to throw themselves behind the process of transformation, it still would have been difficult enough to achieve, given the scale of inherited problems. But instead of such willingness, there existed massive inertial resistance to change, which was so manifest in the history of Briain as an industrial society; a resistance that not even the shock of war had proved strong enough to budge more than a little.[35]

What does this all mean then? First and foremost, it means that the core challenge for America is wholesale abandonment of the post-war free-trade comparative advantage, free-market, and reserve currency doctrines and practices, and their replacement with doctrines and practices fitted for U.S.-China power industry conflict, as discussed ahead.

But the reality is that the preservation of U.S. and allied techno-economic power needs to take center stage in American politics and government. As Chinese scholar Heng-Fu Zou wrote in an article modeling China-U.S. great power competition, "Power is not a neutral consequence of growth, but a strategic externality. As a result, national welfare depends negatively on rival strength, even absent direct miliary confrontation."[36] He went on to argue, "This provides formal justification for industrial policies aimed at limiting rival capacity … These policies are rational from a strategic welfare standpoint, even if they reduce short-run efficiency."[37]

His last point is one that simply cannot be understood by most America economists who see reducing short-run efficiency as the height of economic stupidity.

Compared with China, the Soviet Union was a pre-season warm-up game in the minor leagues. Sure, it had military strength, including a powerful nuclear arsenal. But it's ability to degrade America's techno-economic strength was minimal and its ability to generate its own strength was even less.

At the same time, proactive domestic policies are needed. As Zho has stated, "Without proactive [U.S.] efforts to rebuild internal economic structure—both material (capital, factories, supply chains) and immaterial (skills, institutional memory, R&D ecosystems)—the relative power dynamic will continue to tilt toward China."[38]

Given today's reality of China's rise and America's decline, this should be so obvious that it need not even be stated. But alas, it is not and so it needs to be asserted.

Zou summed it up:

> Strategic rivalry in the 21st century is driven not only by military buildup or ideological narratives, but by underlying economic flows, learning dynamics and structural investments. Geopolitical outcomes are endogenous to trade, production and policy strategy. For the United States, reversing strategic decline will require more than tactical trade defense [e.g., tariffs]; it will require a coordinated industrial renaissance.[39]

This reality should be extremely sobering. Compared with China, the Soviet Union was a pre-season warm-up game in the minor leagues. Sure, it had military strength, including a powerful nuclear arsenal. But it's ability to degrade America's techno-economic strength was minimal and its ability to generate its own strength was even less, even as it engaged in massive IP spying and buying capabilities from the Europeans, who like today, were always willing to make a euro, even if it meant enabling an adversary. Maybe Lenin was thinking of them when he said, "the capitalists will sell us the rope by which we will hang them."[40]

By the early 1980s, U.S. techno-economic dominance over the Soviet Union had become increasingly apparent to U.S. policymakers.[41] As such, that conflict was largely about military capability and convincing the rest of the world that the capitalist, democratic system was

superior to the socialist, authoritarian one. That was as easy as arguing that Micheal Jordan was better than an NBA player coming off the bench. China is the finals of the major league.

EXPLAINING CHINA

What is China? That is the key question to answer.

The Conventional View vs. Reality

Much of the need to adopt a new techno-economic and trade doctrine depends on a simple question of what China is and what it wants to accomplish. The conventional view among most U.S. foreign policy experts is that it is a normal capitalist nation (albeit an authoritarian one) that just wants to develop as other developing nations have; or as some will admit, it just wants to have strategic independence from the United States.

The reality is that view is deeply naïve. The Chinese government is not a "normal" developing nation seeking growth, or even a fifth "Asian Tiger" seeking to rapidly move up the value chain through exports. China is a Marxist-Leninist dictatorship seeking global techno-economic domination by growing its own firms in virtually all emerging and foundational advanced technology industries. The intended casualty is the global market share and even the survival of Western and U.S. firms and industries. China's arsenal includes an array of weapons, including massive subsidies, IP theft, standards manipulation, closed domestic markets, and the incorporation into the Chinese orbit of an array of developing economies.

China is not a free trader or a protectionist, the only categories available for Western discourse. Rather, drawing on historical parallels, namely Albert Hirschman's account of pre-war German economic policy, China's subsidies, market closing, intellectual-property coercion, and overcapacity dumping are neither accidental nor benign. They revive the notion that trade can be weaponized, a concept powerfully elaborated by Farrell and Newman in "Weaponized Interdependence."[42] China is a "power trader" rather than a mere beneficiary of globalization, and that means we need to realign the policy debate toward defense of critical industries that enable national power and away from simplistic free trade versus protectionism binaries.

A key CCP weapon is flooding foreign markets with lower-priced products in order to capture market share from foreign leaders. Many trade experts refer to this process as Chinese overcapacity, as if this is simply an unexpected effect of the various forces at work in the Chinese economy. In reality, product "dumping" is a conscious decision at the core of the Chinese strategy of capturing global market share. Chinese companies are able to price below costs because they are subsidized by the state (and enjoy other cost advantages). And they know that companies in capitalist economies will not have the patience to suffer losses for more than a short period, after which they will cede market share and reallocate their capital to higher profit activities, including going bankrupt and returning capital to shareholders, or if they could get USG approval, selling their assets to a Chinese company. The CCP also knows that, for the most part, foreign governments have neither the fiscal capability nor the political will to subsidize their companies' losses. And so, the bulldozer of value destruction keeps coming.

We have already seen the results in an array of industries, including telecom equipment, commercial drones, solar panels, shipbuilding, bulk chemicals, LCD displays, and many others. And China is continuing to attack across a wide array of industries and technologies, including

semiconductor memory and logic, biopharmaceuticals, fine chemicals, EVs and batteries, quantum computing, AI, aerospace, and others. If the United States, and the West more broadly, allows China to weaken and even destroy much of our advanced industry, America will look like the UK—largely an industrial and technology wasteland—and China will be the most powerful nation on earth, with attendant economic, military, and foreign policy consequences.

China is a Marxist-Leninist dictatorship seeking global techno-economic domination by growing its own firms in virtually all emerging and foundational advanced technology industries. The intended casualty is the global market share and even the survival of Western and U.S. firms and industries.

History has seen other campaigns such as this. From the late 1800s to World War II, Germany illustrated how trade could be weaponized into "an instrument of power, of pressure and even of conquest," wrote the development economist Albert O. Hirschman.[43] Like China, Germany mostly focused on importing goods needed for its war machine, redirected trade to friendly or subject nations and sought to control oceanic trade routes, all in an effort to limit development of its adversaries. Like China, the German government kept its currency undervalued (making its goods relatively cheaper for consumers in other countries), leveraged the use of tariffs and subsidized its exports to bolster its position in industry goods such as steel, chemicals and machinery.

How China Is Different Than America

If China was a "normal" country, focused on democracy, free trade, and generally market-oriented policies, there would be no need for this conversation. But China is not a normal country in the context of most other nations. First, despite what its leaders might present to the West, it is a Marxist-Leninist state.[44] After Deng Xiaoping in the late 1970s, the CCP did not make the fatal mistakes the Soviets made of seeking a command economy where the state allocated resources. But it did not seek a market economy either. The CCP knew and knows what it wants the economy to evolve to—which, frankly, is not hard to know given a more than rudimentary understanding of industry and technology—and it sets directions. But, unlike the Soviets with their central planning from agencies such as Gosplan, the CCP lets companies do the rowing to get to the intended destination. The government's job is to provide companies with a massive amount of help, including weakening their foreign competitors.

Second, China has an overall power industry strategy, as well as scores if not hundreds of strategies for particular industries and technologies (e.g., medical devices). Because of that, most economic players row in the same direction. Local and provincial governments, financiers, companies, and entrepreneurs—they all are attuned to the direction CCP leadership wants them to go and, while there are certainly tensions and often massive waste (which Chinese citizens pay for with their underconsumption), there are also massive victories.

Third, unlike the West, and particularly the Anglo-American West, China's focus is not on the individual. Americans are bombarded on a daily basis with how this or that policy will affect their welfare as consumers ("Trump tariffs will raise prices!"), investors ("Trump tariffs will lower stock prices!"), workers ("AI will kill jobs!"), and residents ("These wind turbines will make noise!"). And the national interest is relegated to the bottom of the list, if it is even considered. Indeed, in this framing, there is no national interest, only the aggregate voices of individual interests as consumers, investors, workers and residents. As such, if something is good for the

nation but raises prices, lowers stock values, eliminates jobs, or disrupts a neighborhood, it is, by definition, bad.

Just as the U.S. economics profession embraced Ricardian trade theory and free-market economics, the U.S. political science profession, especially after the 1950s, embraced the theory of pluralism that held that the public interests was just the amalgam of competing interests. Academics such as Charles Lindblom, David Truman, and Robert Dahl led that charge. When a nation has to operate with those constraints, it is amazing that anything gets done other than what the most powerful forces can force through.

If the United States, and the West more broadly, allows China to weaken and even destroy much of our advanced industry, America will look like the United Kingdom—largely an industrial and technology wasteland—and China will be the most powerful nation on earth, with attendant economic, military, and foreign policy consequences.

On top of that, the overriding U.S. focus is on consumer orientation, what Keynes termed as "more jam today." Harvard's Bruce Scottt wrote in 1997 that "policies that favor consumption, consumer borrowing, and leisure are components of a consumer orientation. Public provision of enhanced economic security is also a consumer-oriented notion; it allows consumers to take less responsibility for themselves, and thus to leverage a given level of income with additional debt."[45] We have only doubled down on that since Scott wrote those words, cutting taxes, massively expanding entitlements, and slashing true public investments. Lots of jam!

China doesn't worry about that. The CCP runs things—not investors, not consumers, not workers, and not residents. Chinese citizens can't vote and have almost no voice in whether the CCP immiserates them in order to win the bigger, longer-term techno-economic war. Take peasants' land to build a port? No problem. Keep the value of the RMB currency low so consumers pay more for imports? No problem. Put the pedal to the metal with robotic and other forms of automation, even if workers lose their jobs? No problem. The CCP doesn't privilege self-interested individuals or organizations over the country as a whole, and as a result, it has much more smooth sailing to boost its national power industries. China has a producer orientation. As Scott wrote about Asian nations such as South Korea:

> [They are]built on the notion of increased resource mobilization so as to have … "more jam tomorrow." Producer-oriented nations favor saving and investment, technology acquisition, and skills upgrading through education and training, all of which imply less jam today as well as more tomorrow. In addition to increased resource mobilization, producer-oriented societies are characterized by market structures—capital, product, and labor—that permit producer institutions, firms, and associations to hold a great deal of power, while restricting that allowed to labor as well as to consumers.[46]

To be clear, the United States should not adopt a repressive government. But Americans need to dial back selfishness and embrace more civic virtue, ending the focus on "more jam today" and replacing it with "more jam tomorrow."

Fourth, while America prioritizes allocation efficiency, the CCP prioritizes effectiveness of actions leading to increased industrial power. American elites see markets as an end because markets optimize efficiency. The CCP sees markets as just one of many tools to achieve its goal: global dominance in national power industries. That orientation is better for winning great power competition because markets are largely indifferent to winning or losing that competition. Markets are not indifferent to maximizing wealth, at least in the short run. But power and wealth are quite different things. And an economy that boasts the world's most efficient personal services, utilities, hotel and lodging, and FIRE (finance, insurance, and real estate) sectors might be the richest. But an economy that can boast the largest national power industries will be the most powerful.

Fifth, a key difference between China and the United States is an obvious one: China is not a democracy. The lack of democratic constraints on government means that the CCP can afford to spend enormous sums (direct and indirect tax expenditures) on supporting Chinese national power industries. Chinese citizens surely have some pain point over taxes, but it is clearly considerably lower than Americans' pain point, as U.S. voters will go the ramparts if the gas tax is even indexed to inflation or if a politician even says they have considered a minor reduction in entitlements.

America needs to stop focusing on "more jam today" and instead focus on "more jam tomorrow."

Sixth, like the Asian tigers (e.g., Hong Kong, South Korea, Singapore, Taiwan) Chinese officials are steeped in the discipline of industrial and technology policy. Yes, there is scholarly industrial policy discipline to study, and it is largely ignored in the Anglo-Saxon and most European nations. However, Chinese officials study it intently. Most have read the "Adam Smith" of national developmentalism, Friedrich List, even if few American economists even know who he is.[47] In contrast, the level of education and knowledge of national developmentalism in the United States is minimal, with national policymakers usually having backgrounds in law. And economics does not involve the study of industry or technology, but rather how price-mediated markets work. And elite economists and policymakers look with disdain at the field of industrial policy and national developmentalism, if they even deign themselves to notice it at all.

Seventh, Chinese governments support industrial policy research and analysis. The USG does not, and its economic statistics and technology system is designed to support market analysis and business cycle management, not power industry policy. And of course, every year, this system gets weaker with budget cuts.

China also has a multitude of different agencies and bureaus to implement power industry policies. And we see that with the range of sophisticated techno-industrial policies, including China's large and well-funded network of manufacturing innovation centers.[48] The United States has barely a few, some at the National Institute of Standards and Technology (NIST) and DOD, but that is about it.

Eighth, China sees itself in great power industry competition. Party congresses focus on this. Party newspapers constantly discuss it. Chinese leaders constantly discuss it. The United States largely does not. Most of the U.S. trade experts see trade as Ricardian win-win with countries not competing with each other. Trade policy is to reduce barriers to let markets become more

efficient. To the extent elites consider U.S. competitiveness, most believe that we are far ahead of the Chinese and always will be because market economies produce superior outcomes compared with state-directed economies. Or, like Paul Krugman and so many other conventional economists, they deny that the United States competes at all with other economies. Hot-button issues of abortion, immigration, culture wars, health care, and the like, as well as inflation and stock prices, take up the attention of most U.S. policymakers.

Ninth, Chinese officials are pragmatic. If letting companies have more leeway achieves CCP goals, they are for it. If winning requires more state involvement or even control, they are for that. In contrast, it is U.S. officials who are the ideologues. The CHIPS Act is opposed by the Right because it is too much government involvement. The Left opposes it because it commits the sin of helping corporations. Trump's efforts to take equity share in companies are opposed, not because it might not lead to increased national power, but because it violates free-market principles.

This ideological nature of U.S. thinking is why so many U.S. experts disparage China, as well as the very need for national power industries. If national power industries are important and if China is outperforming the United States, that poses a direct challenge to current trade and economic ideologies. This is why so many pundits have been arguing that we have seen "Peak China." That way "nothing to see here, move on." No need to do the painful examination of whether our current system works or needs a historic transformation.

But Peak China is a fantasy; nothing could be farther than the truth. The demographic challenge they point to won't really kick in for another decade or so as smaller, younger cohorts move into mid-career roles. Besides, there is every reason to expect that Chinese productivity growth will continue to outpace population decline, as well as U.S. growth rates. The same with the housing bubble-induced fiscal crisis. That is a business cycle challenge, not a growth challenge. Brooks and Vagle dismiss China's techno-economic challenge because U.S. companies account for a larger share of global profits than Chinese firms.[49] But that is misleading for two reasons. U.S. profits overseas, especially in China, provide little in the way of national power. Second, low profits are a CCP tactic that lets Chinese firms gain global market share. Indeed, as a McKinsey Global Institute report points out, "Simply put, US manufacturing companies are expected to produce higher returns on capital than their competitors in the OECD and China."[50]

If national power industries are important and if China is outperforming the United States, that poses a direct challenge to current trade and economic ideologies.

Some rightly point out that CCP has its own innovation bottlenecks—constraints in extreme-ultraviolet lithography, gallium nitride substrates, or advanced gene-therapy commercialization—that could limit Beijing's ability to sustain techno-war pressures. There is no question that this is true. China is not all-powerful. But the CCP is making massive efforts to either replace Western capabilities or innovate around them with fundamentally new-to-the-world capabilities.

Tenth and finally, China's rulers are much more unified on national goals. While there are divides within the CCP, although they are likely fewer after Xi's purges, the divides are not really about overarching goal. That remains, as China scholar Orville Schell wrote, wealth and power. In this case, the power of being a rich global hegemon dominating advanced industries.[51] Any

differences are about how to achieve that goal, with XI and his faction focused more on techno-economic aggression while any reformers still left focused on using slightly less aggressive policies so as to reduce Western pushback.

National Goals

There used to be more unanimity around U.S. national goals, which changed and emerged after each major historical pivot. In his book *Doing Capitalism in the Innovation Economy*, Bill Janeway discussed how America had national missions from its founding: the Hamiltonian mission of building the country to be independent of England, the mission from Lincoln to FDR to become a great world industrial power and tying the country together, and the post-World War II Soviet containment mission through military offset technology.[52] During the Cold War, there was broad-based bipartisan consensus about not letting the Soviets win, with some seeking a Kenan-like containment and others seeking a Reagan-like victory. But the goal was the same.

Today, America no longer has a unifying national mission or interests to rally around other than, for the Right, freedom, and for the Left (along with many on the "New Right," such as American Compass), equity and redistribution. And for many, the dominant mission now is fighting climate change. For others, it is fighting against the takeover of the world by super AI. And overall, self-interest not only runs amok, but also has become the new civic religion. China doesn't care about any of these matters. It is time for another historical pivot point when America's new national mission becomes not losing the national power industry war to China.

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As discussed in the next section, there is considerable difference of opinion among U.S. foreign policy experts regarding China's goals, and even fundamental nature, and as such a variety of strategic directions for the United States are offered. To the extent experts acknowledge China's power industry actions, the consensus view is that the CCP is focusing on advanced industries either because they simply want to catch up to the West as any developing nation wants to do or they are reacting to Trump's trade aggression and therefore are seeking to legitimately derisk from the United States. Likewise, the consensus view is that the CCP is seeking a seat at the global table in order to influence global issues. Finally, many experts see the CCP as being more capitalist than communist, and that, as such, it is more of a "normal" country than a Marxist-Leninist one.

There are two principal problems with the consensus view. First, the view is likely wrong, stemming from a combination of wishful thinking and long-term intellectual commitments to positions held years if not decades ago but are now outdated. The view that the CCP is truly a Marxist-Leninist regime seeking to be the global hegemon and impose its governance structure on the world is actually likely to be the more accurate one. Second, even if the odds are that the consensus view is the correct one, especially that China is not seeking power industry dominance, it leads to a set of policies that, if right, can lead to an adequate outcome, but if wrong, to U.S. decline and subservience. If this is the case, it makes the struggle for global advanced industry leadership not only more important, but also central to the outcome.

Finally, some believe that China has no desire or interest in having its power industry firms replace U.S. (and allied) power industry firms because then the CCP would have no leverage over our firms because there would be vastly fewer firms that buy from China. But this misses the point. The point is CCP leverage over the nation as a whole, and if it controls power industries, it has enormous power over Western nations.

To better understand the CCP, we can look both at what the CCP says, especially domestically, and what the CCP does in terms of its national power industries' policies.

What the CCP Says

Ultimately, only time will tell which view is correct. But one insight into which is correct—China as a normal developing country or China as a hegemonic Marxist-Leninist regime set on global dominance of national power industries—is to review CCP writings and speeches. As Charles Parton wrote for the U.K. Council on Geostrategy:

> The CCP puts out two types of narrative. The first it terms 'foreign propaganda' [外宣], the language of 'win-win', 'community of shared destiny for mankind', and the Global Development, Global Security, and Global Civilisation initiatives. The second narrative is what it puts out to party members for guidance and reassurance. It is this which better represents its true intentions and therefore to which foreign governments should pay attention.[53]

Perhaps the best analysis of these documents and statements comes from Daniel Tobin, professor of Practice at the U.S. National Intelligence University. In a May 7, 2025, article entitled "The Persistent, Soaring Ambitions of Xi Jinping's 'New Era' for China, Socialism, and the Globe," Tobin analyzed party documents, including Xi Jinping speeches and statements.[54]

He wrote:

> In recent years, a growing number of external observers have rediscovered the value of CCP leadership speeches and policy documents as a vehicle for understanding the PRC's intentions and actions. This is indeed the correct starting place. Owing to the CCP's Leninist heritage, it uses ideology expressed in these venues as its instrument to depict, modify, and mobilize around its long-term goals, view of the external environment, and the policies designed to navigate toward its objectives.[55]

His analysis suggests that the U.S. consensus view of China is wrong, and that indeed the CCP is a Marxist-Leninist party intent on advancing socialism globally against Western capitalism and democracy. He quoted Chinese Leader Xi: "The very purpose of the Party in leading the Chinese people in revolution, development, and reform is to make the people prosperous and the country strong, and rejuvenate the Chinese nation." Parton added:

> Since 1992, the CCP's constitution has maintained that: "The general starting point and criteria for judging each item of the Party's work are that it must benefit the development of the socialist productive forces, be conducive to increasing socialist China's comprehensive national power, and help to improve the people's living standards."

> Comprehensive national power, then, is both an end and a means to achieving the PRC's overall goal of "national rejuvenation" become "a country with leading comprehensive national power and international influence."
>
> In other words, the goal is not just to become a developed, modern strong country in absolute terms, but also a leading country in comparison with others.[56]

But the consensus view is that China just wants to be strong, just as any large developing country wants to be. But Tobin disagreed:

> Indeed, while some external observers have rushed to point out that the official translation says a global leader not the global leader, it strains credibility that, already seeing itself as the number two power in the world as measured in computations of comprehensive national power, Beijing's goal could be to work hard for several decades only to remain number two. In specific areas of international competition including economics, science and technology, innovation, and military capabilities, Xi repeatedly talks about "seizing the initiative," and for and the need for China not to miss another historical opportunity to assume leadership. Indeed, a 2021 *People's Daily* editorial under the pseudonym "Manifesto" (宣言), which Beijing has used several times to express the ambitions of the new era, maintains that "Gaining the upper hand in the competition of comprehensive national power is the key to national rejuvenation."[57]

He then wrote:

> Yet from Washington's standpoint it ought to matter that Xi has been relentlessly consistent in framing the PRC as engaged in a systems contest with capitalism, where the CCP's ability to navigate China to the status of the leading country in the world has implications for the rivalry between socialism and capitalism.[58]

In his 19th Party Congress speech, Xi famously declared about the new era:

> It means that scientific socialism is full of vitality in 21st century China, and that the banner of socialism with Chinese characteristics is now flying high and proud for all to see. It means the path, the theory, the system, and the culture of socialism with Chinese characteristics have kept developing, blazing a new trail for other developing countries to achieve modernization. It offers a new option for other countries and nations who want to speed up their development while preserving their independence: and it offers Chinese wisdom and a Chinese approach to solving the problems facing humanity.[59]

Tobin went on to argue that "Xi Jinping, from his first days in office, has continued to underline these arguments for remaining committed to socialism; yet he also returned to the arguments about socialism's inevitable international triumph that had not been emphasized since the Mao era."[60]

What is troubling is that most U.S. foreign policy experts don't seem to take Xi seriously, assuming that he is simply mouthing Marxist-Leninist platitudes for the party faithful and doesn't

really mean it. This may be in part because they believe that only countries such as North Korea and the former Soviet Union are/were really Marxist. For them, "socialism with Chinese characteristics" is a slogan the CCP proselytizes to pacify the masses.

Most U.S. foreign policy experts don't seem to take Xi seriously, assuming that he is simply mouthing Marxist-Leninist platitudes for the party faithful and doesn't really mean it. For them, "socialism with Chinese characteristics" is a slogan the CCP proselytizes to pacify the masses.

Yet, as Tobin wrote, "In what would become a famous speech to party cadres at the provincial and ministerial level in early January 2013, underscoring the party's commitment to the socialist project, Xi frames the contest as one of systems rivalry with capitalism, a contest in which China is behind but will catch-up."[61]

Tobin recounts that Xi stated:

> Reality has proved again and again that Karl Marx and Frederick Engels' analysis of the fundamental contradiction in capitalist society is not obsolete, nor is the viewpoint of historical materialism that capitalism is doomed to failure and socialism will prevail. It is an irreversible trend of social development, but the process will be tortuous. It will be a long process that leads to the demise of capitalism and the victory of socialism. We must understand in depth the self-regulating capacity of capitalist society and fully recognize the objective reality that developed Western countries will dominate the economic, scientific, technological and military fields for a long time. We must prepare ourselves for long-term cooperation and rivalry between the two social systems.... The most important thing is that we focus on our development to increase our comprehensive national power, improve our people's lives, and develop socialism that has more strengths than capitalism, so as to lay a solid foundation for us to seize the initiative, win the competitive edge, and secure our future.
>
> Our continued success in adapting Marxism to the Chinese context and the needs of our times has enabled Marxism to take on a fresh face in the eyes of the world, and significantly shifted the worldwide historical evolution of the contest between the two different ideologies and social systems of socialism and capitalism in a way that favors socialism.

Tobin went on to note, "Further, Beijing maintained, owing to the PRC's success, Xi Jinping Thought is: 'the Marxism of contemporary China and of the 21st century'."[62] What could be clearer than this?

The key point of Tobin's argument is thus:

> The thumbnail depiction common among US based China specialists that describes Beijing's goals as 'regional dominance and global influence' undersells and does not comport with either Xi Jinping Thought or the PRC's actions. On the contrary, Beijing has made it clear under Xi Jinping that it seeks a place of global leadership where the PRC's proposed solutions to global problems and vision for the global order prevail.... Beijing makes clear that attaining the CCP's objectives

> for the Chinese nation requires the construction of the global order along the lines the CCP favors.[103]

It is risky to ignore the written words laying out the foreign policy goals of dictators, as Stalin learned to his dismay with Adolph Hitler, who in 1925 laid out in *Mein Kampf* (My Struggle) his goals of *Lebensraum* (living space) in the east and destroying Soviet communism.

This is not simple economic competition, the frame that U.S. analysts, including economists, embrace. This is conflict between adversaries.

As this all relates to national power industries, Tobin wrote, "The PRC further sees these technological frontiers as both an opportunity to seize the leading global position and shape how emerging norms and standards are set."[63] And this is not simple economic competition, the frame that U.S. analysts, including economists, embrace. This is conflict between adversaries. Tobin also wrote that Xi "talks about the "great struggle" (a CCP euphemism for the systems contest with Western capitalist democracy), and trumpets "We must maintain strategic confidence and strengthen our fighting spirit."[64]

In summary, Tobin wrote:

> We ought to be able to put to bed suggestions that Beijing's ambitions for its place in the world are regional (with merely "global influence" as the goal). Rather, the CCP's vision is that its ideas and solutions become the foundation for the future global order and underpin the future of a deeply interconnected world and the future development of humanity as a whole. If there remained any doubts about the scope of US-PRC strategic rivalry, the 20th Party Congress and its aftermath should have answered them.[65]

Charles Parton, a former British diplomat, made similar points. He wrote that, to replace the United States as the world's leading superpower:

> [T]he CCP under Xi sees itself engaged in a fierce 'struggle' against 'hostile foreign forces'. For all its accusations that 'certain countries' are guilty of a 'cold war mentality', the CCP itself is in no doubt that this is a cold war— and an ideological one. As Xi has said, 'competition between systems is an important aspect of competition for comprehensive national power', and the dominance of a system gives a country the dominant position in winning the 'strategic initiative.'[66]

He went on to quote one CCP official: "International struggles are becoming increasingly fierce, and system confrontation has become a prominent feature of the game between major powers. The US suppression [of us] is a major threat but [our struggle with the US] is both a skirmish and a protracted war."[67]

He cited another CCP official with a similar tone of belligerency: "The strategic contest between China and the United States is bound to last for a long period of time, for which we must be fully prepared ideologically and work."[68] He discussed how the minister of Science and Technology wrote in the *People's Daily*, the CCP's newspaper:

> [T]he scientific and technological revolution and the contest between major powers are intertwined; the high-tech field has become the forefront and main battlefield of international competition, profoundly influencing the global order and development pattern…the competition between countries is a competition of strength. What is crucial is the competition of scientific and technological innovation capabilities. The underlying contest is about whose system is superior.[69]

As such, the CCP sees technology as a core component of national power. Parton went on to discuss how:

> Influential commentaries and articles in party media at the time of the First Session of the 14th NPC in 2023 made that point clearly: To a certain extent, those who gain access to the internet will gain the world. Seizing the historical opportunity of the information revolution is a major strategic decision related to the construction of a strong country and national rejuvenation. Core technology is an important weapon for the country….Only by holding key core technologies in our own hands can we fundamentally guarantee national economic security, national defence security, and other security.[70]

In "A Vision of Success in the U.S.-China Rivalry: The Technological Competition," Michael J. Mazarr, senior political scientist at the RAND Corporation, wrote:

> There can be little doubt that Beijing aims to be the unquestioned global leader in a whole series of science- and technology-based industries, from 5G and renewable energy to electric vehicles and biotechnology. (In parallel, it is seeking dominance in less technologically cutting-edge industries such as shipbuilding.) How precisely China defines success in these terms is not clear, although in some cases, such as solar panels, it has achieved something close to a global monopoly position in manufacturing, and in 5G China was apparently seeking to position Huawei similarly as the overwhelmingly dominant global actor. This position of technological overmatch would consequently provide Beijing with tremendous leverage in its broader effort to achieve global leadership. China's favored end state in the technology competition therefore envisions overall supremacy in many critical fields, all of which can be employed for broader geostrategic effect.[71]

We see this focus on influence and struggle in terms of how the CCP conceives of industry. Whereas U.S. thinkers see economic policy as enabling allocation efficiency with no other industry more important than another, CCP officials have a different view. An interview with Lu Feng, a leading professor at Peking University's School of Government, specializing in industrial policy, technological innovation, and development, gives a sense of this difference.[72] In the interview, cross-posted in the Substacks *High Capacity* and *Sinification*, Feng argues that China needs even more industrial development because it is a "strategic asset."[73]

According to interviewers Kyle Chan and colleagues, "Lu Feng argues that China's industrial base is its 'greatest source of strength" and a "strategic asset" akin to U.S. dollar hegemony or Russian oil and gas."[74]

Professor Wang Yu of the Nanjing University Business School said the same in March:

> The essence of competition among major countries is scientific and technological competition … The strategic value of strategic emerging industries and future industries lies in their fundamental impact on the future industrial status of various countries, reshape the international division of labor, and enhance national discourse power.[75]

Whereas U.S. thinkers see economic policy as enabling allocation efficiency with no other industry more important than another, CCP officials have a different view.

The CCP laid out its game plan in China's Made in China: 2025 plan that calls for China to become a global advanced manufacturing "powerhouse."[76] The plan stated:

> Since the beginning of industrial civilization in the middle of the 18th century, the history of the rise and fall of world powers and the history of the struggle of the Chinese nation has repeatedly proved that without a strong manufacturing industry, there will be no country and no nation. Building an internationally competitive manufacturing industry is the only way China can enhance its comprehensive national strength, ensure national security, and build itself into a world power.
>
> It must look to the world, step up strategic deployment, focus on building a manufacturing powerhouse, shore up its roots, and turn challenges into opportunities to seize the commanding heights of a new round of competition in the manufacturing industry.
>
> By the 100th anniversary of the founding of New China, the country's status as a manufacturing industry power must be consolidated, and its comprehensive strength must enter the forefront of the world's manufacturing powerhouses. The main areas of the manufacturing industry must be innovation-led with obvious competitive advantages, and we will build a world-leading technology system and industrial system.

China's National 13th Five-Year Plan for the Development of Strategic Emerging Industries also gives several indication of the CCP's intention dominate power industries, including:

> Industry innovation capabilities must rank first globally, forming first-mover advantages in several major sectors.
>
> By 2020, … the self-sufficiency rate for major key materials reaches over 70% to initially realize the strategic transformation of China from materials power to materials superpower.
>
> Promote domestic enterprises and Chinese-foreign enterprises in jointly developing international markets, support the "going global" of the supply chain to feed high-quality assets, technology, and management experience from "going global" back to China and form comprehensive competitive advantages.[77]

Chan wrote:

> The US-China rivalry ultimately as a contest between two systems: China's "industrial socialism" and America's "financial capitalism." The US was once an industrial powerhouse like China today with half of global production and an "arsenal of democracy" that changed the course of World War II. But, in a critique with strong political resonance within the US, Lu Feng says the US economy became increasingly "financialized," dominated by the short-term interests of Wall Street investors, causing America's industrial base to atrophy. In contrast, China's socialist system ensured that financial resources would be directed toward supporting the "real economy" and steer China away from the standard path of deindustrialization.[78]

China is working on a Made in China: 2035 plan that aims to surpass the United States in all advanced production industries. Lu Yongxiang, former vice-chairman of the National People's Congress, in a commentary published in 2024 in the "Chinese Journal of Mechanical Engineering" stated, "It is estimated that by 2035, 'Made in China' will surpass the United States and become the global leader."[79] He went on to note, "'Irreversible US production declines amid an expanding Chinese economy will thrust world into a new era." Note "U.S. declines" and "new era." The CCP knows that its effort to lead the world cannot come without absolute U.S. decline in advanced industries. And the new era refers to an era in which China is dominant.

And as Xi Jinping has stated, "Technological innovation has become the main battleground of the global playing field, and competition for tech dominance will grow unprecedentedly fierce."[80] Note the terms "battlefield" and "dominance." Likewise, as a CCP report titled "General Laws of the Rise of Great Powers" states, "Becoming a major manufacturing power provides crucial security for the goal of realizing the Great Rejuvenation of the Chinese Nation."[81]

In an article in state-run publication, the author wrote:

> 'Advancing Chinese-style Modernization Requires Handling Several Major Relationships Well,' General Secretary Xi Jinping pointed out the need to 'strengthen national strategic scientific and technological capabilities, guided by national strategic needs, focus on original and leading scientific and technological research, and resolutely win the battle to overcome key core technologies.[82]

Likewise, in the CCP-controlled publication *Peoples Forum*, Wei Ziping, a teacher at the School of Public Administration and Law, Anhui University of Technology, wrote in 2023 that China needs to "accelerate progress toward our goal of leading the world in key core technologies, build China into a global power in science and technology, expand the space for Chinese-style modernization through institutionalized, high-level openness and cooperation, and realize the Chinese Dream of the great rejuvenation of the Chinese nation."[83]

One leading Chinese scholar spoke at a major conference, "The competition for the Fourth Industrial Revolution will be held between China and the US. But America also suffers from the diseases of neoliberal politics. Its prospects are not bright. For China this once-in-a-century race is an opportunity."[84]

Former Deputy National Security Advisor Matt Pottinger describes a meeting during the first Trump administration with Chinese Premier Li Qiang in Beijing:

> Addressing Trump from across the table, Premier Li painted a menacing picture of the not-so-distant future. China, he said, would completely dominate this century's most important technologies, including artificial intelligence. The world would become more dependent on China than ever before. The United States, Li said, was destined to export little more to China than soybeans and corn. To add insult to injury, Li said Beijing would purchase substitutes for U.S. agriculture if the Communist regime was unhappy with Washington for one reason or another.[85]

Maybe this was bluster, or maybe he was turning over this cards to show the CCP's hand.

Either way, there is increasing evidence that China is preparing for a major external crisis; what Xi calls "extreme-case" situations, or "jiduan qingkuang." Whether that is war, we do not know.[86] What Rand Scholar Jimmy Goodrich calls China's "fortress economy" involves both defense and offense.[87] None of this is the language of nation seeking to just move up the development ladder; it is language of power and domination.[88]

The CCP knows that its effort to lead the world cannot come without absolute U.S. decline in advanced industries. And the new era refers to an era in which China is dominant.

CCP leaders are savvy enough to not explicitly show their hand, at least in venues that Westerners are likely to come across. After many nations expressed alarm, CCP officials understood that they were in error when they were so explicit about their goals for industrial power in Made in China: 2025. Shortly thereafter, Chinese leaders quietly dropped most if not all references to it, even as they doubled down on its implementation.[89]

But that does not mean that it is still not their strategy. The title of Rush Doshi's book, *The Long Game: China's Grand Strategy to Displace American Order*, says it all. This is not just about China rising, but also about China displacing the United States and other Western leaders, and the techno-economic battlefield is where much of the conflict will be fought. He writes that China's strategy is to displace the United States, including in the techno-economic sphere, and it uses predatory practices to accomplish that.[90]

U.S. Secretary of State Marco Rubio issued a report when he was the chair of the U.S. Senate Committee on Small Business and Entrepreneurship, concluding that China was doing more than "breaking the rules" to dominate high-value industrial sectors.[91] This helps explain why, despite a highly polarized political climate, Congress managed to pass the CHIPS and Science Act, which invests billions of dollars to support new semiconductor factories in the United States. Nothing promotes unity like a shared and frightening enemy.

In a report for the Hoover Institution—"Economic Statecraft: The Need For An Integrated Approach"—H.R. McMaster and Andrew Grotto discussed the need for the USG to "exercise broad discretion to intervene in the economy to address a threat emanating from overseas (e.g. China)."[92] It rightly argues:

> US administrations consistently undervalue the degree to which strategic application of economic power is essential for advancing US vital interests…The United States must act to counter Chinese economic aggression—nonmarket

> actions intended to harm American companies, impair US manufacturing, or coerce the United States and its allies.[93]

In *Getting China Wrong,* Princeton University scholar Aaron Friedberg argued that:

> Growth and development have not caused China's rulers to relax their grip on political power, abandon their mercantilist economic policies, or accept the rules and norms of the existing international system. To the contrary: China today is more repressive at home, more aggressive abroad, and more obviously intent on establishing itself as the world's preponderant power than at any time since the death of Chairman Mao.

Likewise, as Fredberg noted, "The key to understanding Xi's economic policies is to recognize that they are principally about power, not prosperity. He will almost certainly forge ahead toward concentrating the world's industrial power within China."[94] He went to write:

> Rather than letting the free play of market forces and the principle of comparative advantage determine the international distribution of industrial capacity, it seeks deliberately to build "national champions," helping them to acquire and "indigenize" critical technologies and supporting their efforts to dominate domestic and global markets for cutting-edge products.[95]

Finally, an anonymous author of an Atlantic Council report entitled "The Longer Telegram" warned that implementing an effective China strategy would "require a firm understanding of Xi's strategic objectives, which include the following: leapfrog the United States as a technological power and thereby displace it as the world's dominant economic power."[96]

China follows a predictable playbook for trying to dominate advanced industries.

What the CCP Does

Even with what should be compelling evidence of the CCP's intent, there will be those who say that these words are for internal consumption and don't reflect the CCP's external goals. Or that these translations make subtle but important mistakes that distort meaning. To those, I would argue, look at what the CCP has been doing.

China follows a predictable playbook for trying to dominate advanced industries. The first step is to attract foreign investment. In the early 1980s, when Deng Xiaoping opened up the Chinese economy to foreign investment, his main economic development strategy sought principally to induce foreign multinationals to shift relatively low- and moderate-value production to China.[97] China is still trying to do that today with emerging industries, seeking, for example, to attract global biopharmaceutical companies to build facilities in China.

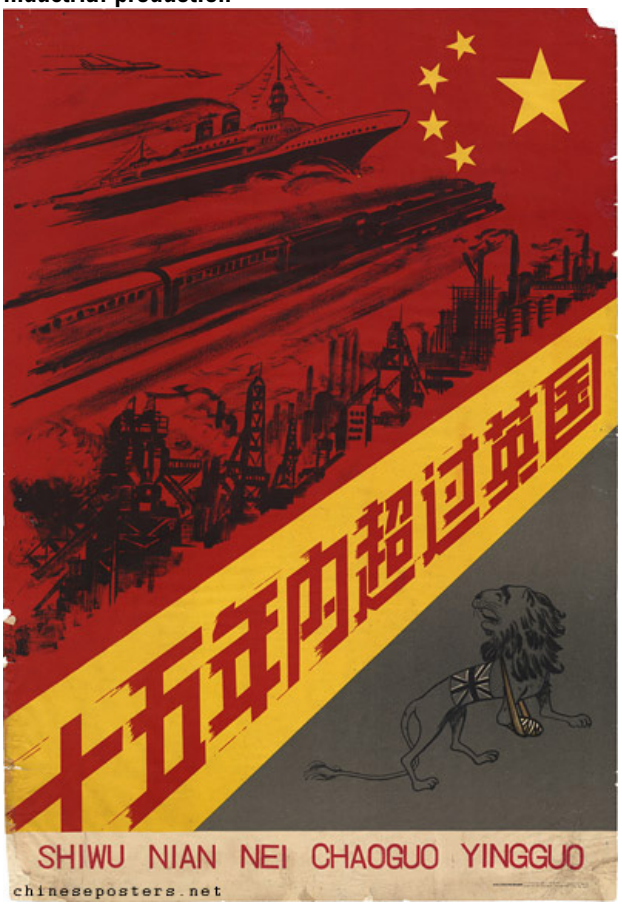
China's second step is to attempt to learn from foreign companies, in part by having them train Chinese executives, scientists, and engineers, and also by forced technology transfer, including through joint ventures. In 2015, 6,000 new international joint ventures, amounting to $27.8 billion in foreign direct investment (FDI) inflows, were established in China.[98] And the sophistication and value of the technology the Chinese government has demanded is high. As the United States Trade Representative's (USTR's) Office pointed out in its 2018 Special 301 report

on China, pressures on U.S. companies to form joint ventures and transfer technology "is particularly intense."[99]

The third step is to support Chinese companies in their efforts to copy and incorporate foreign technology while building up domestic capabilities. One important marker for the transition from stage two to stage three was the publication in 2006 of the "National Medium- and Long-term Program for Science and Technology Development (2006–2020)," which called on China to master 402 core technologies—everything from intelligent automobiles to integrated circuits and high-performance computers. China moved to a "China Inc." development model of indigenous innovation, which focused on helping Chinese firms, especially those in advanced, innovation-based industries, often at the expense of foreign firms.

The fourth step is to enable Chinese firms to become independent innovators. China is attempting to do this through an array of plans and policies: "13th Five-Year Plan for Science and Technology," "13th Five-Year Plan for National Informatization," "The National Cybersecurity Strategy," and "Made in China 2025 Strategy," and most recently Xi Jinping's call at the 20th Party Congress for "invigorating China through science and education ... for the strategy of innovation-driven development."[101] A key part of this step is to squeeze out the foreign companies that they had initially invited in. The Chinese market essentially becomes dominated by Chinese-owned firms. We have seen this an array of industries, including chemicals, telecom equipment, heavy construction equipment, high-speed rail, and renewable energy.

Figure 1: 1958 CCP poster exhorting Chinese workers and companies to "surpass Britain in 15 years" in industrial production[100]



The CCP then carves out and preserves the Chinese market for Chinese firms. For example, the Chinese government included 57 domestic auto battery makers in the catalog, meaning that foreign giants such as Samsung, LG, and Panasonic were excluded.[102] This demonstrates how China protects its domestic champions while they build capacity for international expansion.

The final step is to support these companies "going out" and taking market share in other parts of the world. Unfortunately, for gaining political support for a robust U.S. strategy to respond to China, the United States is among the last places Chinese firms will seek to enter. Rather, they are going after market share in places such as Latin America, Southeast Asia, Africa, and Eastern

Europe, the "soft underbelly" of global markets. As their firms gain market share, Western—including U.S.—firms, lose market share, and tipping points can happen quite quickly.

Chinese Subsidies

China backs this all up by massive subsidies to its industries. Firms often have to compete in "unfair" markets, if only because many factors affect the value of currency. Hence, firms can find themselves with an uncompetitive cost structure in global markets even though they are doing everything right. But leaving this aside, firm competition plays out through several key factors, with price and quality being the most important. If one firm is provided subsidies (including a devalued currency), it has—all else equal—a competitive advantage over its foreign competitors that receive limited subsidies. The firm can use that advantage to cut prices and gain market share. It can boost its scale and learning economies. Or it can invest those subsidies in R&D and other areas to boost quality and innovation, again taking market share from its competitors.

China's subsidies are on steroids because of the intense competition for industry between its cities and provinces, which shell out massive funds to support local champions. And it ignores the supposed WTO disciplines on subsidies.

While a number of nations have relied on many forms of subsidies (low corporate taxes, tax incentives, grants, subsidized costs of inputs such as energy, and a suppressed value of their currency), by and large, the scale of the subsidies is usually limited, often by domestic political pressures from voters demanding lower taxes or higher spending to directly benefit them. At the same time, many Western nations implement various subsidy-limitation measures because they want competition to be on a level playing field. But China is exempt from all of those limitations. China's subsidies are on steroids, in part because of the intense competition for industry between its cities and provinces, which shell out massive funds to support local champions. And China flouts the flaccid WTO disciplines on subsidies.

The magnitude and extent of Chinese subsidies have been widely documented. Though dated, Haley and Haley's book *Chinese Industrial Subsidies* documents just how sizeable these were and the role they played in enabling China to gain global market share in the 2000s. More recently, Center for Strategic and International Studies (CSIS) found, "Even using a conservative methodology, China's industrial policy spending is enormous, totaling at least 1.73 percent of GDP in 2019. This is equivalent to more than $248 billion at nominal exchange rates and $407 billion at purchasing power parity exchange rates."[103]

A new study from a German institute estimates, "Overall, industrial subsidies in China are several times higher than those in large EU and OECD countries. The size of the estimated difference ranges from a ratio of at least three to four in conservative estimates to a ratio of as high as nine in more encompassing studies."[104]

In 2022, 99 percent of listed firms in China received direct government subsidies. For example, the German study finds that Chinese EV maker BYD has received over $3.7 billion in subsidies. Overall, in 2019, Chinese industrial subsidies were 4.5 times greater than the United States as a share of GDP, and that is accounting for the U.S. subsidies related to national defense and government support for scientific research.[105]

Hand in hand with subsidies are market access restrictions. The first directly helps a domestic company gain market share; the second helps indirectly by reducing the market share of a foreign competitor and increasing that domestic firm's share. For example, when the Chinese government tells its state-owned telecom providers to stop using American computer chips in their systems, it weakens companies such as Intel and AMD while strengthening Chinese companies such as SMIC.

China's massive size means that it an and is seeking competitive advantage in every technology, current and emerging. In comparison, Japan in the 1980s and 1990s sought and gained advantage in significantly fewer sectors (e.g., consumer electronics, steel, autos, and chemicals). This size also means that because China manages its market and limits foreign sales once its firms get to a certain scale, Chinese firms are blessed with massive, largely secure market revenues, and this includes massive government subsidies.

In addition, the scope of state power to punish foreign firms and favor domestic ones is unprecedented. By cutting off foreign firms (or reducing their China revenue) while bestowing lavish benefits on its own firms, Chinese firms are able to sell below cost for many years, if not decades, all with the goal of taking market share away from global leaders. Japanese firms also did that, but to a much more limited extent.

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China's Wage Suppression and Productivity Promotion

One reason why international trade theory holds that low-wage countries won't dominate global trade because of their low costs is that they also have low productivity. Thus, when pundits warn that the United States can't compete with low-wage nations because of our higher labor costs, they are ignoring the fact that what matters is productivity-adjusted labor costs.

And it is a normal pattern of development that labor costs in virtually all countries tend to track labor productivity quite closely. According to Claude AI, there is a 0.88 correlation between labor costs and national labor productivity, just as we would expect. The average ratio of wages to productivity for 42 countries is 0.51, and in the United States it is 0.53, whereas in China it is just 0.24. In other words, if Chinese wages were half of Chinese productivity levels, as is the case in virtually all other nations, then wages in China would be twice as high, significantly reducing its competitive advantage in global markets.

One recent study examined five manufacturing industries, including electric vehicles, shipbuilding, and steel and argued that for a variety of reasons the Chinese government undercounts industry productivity.[106] The author found that physical output per worker averaged 2.4 times higher than U.S. output per worker, and value-added per worker was 20 percent higher, on average. Assuming that the value-added measure is a more accurate, apples-to-apples comparison, this means that China's cost-to-productivity ratio is between 6 and 12 times greater than the U.S. ratio, given that Chinese workers earn around 20 percent of U.S. workers' wages in dollar terms. This suggests that China is breaking the historical model for developing nations, where wages track productivity. The PRC is making sure that the benefits of productivity don't go

to Chinese workers but rather to foreign consumers who can buy cheaper products, with the goal of driving foreign producers out of business. This is consistent with a longstanding CCP pattern of giving short shrift to nonmanufacturing productivity growth and instead maintaining a laser-like focus on raising productivity in manufacturing.

While up-to-date quantitative data is not available, it is clear that China is doubling down on this approach in manufacturing. ITIF has calculated that, in 2021, China had 12 times more robots in use per manufacturing worker as did the United States when controlling for wage levels (higher-wage nations should have more robots than should low-wage nations).[107] In 2022, China had 59 percent more robots per manufacturing worker than did the United States.[108] And it installed more robots than the rest of the world combined did.[109] It is encouraging highly automated factories, including so-called "dark factories" with very few workers. This suppression of manufacturing labor costs coupled with acceleration of manufacturing productivity through automation appears to be gaining in focus in China, and is a powerful weapon for gaining global market share.

The PRC is making sure that the benefits of productivity don't go to Chinese workers but rather to foreign consumers who can buy cheaper products, with the goal of driving foreign producers out of business.

China's "Going Out" Strategy

As noted, the CCP knows that if it clearly articulates its techno-economic war strategy that it will mobilize both defensive and offensive reaction from the West. And so, of course, it does not. But one way we can get a sense of it is by examining China's global business expansion strategy. If China were only focused on gaining self-reliance from the United States it would be much less focused on gaining global market share.

China's "Going Out" (走出去) policy is a comprehensive government strategy launched in the early 2000s to encourage Chinese companies to expand internationally. The government encouraged companies to "go further outwards" (Jinyibu zouchuqu) in its 11th Five-Year Plan (2006–2010). Government policies encouraged Chinese state-owned enterprises (SOEs) and private enterprises to pursue investments in markets around the world, resulting in the internationalization of SOEs. The government specifically uses SOEs as vehicles for international expansion, providing them with preferential treatment and resources.

China's sovereign funds have also supported efforts to Go Out, including by helping Chinese enterprises finance mergers and acquisitions abroad. In 2015, for example, China Investment Corporation turned one of its divisions into the wholly owned subsidiary CIC Capital. This provided Chinese companies with massive capital backing for overseas acquisitions.

And of course, its Belt and Road Initiative (BRI) represents the most ambitious manifestation of the Going Out strategy. In the first 10 years of the initiative (2013–2023), China inked roughly $1 trillion worth of investment and construction deals with BRI countries[110] Between 2000 and 2022, Chinese financiers committed to lending or donating $1.34 trillion to low- and medium-income countries—nearly $800 billion of this was in the first decade of the BRI from 2013 to 2022.[111] The Chinese state is the underwriter for the initiative, via its four state-owned banks lending to SOEs.[112]

At the same time, PRC banks provide vastly more support for foreign investment than do USG institutions.[113]

Box 2: Chinese Competition and American Deindustrialization: A Financial Framework[114]

Different financial systems help determine the outcomes of the techno-economic war. China's system is designed to aggressively destroys Western company value. The U.S. system is designed to maximize short-term wealth creation and is agnostic toward national industrial power competition.

The U.S. Economic Model

Publicly traded corporations in capital-intensive sectors (e.g., industrials) optimize three key variables.

The first is economic value added (EVA). EVA equals return on invested capital (ROIC) minus the weighted Average Cost of Capital (WACC) (ROIC - WACC) times the amount of invested capital (IC). The weighted average cost of capital for U.S. firms is around 8–10 percent. ROIC equals net operating profit after tax NOPAT divided by invested capital.

Profit margins are calculated in various ways. Gross margin is sales minus the cost of goods and production labor. From an industrial standpoint, the most relevant profit margin is the gross margin. The others are influenced by a firm's overhead expenses and its tax, investment, and capital strategy.

The U.S. model is more financialized and focus on higher, short-term returns than other capitalist economies. But China is in a completely different model.

The Chinese Economic Model

Chinese firms systematically generate ROIC well below American WACC thresholds. The Chinese semiconductor firm SMIC, for example, posts approximately 4.5 percent ROIC versus around 12 to 16 percent global semiconductor industry WACC, creating negative EVA by American standards. Chinese EVA = (4.5% - 12%) × IC = -7.5% × IC.

In other words, Chinese firms can survive on ROIC that is less than the cost of capital in the United States. This economic value destruction manifests as the "China price"—aggressive pricing that destroys gross margins industry-wide. Chinese firms partially compensate through higher capital turns (sales/IC), enabled by rapid market expansion and debt-financed growth.

Chinese firms can do this because of overall financial repression in China. The PRC prevents savers from getting normal returns, and its capital controls on foreign investment preclude outside options. Both lower the cost of capital.[115] At the same time Chinese companies are pressured by the PRC to accept low returns and provided with low-cost capital from state-owned banks in order to gain market share.[116]

American Industrial Response

Faced with Chinese "scorched earth" competition, U.S. firms can generally only pursue two strategies that make up essentially the mirror image of Chinese value destruction:

Strategy 1: Asset-Light Retrenchment

Given this unbeatable competition, one strategy is for U.S. firms to reduce their IC base through outsourcing of production assets to someone else's balance sheet. At the same time, they focus on capital-light activities with higher margins, such as design, sales and market, and software. And they tend to limit expensive investments in capital equipment.

Strategy 2: Cost Reduction for Margin Protection

A second strategy is offshore supply chains and production of lower-cost inputs to preserve gross margins. At the same time, they are forced to press for lower prices from domestic suppliers and workers.

Capital Allocation Logic: Both of these strategies are additionally supported by a capital strategy that increases earnings per share. In particular, the companies use freed-up cash for share buybacks. Since earnings per share equals Net Income divided by the number of outstanding shares, so EPS can go up with stock buy backs.

With Chinese competitors destroying economic value while gaining market share, new productive investments cannot be justified. The rational response for these companies is returning cash to investors through share buybacks, inflating EPS even as the industrial base shrinks.

Deindustrialization Outcome

Both strategies hollow out domestic industrial capacity: Strategy 1 directly reduces the manufacturing base, while Strategy 2 degrades supplier ecosystems and workforce capabilities. The result is a self-reinforcing cycle wherein American firms lose the ability to scale innovation and compete in advanced manufacturing, validating Andy Grove's 2010 warning about the strategic risks of abandoning production competencies.

While some populists on the Right and the Left decry U.S. industrial corporations for taking these steps, accusing them of being profit hungry, this is too narrow a focus. The normal rate of capital returns in normal market economies is above 8 to 12 percent, given the cost of capital. No company can survive earning less than the cost of its capital. As such, if these companies tried to do that to meeting the China price, rational shareholders, including labor union pension funds, would invest in other sectors and companies that do not face this constraint, such as insurance and banking, logistics, and entertainment.

Rather than engage in emotionally satisfying and politically rewarding hectoring of selfish U.S. capitalists, a better strategy is to limit Chinese scorched earth competition while providing targeted incentives for national power industries to stay in the fight and keep investing.

THE NATURE AND IMPORTANCE OF NATIONAL POWER INDUSTRIES

Perhaps the fundamental flaw in the thinking of most in the U.S. foreign policy establishment, including the mass of pundits, journalists, think tank scholars, and academics is their dismissal of the importance of national power industries and lack of understanding of how these industries actually work. Most in the foreign policy establishment are educated in everything but how national power industries work. A random case in point: Johns Hopkins School of Advanced International Affairs Masters' Program curriculum. Students focus on international relations, regional studies, and language studies. But they also must take a set of courses on international economics. This sounds promising, until looking at the courses: "[T]he Economics I track covers topics in Microeconomics and International Trade Theory, and the Economics II track covers topics in Macroeconomics and International Finance. The Essentials courses are more conceptual in nature and require only basic math skills."[117] As noted, these have almost nothing to do with business strategy, technology development, or industrial policy. Harvard's course list for its international relations master's program includes courses such as "Globalization and the Nation State" and "The Evolution of Deterrence Theory." Out of around 50 courses, there is just 1 that might bear on the U.S.-China tech war and that is "The Geopolitics of Technology," but like most of the limited focus in U.S. graduate school International relations, they are on the internet, exploring things like cybersecurity, ethical issues in AI, and cybersecurity."[118] Tuft's Flecther School of Global Affairs seems more promising, offering an entire program on "Technology and International Affairs" but it too is focused on the Internet and cyber.[119] It's International Economic Relations track seems promising, but it is neoclassical international economics, not power economics. Its International Security track is promising, but this is related to military issues, and of course, cyber conflict.

Perhaps the fundamental flaw in the thinking of most in the U.S. foreign policy establishment is their dismissal of the importance of national power industries and lack of understanding of how they work.

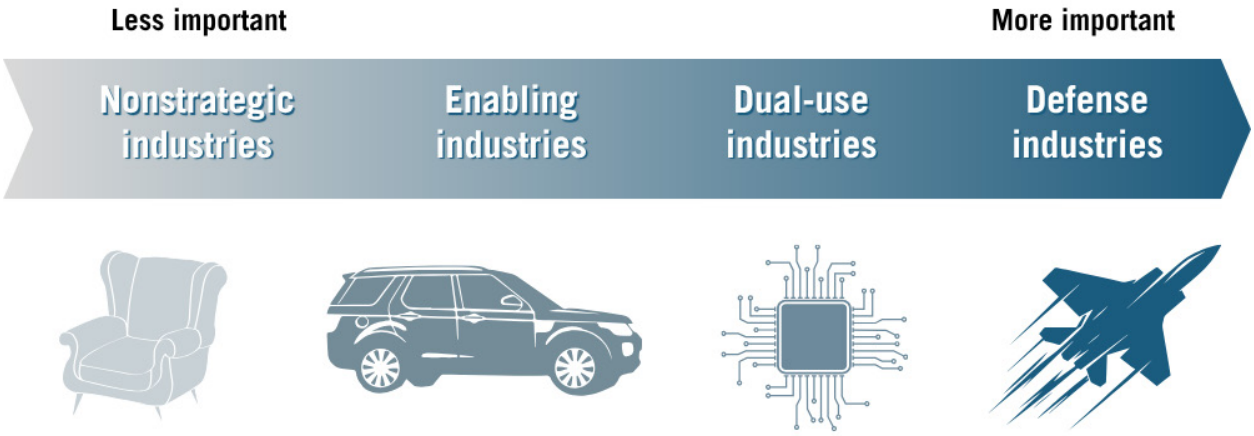
To be sure, these kinds of courses are quite important for being able to effectively study and participate in U.S. international relations, but they have little or nothing to do to prepare the student for understanding the importance of power trade, much less being able to understand what to do. As one distinguished U.S. foreign policy official said to me, "I wish we had learned technology in the foreign policy establishment, given how central it is now to the field." Well, they didn't and therefore they give technology and national power industries short shrift. And we see that in most foreign policy books on China, including the excellent new book by China foreign policy expert George Shambaugh, *Breaking the Engagement*, where technology is hardly mentioned. They stick with what they know best: diplomacy, foreign policy, great power, competition, human rights, etc.

The U.S. foreign policy experts completely ignored the reality, possibility, and success of the Chinese techno-economic war in part because they denied the reality that certain industries provided power. They wanted a relationship that, as Shambaugh wrote, "would become more stable, productive and manageable. The more threads tying down the relationship like Gulliver, the more impediments there would be to systemic disruption."[120] But what disruption? For them, disruption meant not talking. They ignored the erosion eating into U.S. national power industry strengths. Pushing back against that would hurt the most important thing: dialogue.

If the lion's share of the U.S. foreign policy establishment ignore industry, perhaps with exception of defense contractors and large Internet platforms, the MAGA right loves all industry and wants to reindustrialize America, from baseball mitts to biotechnology.

What America needs is a "third way" for trade grounded in strategic industry trade policy based on the realization that some industries matter far more than others. The conventional view is that the only industries that matter to national power are defense industries. But that is now vastly too limiting. As Corelli Barnett, wrote, "For munitions production for modern war is not primarily a question of specialized armament industries, as some suppose, but of all those varied industrial and scientific resources that in peacetime make for a successful and expanding export trade."[121] As such, ITIF has developed a classification of U.S. industries for their relevance to national power. This can be viewed as a continuum between defense industries on one side, nonstrategic industries on the other, and strategic industries and strategic enabling industries in the middle. See figure 2.

Figure 2: Industrial power scale



At one end of the continuum are defense industries. Clearly industries such as ammunition, guided missiles, military aircraft and ships, tanks, drones, defense satellites, and others are strategic. Not having world class innovation and production capabilities in these industries means a weakened military capability. Policymakers across the aisle generally (with the exception of the isolationist Right and the pacifist Left) agree that these industries are strategic and that market forces alone will not produce the needed results.

At the other end of the spectrum are industries in which the United States has no real strategic interests. These include furniture, coffee and tea manufacturing, bicycles, carpet and rug mills, window and door production, plastic bottle manufacturing, wind turbine production, lawn and garden equipment, sporting goods, jewelry, caskets, toys, toiletries, running shoes, etc. If worst came to worst and our adversaries (e.g., China) gained dominance in any of these industries and decided to cut America off, we'd survive—in part, because none of these are critical to the running of the U.S. economy, as many are final goods that might inconvenience consumers but wouldn't cripple any industries, and also because, in most cases, domestic production could be started or expanded relatively easily because none of these products are all that technological complex from either a product or process concern and the barriers to entry are relatively low.

Next to defense industries dual-use industries are critical to American strength. Losing aerospace, pharmaceuticals, chemicals, semiconductors, displays, advanced software, fiber optic cable, telecom equipment, machine tools, motors, measuring devices, and other dual-use sectors would give our adversaries incredible leverage over America. Just the threat to cut these off (assuming that they have also deindustrialized our allies in these sectors) would immediately bring U.S. policymakers to the bargaining table. National power industries tend to also need global scale in order to complete. Moreover, many are intermediate goods such as semiconductors and chemicals, where a cutoff would cripple many other industries. Finally, these industries are hard to stand up once they're lost because of the complexity of the production process, product knowledge, and the importance of the industrial commons that support them. In other words, barriers to entry are high and, if lost, would be very difficult and expensive to reconstitute.

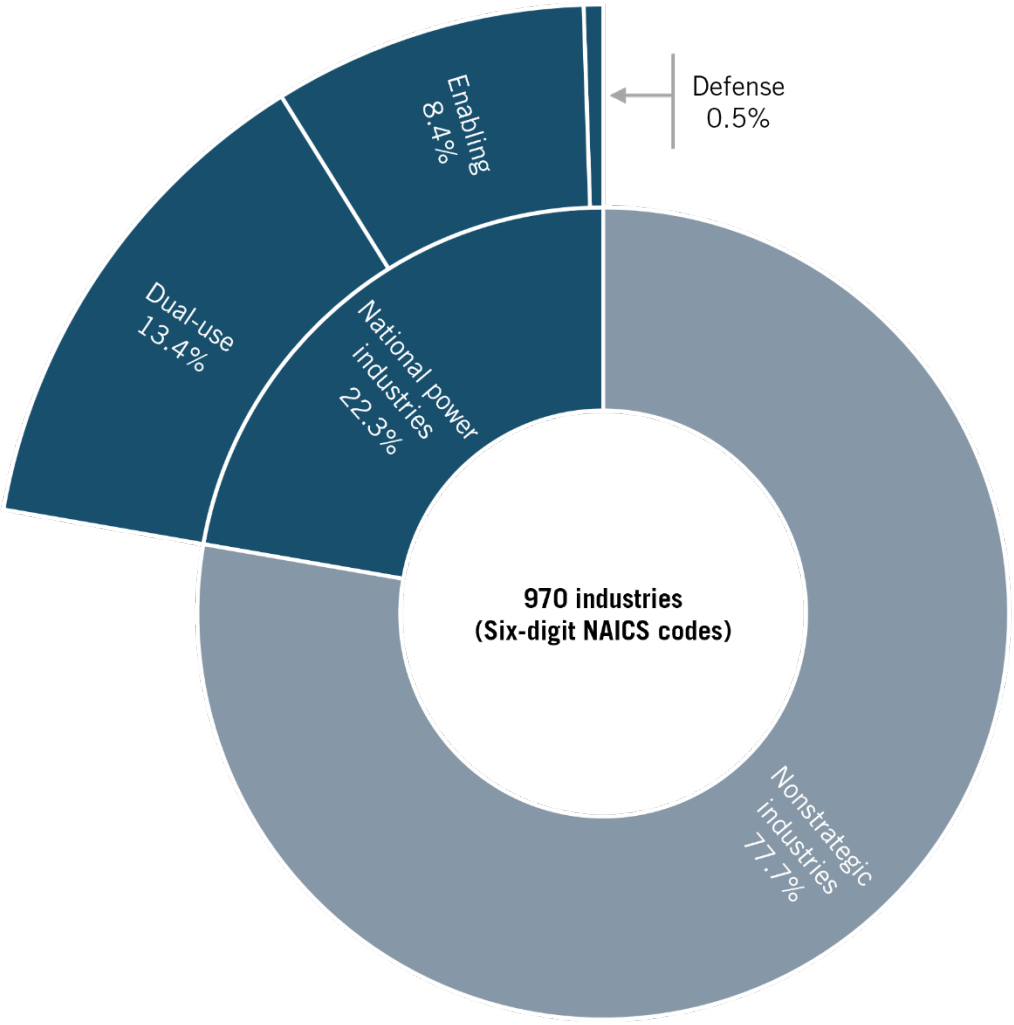
What America needs is a "third way" for trade grounded on strategic industry trade policy based on realization that some industries matter far more than others.

Finally, there are enabling industries. These are industries wherein, if the United States were cut off, the immediate effects on military readiness would be small. And the U.S. economy could survive for at least a while without production. America could survive for many years without an auto sector, as we would all just drive cars longer. But because of the nature of these industries—including technology development, process innovation, skills, and supporting institutions—their loss would harm both dual-use and defense industries. That is because enabling industries contribute to the industrial commons that support dual-use defense industries. A severely weakened motor vehicle sector would weaken the tank and military vehicle ecosystem. Similarly, a weakened commercial shipbuilding sector has weakened military shipbuilding. A weakened consumer electronics sector weakens military electronics.

We can see this in China, whereby the fact that it employs 213 million manufacturing workers, including engineers and technicians, gives it an enormous sophisticated and dynamic production system with synergies and spillovers between enabling industries, national power industries, and defense industries. Indeed, China does not and cannot draw firm lines between civil and military industries and technologies, and instead tries to fuse them.

In a companion report to this one, ITIF has put the 970 industries classified by the North American Industry Classification codes into the four categories.[122] Power industries account for 22.3 percent of the industries. (See figure 3 below and table 2 in the third appendix.) Most industries are not power industries, in large part because most are nontraded sectors such as law firms and barber shops. Of the 22.3 percent that are power industries, just 0.5 percent are defense industries, and 13.4 percent are dual use. The remaining 8.4 percent are enabling industries. In terms of employment, in 2022, just 9.5 percent of workers were employed in power industries. Of this, 6.4 percent worked in dual-use industries and 2.9 percent in enabling industries, and just 0.2 percent were employed in defense industries.

Figure 3: Breakdown of six-digit NAICS industries according to ITIF's national power industry typology



As such, trade policy should be focused first and foremost on defense, strategic, and enabling sectors and largely ignore nonstrategic. The problem is that Trumpian economic nationalism, at least as represented by some of his key officials, sees all four as equally worth of protection. Why else would Trump fight Canada so hard for dairy and wood products trade, clearly nonpower sectors. Likewise, why else would the administration push so hard for natural gas and farm product exports? Boosting exports of the former will reduce American fossil fuel resources, while boosting exports of the latter will do little to increase American food security.

At the same time, policymakers lack two key insights needed to respond in effective ways. The first is that some industries are strategic. Yet, both political parties have embraced a "potato chips, computer chips, what's the difference?" mentality. The head of one of the leading international economic policy think tanks in Washington said when asked how much manufacturing the United States could lose and still be okay, "All of it." Today, the Trump tariffs are anything but strategic, with the view that the chicken industry is as important as the chip

industry. The intent of this project is to change that so that there is a broader consensus around Washington on the criticality of strategic industries for the Republic's future.

1. Global trade is particularly important in most national power trade industries, particularly dual use. These industries are different in core ways from other industries. Given their high fixed costs relative to marginal costs and the fact that they must reinvest profits to produce the required next round of innovation, firms in these industries require access to global markets.
2. In addition, firms in these industries are much more susceptible to dying. If CCP competitors can gain enough global market share, they can enter into a virtuous cycle of more revenue, more profits, and more investment in the next round of innovation and so on. Conversely, firms that lose market share risk falling into a death spiral, where they invest less in R&D and new product development and process innovation, and therefore their next rounds of products/services fall behind their competitors, leading to another round of reversal.
3. Dual-use and defense industries also differ in that they are the engines of national power. To be sure, certain traditional industries, such as steel, are important to national security. However, many traditional industries are largely commodities produced in many countries and are largely available as inputs. Advanced industries are different. Production is concentrated in relatively few countries. Advanced innovation/production ecosystems contribute to and support defense industries. And these industries enable national power to be projected and to defend against adversaries attempting to project their power.

Losing aerospace, pharmaceuticals, chemicals, semiconductors, displays, advanced software, fiber optic cable, telecom equipment, machine tools, motors, measuring devices, and other dual-use sectors would give America's adversaries incredible leverage.

We have seen the importance of national power industries in history. Case in point, the relative weakness of Great Britain against Germany in both WWI and WWII. The advancement of Germany's broad industrial base, and the atrophy of Britain's, resulted in the latter's relative military weakness, with only the entry of the United States in both wars enabling Britain to escape without military defeat. In his classic book *The Collapse of British Power*, Corelli Barnett wrote that:

> it was not the small size and partial decrepitude of Britain's specialized armaments in industry that were mainly responsible for throttling back British armament. For specialized armament firms constitute only a small part of the production of modern war equipment, which is a matter of general industrial resources and technology, especially in all kinds of advanced engineering. It was such general and varied resources that Germany had been able to swiftly convert to producing munitions after 1933 but it was such a resources that Great Britain terribly lacked just as in 1914-15 as the Defence Policy and Requirements Committee had warned in submitting its recommendations for a large scale rearmament in February 1936: "The most serious factor in the completion of the proposed program is the limited output of our existing industrial resources. The

> key to successful completion of the service programs lie in the solution of the industrial problem.[123]

Largely because of the dominant "liberal" "Adam Smithian" view of the role of government in industrial development, Britain never learned this lesson. After WWII, with the profligacy of the Beveridge-Attlee welfare state, the British once again "failed to retool the economy before European and Japanese competitors recovered from wartime devastation."[124] For the British, the sad and stark reality is that it was too late for them to do anything meaningful with regard to power industries, even if the British political economy could enable needed action, which it could not. America is not Britain today, but it is Britian in the early 1960s: still a chance to retool but with time slipping by quickly and few political economy resources to take the painful and needed steps.

Power Industry Dynamics and the Need for Production

Just as past wars provided the impetus for transformations in American techno-economic and trade regimes, it will be easier for American leaders and pundits to see that we are in a war after war starts. But if China bides its time for a least another decade or two, by then it will be too late, because the odds are Chinese firms will have begun to dominate most power industries. And importantly, once lost, it is virtually impossible to regain competitive position in most national power industries, especially ones that require global economies of scale.

America is not Britain today, but it is Britian in the early 1960s: still a chance to retool but with time slipping by quickly and few political economy resources to take the painful and needed steps.

The dominant view among most in Washington thinking about this challenge is to either 1) be largely unaware of barriers to entry, which would make it difficult if not virtually impossible in some industries for the United States to regain power industry capabilities once lost or 2) to believe that it doesn't matter because the United States will just continue to innovate.

Innovation Is Not Enough

The prevailing view about competitiveness in Washington is that innovation rains down from above for free, as MIT economist Robert Solow conceived of it, like manna from heaven.[125] It just is there for the taking. A slightly more sophisticated view is that it just requires a few favorable conditions such as risk-taking entrepreneurs, strong research universities, and venture capital. The fact that the United States is strong in innovation provides an ample intellectual crutch that prevents taking serious national power industry competition and loss. And so the thinking goes that, while it would be nice not to lose these old industries (old is usually defined as anything that was started 15 to 20 years ago), at the end of the day, America will prevail because we can play our innovation card.

The Obama administration 2010 National Innovation Strategy summed up the prevailing view from both the Left and the Right: "Innovation—the process by which individuals and organizations generate new ideas and put them into practice—is the foundation of American economic growth and national competitiveness."[126] And the key to that innovation is "Competitive markets provide strong incentives for private businesses to improve their products and operations and for capital and labor resources to be reinvested in our best ideas."[127] If that

is the case, we should welcome Chinese power industry predation because it ramps up the competitive pressures, providing even stronger pressures for U.S. companies to innovate.

A recent article in *Issues in Science and Technology*, a magazine of the National Academies of Science, agrees: "We believe that American competitiveness … can be maximized by fostering breakthrough innovations."[128] This is a bit like saying "small business drives growth": both are aphorisms. Who can disagree with either?

One appeal in the United States of an innovation strategy—or for some, an innovation culture—is that it avoids the dreaded "industrial policy" and picking winners. The market and plucky entrepreneurs in their garages will create the winners. The role of the government is to stay out of the way, provide them with foreign STEM workers, and keep capital gains taxes low. In an article by Tanner Greer, wherein he developed a typology of strategies on competing with China, he identified dynamists who focus on technology (rather than more broadly on industry) and who are skeptical or critical of state capacity:

> Dynamists are instead focused squarely on deregulating the American economy and reforming the American state. In their eyes, Chinese drone dominance is less a product of Chinese industrial policy than a result of the Federal Aviation Administration's "war on technology;" America's failure to match the stunning new infrastructure of China is best blamed on the National Environmental Policy Act regime; and cutting-edge developments in AI, crypto, and software engineering would have already transformed the American economy if not for the "regulatory capture, special interests, and perverse structural incentives" that have sheltered entrenched incumbents from real competition.[129]

Dynamists live in a narrow world, believing that Silicon Valley is the "be all and end all" of technological innovation and that the government has played only a minor role in the Valley's emergence as the world's top technology hub. And for them solving the problem is pretty easy: just get rid of government barriers, such as on immigration, building restrictions, and narrow-minded government management of science. Then our heroic entrepreneurs can ride to the rescue and save us. Eric Schmidt, former CEO of Google, wrote that the United States should spend less time focusing on limiting China. Instead, he wrote: "If the United States really wants to reindustrialize, it needs to double down on what it does best, including supporting scientific research, enacting immigration policies that welcome the best talent from abroad, and reducing regulatory hurdles."[130]

However, there are three key limitations to relying on innovation strategy, from more free market dynamists or more interventionist tech policy advocates, in ensuring U.S. national power industry strength. The first is, by definition, that an innovation strategy is agnostic with respect to power industries. We already see that where there is a growing concern that U.S. venture capital avoids so-called "deep tech," also called "hard tech." These are technologies that tend to be beyond software and the Internet, and require much more capital and engineering capabilities. Most power industries are hard tech. But they require more capital and have higher risks, so the market invests less than needed in them. Perhaps like rolling the dice, risk-taking entrepreneurs and profit-maximizing venture firms might invest in all the areas of power industries the nation needs, but the odds are a bit like rolling snake eyes six times in a row.

Second, innovation is only the first step. Power comes from being able to produce and sell the innovation around the world. History is full of examples wherein the United State led on innovation only to have production go overseas, often to foreign companies. These include VHS technology, TVs, LCD displays, solar panels, robotic vacuum cleaners, EV batteries, CNC machine tools, robotics, digital cameras, high-speed rail, digital telecom equipment, LED lighting, carbon fiber, 3D-printing materials, MRI machines, and more.[131] To be sure, innovation is important; without it, American power industries would ultimately lose market share. But more innovation without domestic production does not boost national power. If anything, it gives power to China when Chinese companies enter production based on U.S. discoveries, which they all too often steal or otherwise purloin.

Third, to the extent innovationists focus only on emerging tech, this misses the boat. Despite all the hype, America can't fight and win wars with only superior AI. Moreover, as noted, power comes also from independence from China in key industries and products. Many of these are not cutting-edge technologies.

History is full of examples wherein the United State led on innovation only to have production go overseas, often to foreign companies.

Fourth, the idea that deregulation and a more supportive culture are enough to restore U.S. techno-economic power is an ideological fantasy. As discussed ahead, not losing the war will require significant state action, just as not losing U.S. semiconductor capability required public investment (tax and direct), not just an R&D program.

Fifth, success relies in part on already having strong existing industries with an innovation ecosystem, which, if we lose, makes innovation harder. Innovation is not just something that happens. Put someone in the middle of nowhere and it's unlikely you will get much innovation. Innovation is enabled by a rich ecosystem that includes existing companies. Indeed, many innovators used to work at large established companies and gained knowledge and connections that enabled them to innovate. The list is endless: Reid Hoffman left PayPal to start LinkedIn, Marc Benioff left Oracle to start Salesforce, Scott McNealy left IBM to cofound Sun Microsystems, Gordon Moore and Jerry Sanders left Fairchild Semiconductor to found Intel and AMD, respectively, and Jensen Huang left AMD/LSI Logic to cofound NVIDIA.

It's not just that existing companies are incubators for entrepreneurial founders; they also support what Shih and Pisano call the "industrial commons." The industrial commons refers to the collective ecosystem of shared resources, infrastructure, specialized skills, and knowledge that enable a region's manufacturing competitiveness and resilience. It encompasses the interconnected network of suppliers, researchers, skilled workers, and development capabilities that, when nurtured together, foster innovation and economic growth within a particular geographic area. As one article asserts, "A country does not rise to the level of its innovation. It falls to the level of its industrial commons."[132] This is why former Intel CEO Andy Grove stated, perhaps in response to the preposterous claim by economist Alan Blinder that losing the U.S. television industry was a success:

> I disagree [that it's a success to lose the "commodity" television industry]. Not only did we lose an untold number of jobs, we broke the chain of experience that

> is so important in technological evolution. As happened with batteries, abandoning today's "commodity" manufacturing can lock you out of tomorrow's emerging industry.[133]

In other words, innovation without an advanced industrial commons becomes much harder, and the ability to scale any innovations that occur, even harder.

Figure 4: Components of an industrial commons[134]



Why Once U.S. Firms in Power Industries Are Weakened, Comeback Is Unlikely: Barriers to Reentry

As noted, foreign policy thinking is largely devoid of sophisticated analysis of industries, much less power industries. Conventional economics is only a bit better, but generally assumes that barriers to entry—difficulties for entrepreneurs or existing businesses to enter a competitor's line of business—are generally small, and to the extent they are not, are a result of patents, government regulations, or unfair competition, the latter of which antitrust authorities must be ever vigilant against. Indeed, their ideal world is one of perfect competition, wherein entry barriers are zero. Prominent Austrian school (free market) economist Ludwig Von Mises spoke for many economists when he wrote, "The freedom to enter any business is essential to the preservation of the free enterprise."[135]

Milton Friedman agreed: "The greatest enemy of freedom has been concentrated power."[136] And the neo-Brandeisians have the same view but for different reasons. Where the free-market conservatives envision an economy with no entry barriers because it enables freedom and maximizes "market forces," the neo-Brandeisians want it because they hate capitalist profits.

This is wrong even without considering China. As Joseph Schumpeter rightly argued, the barriers to entry that innovative firms often create are always temporary. This is why Schumpeter wrote, "Profit … is the premium put upon successful innovation in capitalist society and is temporary

by nature: it will vanish in the subsequent process of competition and adaptation."[137] In other words, if the best an entrepreneur could hope for was making back the cost of capital, there would be little innovation.

After competitive failure of U.S. firms from Chinese aggression, the idea that the United States can easily get back in the market is fanciful.

The reality is that there are many interconnected factors that can create significant barriers for companies attempting to enter advanced industries.

But it is even more wrong when considering Chinese competition because it uses the massive power of the CCP to break down U.S. barriers of competition to not enable market forces to work, but rather to vanquish their business foes. For the purposes of the discussion here, that means that after competitive failure of U.S. firms from Chinese aggression, the idea that the United States can easily get back in the market is fanciful.

In other words, if more American companies in power industries fail or are seriously weakened to the point where they are much smaller, it is likely that those losses will be permanent. Even if the USG woke up and on a bipartisan basis realized that the United States must rebuild that lost capacity, it would be extremely difficult and enormously expensive. That is why, as discussed ahead, it is so critical to slow the relative loss of power industries to China.

Table 1, from a 1990 survey of U.S. firms, identifies multiple barriers to entry, with absolute cost advantages being the most important. Capital requirements are ranked second. In other words, some industries require large amounts of capital investment to enter. While economists may dismiss barriers to entry, firms take them deadly seriously because they are the core thing business leaders rightly work for.

Table 1: Barriers to market entry ranked by U.S. firms in 1990[138]

Barriers	Mean	Std. Dev.
Absolute cost advantages held by incumbent firms	4.13	0.90
Capital requirements to enter markets	4.11	0.98
Incumbents with superior production processes	3.91	0.94
Capital intensity of the market	3.84	0.91
Incumbents with proprietary product technology	3.81	1.02
Customer loyalty advantage held by incumbents	3.79	0.97
Incumbents with cost advantages due to economies of scale	3.71	0.85
Amount of sunk cost involved in entering a market	3.69	1.00
R&D expense involved in entering a market	3.63	1.02
Low prices charges by incumbents	3.61	0.81

Barriers	Mean	Std. Dev.
Access to distribution channels	3.53	1.10
Magnitude of market share held by incumbents	3.50	0.87
Number of firms in a market	3.49	0.94
Brand identification advantage held by incumbents	3.38	1.04
Incumbents with cost advantages due to learning curves	3.32	0.90
Amount of selling expense involved in marketing a product	3.22	0.98
Customers' costs associated with switching from one supplier to another	3.17	1.07
Expected post-entry reaction of incumbents	3.16	0.98
Trade secrets held by incumbent firms	3.15	1.11
Incumbents possessing strategic raw materials	3.09	1.17
Incumbents with relatively easy access to raw materials	2.78	0.96
Incumbents with government subsidies	2.76	1.38
High profit rates earned by incumbents	2.63	1.14
Heavy advertising by firms already in the market	2.54	0.92
Government licensing requirements	2.20	0.99

There are at least nine major kinds of barriers to reentry.

Technological and Knowledge Barriers

The most formidable obstacle is often the accelerated pace of technological advancement that occurs during a company's absence. In advanced industries, knowledge compounds rapidly, and the technological gap can become insurmountable. Companies lose access to cutting-edge research, miss critical patent opportunities, and lose design capabilities—and their technical workforce disperses to competitors or just atrophies. The tacit knowledge embedded in organizational routines, process technology and layout, and employee expertise is particularly difficult to reconstruct.

Capital and Investment Requirements

Reentry typically demands massive up-front investments in R&D, manufacturing capabilities, and infrastructure. Advanced industries often require specialized equipment, clean rooms, or complex supply chains that represent sunk costs with limited alternative uses. Financial markets may view reentry attempts skeptically, making capital more expensive or difficult to obtain. This is especially true in the United States where most markets want quick and certain returns. The company must also compete against established players with proven track records.

Market Structure and Competitive Dynamics

During a company's absence, market concentration may have increased, with remaining competitors strengthening their positions through consolidation, economies of scale, or network effects. This is particularly the case after Chinese firm market expansion. Established players often have preferential access to key suppliers, distribution channels, and talent pools. Moreover, customer relationships in B2B advanced industries are typically long term and trust based, making market penetration extremely challenging for returning entrants. In most cases, there are customer switching costs. Often the only way of entry is massive cost reductions or, if possible, a significant increase in the value proposition. Brand is another barrier to entry. If the competitor's brand is strong, it's hard to get into a market. To date, Chinese firms are generally not strong in brand, but that is changing.

Regulatory and Compliance Hurdles

Advanced industries frequently involve complex regulatory environments that evolve continuously. Companies lose institutional knowledge about compliance requirements, relationships with regulatory bodies, and understanding of approval processes. New regulations may have emerged that create additional barriers, and the cost of achieving compliance from scratch can be prohibitive. This is especially the case when American companies try to reenter overseas markets.

Human Capital and Organizational Capabilities

Specialized talent in advanced industries is often scarce and highly mobile. During the exit period, key personnel typically join competitors or leave the industry entirely. As we have seen with China, sometimes American talent actually goes and works for Chinese firms. If there are few firms in the United States with the demand for this specialized talent, the worker's skills atrophy and are not used. Rebuilding teams requires not only recruiting individual experts but also reconstructing the collaborative knowledge networks and organizational capabilities that enable innovation and execution.

Supply Chain and Ecosystem Dependencies

Advanced industries often rely on complex ecosystems of specialized suppliers, research institutions, complementary service providers, and training institutions. These relationships take years to develop and may have become exclusive or capacity-constrained during the company's absence. Reentry may require simultaneously rebuilding multiple interdependent relationships across the value chain.

Political Economy Factors

A factor that is given little attention, yet is important, is the barriers to entry when enough national power industries have lost market share or gone out of business, and therefore the pressure on government to adopt national power industry support policies. We can see that in a country such as Canada, which has deindustrialized so much and has so few advanced technology firms that the voices of high-end, knowledge-based firms that need strong government advanced industry policies are at best a whisper. Instead, companies that want cheap immigrant labor, banks and other financial services firms, and natural resource companies that want more rights to extract minerals and other materials dominate Canadian politics. To the extent advanced technology firms exist, they are dominated by small Canadian-owned firms that want handouts rather than a leg up. So, to the extent the Canadian government would put in place

advanced industry techno-economic strategy, it would have to have capabilities for independent action that it does not now possess. The lobbying forces of other firms are just too strong.

The United States is fortunate because it still has enough of a critical mass of large technology firms that press the USG to not put in place ill-advised anti-national power industry policies and to put in place favorable ones. But each weakening or death of an American national power industry firm with a Washington government-relations budget serves as one more barrier to reentry for the nation as whole.

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Strategic Timing and Windows of Opportunity

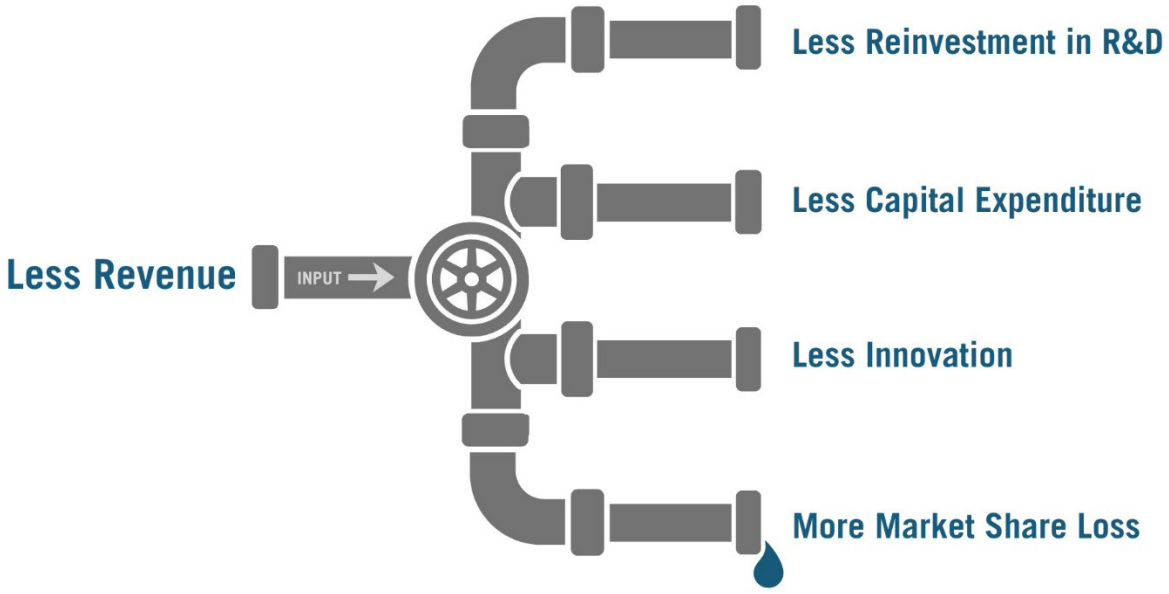
Industries evolve through cycles of technological paradigms, and companies that exit during one paradigm may find the next cycle dominated by different technologies or business models. The timing of reentry attempts relative to industry cycles, product life cycles, and competitive dynamics can determine success or failure.

The interaction between these factors creates what economists call "path dependency," wherein a company's current competitive position is heavily influenced by its historical choices and market evolution during its absence. This explains why even well-resourced companies with strong track records in other industries often struggle to successfully reenter advanced sectors in which they previously competed.

Downward Cumulative Causation

Consumer welfare economics assumes that factor price adjustments lead to equilibrium. If a company loses market share, it cuts prices and regain it. But the reality, especially in capital- and research-intensive industries, is that market share loss can trigger a downward cumulative causation cycle. As figure 5 shows, less revenue can lead to less reinvestment in R&D which means that next-generation products either are not as goods as the competitors' or enter the market late, in both cases reducing market share and sales even more. With fewer sales, capital investment budgets are cut, meaning that the company has a harder time investing in the most modern equipment, leading to slower productivity growth and reduced cost competitiveness, with other firms taking even more market share. And both factors lead to less innovation and less market share, with the downward cycle continuing to repeat unless the competitor firm makes a serious error or the core firm is able to discover a breakthrough innovation that lets it back in the game.

Figure 5: The downward process



Implications for Chinese Attackers

Unlike most U.S. policymakers who either ignore barriers to entry or do everything possible to lower them to boost competition, even if it means that Chinese firms enter the U.S. market, most Chinese policymakers deeply understand techno-economic and trade factors and dynamics, including barriers to entry and how to overcome foreign barriers and then maintain their own. And that is why they work so hard to erect them, including promoting mergers, limiting foreign company access to Chinese markets, and providing subsidies so Chinese companies can attack foreign company margins with deep discounts below cost.

At one level, it appears difficult for companies attempting to attack or disrupt established players in advanced industries. After all, these companies should have many of the barriers to entry previously described. But there are ways firms can successfully attack. And, as discussed, the CCP provides support for these attacks.

Exploit Windows of Vulnerability

Attacking companies should focus on periods when incumbents are most vulnerable, including during technological transitions, regulatory changes, and market disruptions. For example, when many U.S. companies were retrenching in the wake of the 2008 financial crisis, and again during the 2020 COVID crisis, Chinese companies, backed by the CCP, kept up, and even accelerated their rate of investment. When markets came back to "normal," they had gained market share at the expense of more prudent and market-driven Western companies. In the transition to 5G wireless, state-backed Huawei pushed hard to get into markets in developing nations, precluding Western companies from getting in, and thus setting themselves up for next generation sales.

Get to New Markets Early

In the United States, companies such as Tesla succeeded by timing their entry during the EV transition when traditional automakers were slow to adapt. The CCP understood where the global market was going and not only subsidized its EV providers but also spurred EV demand through government policies (reduced taxes on EVs, better access to roads, etc.) This enabled the Chinese EV makers to sell massive numbers of vehicles in China and, as a result, gain scale economies and learning by doing. Western vehicle makers are rightly focused on current limited consumer demand for EVs, but now have been seriously disadvantaged in their efforts to move into the new EV markets. Only the Biden EV tariffs have prevented significant damage. China has done this in a range of other industries, including solar panels and drones, and is seeking a similar victory in industries such as robots, including humanoid robots.

Most Chinese policymakers deeply understand techno-economic and trade factors and dynamics, including barriers to entry and how to overcome foreign barriers and then maintain their own.

Target Specific Market Segments

MIT business scholar Clay Christenssen argued that attackers seldom attack at the top, most profitable segments. Rather, they usually attack from the bottom on segments that are less profitable, less innovation based, and more likely to be given up by incumbents. Rather than launch frontal attacks on incumbents' core markets, which incumbents are more likely to fight to defend, successful attackers often focus on neglected segments, emerging applications, or underserved customer needs. This allows them to establish footholds without triggering immediate competitive responses, while building capabilities and market presence. They then use these gains, coupled with the erosion of sales and profits from the incumbents to steadily move up in their attacks. China has done this in many markets, focusing on more commodity-like products (e.g., bulk chemicals, legacy chips, lower-end mobile phones, LCD displays, etc.). This combination of "good enough" products at a much more competitive price point is often a winning combination, especially in the non-OECD world where price is a more important factor. That not only weakens the rich country incumbents who sell in those markets, but also gives the Chinese firms revenues to move up the value chain. Huawei's rise to global dominance in telecom equipment is a case study in that strategy.

Weakened Defensive Responses

Companies competing against other companies in normal countries have more ability to attack than Western companies do against Chinese attackers. Most importantly is IP. Often, an attacker will use IP from the defender without their permission, and the attacker can win in court, thus significantly blunting the attack; and if they receive damages, weakening the attacker. But that is much more difficult against a Chinese attacker, at least in the Chinese market, because Chinese courts are an instrument of Chinese national power industry strategy and seldom side with the non-Chinese company. And even in the home U.S. market, that can be difficult, as winning a court case or obtaining a Section 337 exclusion order from the U.S. International Trade Commission against an unfair competing Chinese firm can be costly and difficult, especially as the law requires a showing of immediate market share loss.

Defenders often can successfully defend against attacks through exclusive supplier agreements or strategic partnerships. But these are not possible in China. In fact, the CCP will weaponize

them against foreign companies to limit their access to Chinese suppliers in order to favor their CCP champion attacker.

The most important weapons CCP-backed attackers have are a protected market (in China and Belt and Road nations) and massive subsidies. Take CCP company COMAC, which is competing with Boeing and Airbus in the commercial aircraft market. There is a reason why, before COMAC, there were only two companies. The entry barriers were extremely high given the knowledge and capital requirements. But despite being a duopoly, the competition between Boeing and Airbus was intense, with each fighting intensively for big orders with airlines around the world. This was a market that, absent state intervention or some completely disruptive innovation (e.g., a hypersonic space plane), was going to stay a duopoly for the foreseeable future. No sane commercial company would seek to enter the market, because it would mean losing billions of dollars for at least a decade or more. But that did not stop China. China vaulted over those barriers by providing massive subsidies, enticing and threatening foreign parts and systems providers to sell COMAC what it needed, and then reserving the Chinese market for COMAC and subsidizing entry in Belt and Road countries. That is how a Chinese company overcomes big barriers to entry.

If the United States and the West are to avoid losing the national power industry war, they will need to adopt the correct overall strategy. That will likely prove daunting, at least for now, because the vast majority of expert voices on foreign and economics relations with China support the wrong strategies.

China overcomes barriers to market entry by subsidizing state-backed industrial champions such as COMAC



If this dynamic plays out as it has in some other industries, the result will be a cumulative causation decline of Boeing and Airbus. They are likely to lose massive sales revenue in China and many of the less developed nations that China seeks to sell to with extremely generous export financing. And that means they will have less money to invest in next-generation aircraft. That in turn will reduce future sales, and the cycle will continue until perhaps only one of the two companies is left.

We could see the same dynamic playing out in EVs, and even advanced industries such as memory chips and biopharmaceuticals. Given that China is not a normal competitor, the only away of defending against this kind of attack is with a trade wall in OECD nations against these attacks. Ideally, as we will discuss next year in a report on policy recommendations, this would mean long-term exclusion orders against the sales in OECD nations of unfairly competing Chinese companies.

But import bans are only one tool. If the United States and the West overall are to avoid losing the national power industry war, they will need to adopt the correct overall strategy. That will likely prove daunting, at least for now, because the vast majority of expert voices on foreign and economic relations with China support the wrong strategies.

AMERICA'S POWER INDUSTRY CHINA STRATEGY CHOICES

America needs a coherent strategy to shape, guide, and implement policy choices. Victory in a kinetic war often goes to the side with the best overall strategy. Strategic choices need to be made. When and where to attack? When to retreat? When to outflank versus when to conduct a frontal assault? How to best combine and coordinate forces? And even when to leave the battlefield and form a redoubt?

The techno-economic and trade war with China is no different. First and foremost, it requires an acknowledgment of the reality of the war and hence the need for a strategy. Some simply refuse to see that America (and its allies) are being attacked, denying the existence of national power industries, ignoring the CCP's stated intentions and long litany of aggression, and turning a blind eye to U.S. power industry injury and even death. Others say "war" is an incendiary and provocative term and that the United States and China are only in competition or, at worst, perhaps in a narrow "trade war" over a few industries. Many even assert that we are allies in addressing global challenges. Some even say that it doesn't matter. After all, countries don't compete. Or China is just trying to catch up. Or we benefit from trading with China. Or we need to engage with China. Etc.

But we are in a techno-economic and trade war, and it does matter. Indeed, there is a potential tidal wave of value destruction headed at U.S. national power industries, as better funded and more financially patient Chinese competitors keep up their relentless global expansion. PRC champions are coming after Western firms in national power industries, and they will not stop. Indeed, the PRC's is a scorched earth campaign, leaving no survivors, always maintaining the assault. And firms in U.S. and allied national power industries (including Europe) have nowhere to hide from this techno-economic blitzkrieg unless governments take action based on a coherent strategy.

Overall, the issue of China is largely framed by international relations scholars and experts, not business and industrial strategy experts. The former are aware of such competition, but they largely see it as subservient to overall foreign policy considerations and goals. Moreover, few understand the operation of advanced industries, the nature of the competition and the importance of barriers to entry and reentry. As such, the prevailing narratives largely ignore the strategic threats that techno-economic and trade wars pose for U.S. power.

When it comes to China, U.S. experts and pundits advance a number of strategic choices. Some put good relations with China above all other considerations. Some are based on a denial of the conflict. Others accept the conflict, but don't see the need for a new strategy. Others are guided by Ricardian free trade theory with its overarching belief in trade as always being win-win. Many, including trade and foreign policy experts, are globalists in the sense that the world should be one with few or no trade barriers and open and sustained cooperation between nations—and if the allies continue to work with China, that world will emerge.

There is a potential tidal wave of value destruction headed at U.S. national power industries, as better funded and more financially patient Chinese competitors keep up their relentless global expansion.

Others hold an explicit or implicit derision of the United States, seeing it as a white, imperial nation, motivated by capitalist greed. Therefore, the United States should be dethroned as the global hegemon. And many who specialize in studying China get "captured" by China, seeing the world, at least partially, through its eyes. And due to the fact that the CCP rewards and punishes U.S. Chinese studies scholars based on whether it likes their views, many U.S. scholars trim their sails.

Yet, collectively, these experts articulate a range of views and opinions that influence preferred strategic choice. As such, these choices need to be analyzed and assessed. For the sake of clarity, I provide analogies and titles reflective of strategic choices made in past wars, including WWII and in the conflict with the Soviet Union and how current strategic choices mirror those.

The Engagers: Let's Not Rock the CCP Boat

Many of these proposed strategic approaches are offered by engagers, those policy experts and scholars who put engagement with China above all else. For them, nothing should get in the way of engagement. As such, they exaggerate and stress the supposed panoply of benefits from being solicitous to the CCP, and dismiss and downplay the actions the CCP takes that are against U.S. interests.

The problem is that the days of engagement are, if they were ever legitimate to begin with, gone. Yet, engagers persist in out-of-date, flawed strategic framing. China scholar David Schambaugh has said about the engagers that "these were individuals who had spent their entire professional careers working to engage China. Now their life's work was under attack, and many individuals were naturally defensive."[139]

There are several flavors of engagement.

Let's Help the Soviets: A Strong China Is Good for Us

There is no question that the United State gave too much aid to the Soviet Union during WWII, enabling them to gain more ground in the West and emerge stronger after the war with Germany to become a global adversary with America. FDR was oblivious to the threat from Stalin and even saw "Uncle Joe" as someone he could work it.

Today, one China strategy is to simply assume that there is no conflict, and that the opposite is even true: a strong China is good for the world. One article lists the cases for de-escalation and engagement:

> China accounts for global GDP growth. China drives global economic growth, so a sound bilateral relationship is important to American consumers and workers, as well as to families who are counting on stock market returns to pay for their retirement. In the 10 years through 2019, China, on average, accounted for about one third of global economic growth, larger than the combined share.[140]

Likewise, the U.S. China Business Council) has written, "Today, the US-China trade relationship actually supports roughly 2.6 million jobs in the United States across a range of industries."[141]

Parroting the standard fare, an article in *Foreign Affairs* entitled "The Overreach of the China Hawks: Aggression Is the Wrong Response to Beijing" argues, "Closer ties with Beijing have led to Chinese acceptance of international rules in areas such as nonproliferation of weapons of mass destruction, arms control, and some aspects of global trade and finance. Engagement also brought China into the global economy and fueled economic growth worldwide."[142]

These comments about China fueling growth demonstrates the engagers' ignorance of both domestic and international economics. They assume China boosted global growth because China imported some goods. But China consistently ran a trade surplus. The net effect on GDP in the rest of the world was negative, not positive, as GDP is lowered when X-M (exports minus imports) is negative. So yes, exports to China supports jobs in the United States, but imports to the United States from China take away jobs from the United States, and since the United States runs a massive trade deficit with China, the U.S. production economy has been weakened, even though consumers save a few bucks.

Moreover, this framing reflects stale Keynesian demand-side thinking, suggesting that demand from China, rather than lower interest rates from the Fed, keeps the U.S. economy at full employment. U.S. full employment is not dependent in any way shape or form on what China does. Domestic demand should always equal domestic supply, and when it doesn't, domestic monetary and fiscal policy help restore the balance.

The reality is rather than the CCP helping global growth, it weakened it. The CCP's price suppression of wages and other business costs at home led to reduced productivity worldwide, as rather than invest in automation at home, companies in high-wage economies moved production to low-wage, less automated China, lowering global growth. And as China unfairly dominated manufacturing, the opportunities to move up the value chain for developing economies shrank to nothing. And finally, as ITIF has shown, China's unfair "innovation mercantilist strategies have lowered global innovation as less innovative Chinese firms unfairly took market share from more innovative Western firms.[143]

The reality is that U.S. growth does not depend on Chinese growth or any other foreign economy growth; in the moderate term, it depends on U.S. domestic productivity growth and nothing else.

Related to this is the foreign policy and international economy consensus that praises China for raising tens of millions out of poverty. An article by leading China experts in *Foreign Affairs* entitled "The Overreach of the China Hawks: Aggression Is the Wrong Response to Beijing" argues, "It is true, as [Aaron] Friedberg asserts, that China's leaders seek to harness economic growth to boost the nation's international stature and power. But Friedberg insists that this goal overrides all other purposes, ignoring the very real ways in which growth has benefited huge numbers of Chinese citizens."[144]

This is truly a striking statement, echoing fellow traveler statements in the 1930s and 1940s, arguing that sure, while Stalin had show trials, purges, and gulags, at least he boosted growth. Since when does the welfare of an adversary's citizens become of paramount concern for U.S. foreign policy?[145]

What is even more striking is that if there is one thing China's techno-economic strategy has not done is benefit huge numbers of Chinese citizens. The CCP's entire strategy has been to immiserate the proletariat to invest in weapons—a massive military and massively subsidized national power industries. If you want to look at a Chinese territory that benefited its citizens over the same period of time, look at Taiwan. After the revolutionary overthrow of the legitimate Kuomintang government by the CCP in 1949, China and Taiwan had about the same GDP per capita. Today, Taiwan's is almost three times greater.[146]

The Stalin-Hitler Pact: United States and China Are Actually Allies

One way to avoid having to deal with adversaries is to define them as allies, either by formal agreements, informal collaboration, or simply assuming a lack of adversariness. Stalin was so desperate to avoid war with Hitler that he blindly signed the Molotov/Ribbentrop Pact, hoping that Hitler would turn west instead of east and the capitalist powers would exhaust themselves, allowing Stalin to move in and conquer Western territory. But if Stalin had only read *Mein Kampf*, he would have realized that Hitler's overarching goal was not to fight the West but to stamp out communism.

Today, many U.S. foreign policy experts believe that the United States and China are allies in ensuring a safe and secure world. Indeed, this has been the default view of the U.S. foreign policy establishment for decades. A 1994 report by the Trilateral Commission argued that "China should be regarded more as an opportunity than a threat" and that the United States should seek to "incorporate China in the emerging world order."[147]

This view has changed little over time, as we see in a 2019 in an open letter in *The Washington Post* complaining about Trump's more assertive policy toward China. Among seven key points made by over 100 prominent U.S. foreign policy scholars, including friends of China Stapleton Roy and Susan Thorton, was, "We do not believe Beijing is an economic enemy or an existential national security threat that must be confronted in every sphere."[148] It goes on to state, "The fear that Beijing will replace the United States as the global leader is exaggerated." I wonder if six years later any of the 100 signers would like to take back this last statement.

Along a similar vein, leading China scholars Jude Blanchette and Ryan Hass have written:

> Instead of these two great nations pooling their considerable economic resources and human talent to jointly address the world's many growing challenges, they lock horns in a multifaceted strategic competition. The blunt reality is that because of these deep divisions, there will be diseases that will not be cured, there will be children who will unnecessarily suffer, and our climate will continue to degrade as opportunities for global cooperation slip through humanity's fingers. The mutual mistrust and strategic rivalry between the United States and China create barriers to innovation, collaboration, and the bold, unified action needed to tackle existential threats. In this fractured global landscape, the pursuit of dominance and security overshadows the shared responsibility to steward a livable future for all, leaving the world worse off.[149]

They continued:

> Collaboration with China is essential to addressing climate change. And even amid trade wars and derisking, China remains an important economic and trading partner with the United States. Scientists of the two countries have collaborated with each other on important and meaningful basic research projects that benefit not only the two countries but all of humankind. One area of fruitful research is in agriculture… The common view is that the United States and China need to cooperate to address climate change, global terrorism, infectious diseases, and other global challenges.[150]

Today, many U.S. foreign policy experts believe that the United States and China are allies in ensuring a safe and secure world.

Those who assert that the United States and China are adversaries or even in competition with China are routinely excoriated by the cooperation camp. We see this in a vitriolic attack on a leading scholar in the China competition camp, Princeton University scholar Aaron Freidberg. A group of engagers wrote in *Foreign Affairs*—the journal of the engagers—that "Friedberg calls not for mere competition but for an antagonistic rivalry that minimizes any attempt at cooperation."[151] They even wrote, "A pragmatic policy would recognize the value of economic ties with China and encourage continued Sino-U.S. cooperation in many critical areas, including technology."[152] How exactly do they explain how Chinese technology and trade policy has helped the United States on net? They simply waive their hands and assert it.

In other words, for this still powerful camp, cooperation is the paramount goal, and responding to Chinese aggression gets in the way by irritating our interlocutors. They are certainly right about the last part: yes, if the USG presses China on issues of true national concern and even survival, cooperation will be much harder. But if the USG does not, U.S. global leadership will be threatened.

There are at least two major problems with the engagement camp. First, they are so focused on engagement for engagement's sake that they come up with a seemingly endless litany of things we must engage on. Anything to keep engagement going. But presumably these issues are important to both the United States and China. In this case, why is the CCP not the supplicant to the USG, coming to Washington to ask the United States if it will cooperate with China and

giving the United States concessions for doing so. Because only U.S. experts and pundits are this naïve. There is little evidence that the CCP sees things this way. It is happy to talk about win-win relations, but we should not take them at their word. The CCP uses the desire for cooperation to advance its own specific techno-economic predatory practices. CCP officials are happy to say they will cooperate on climate change as long as the United States does not press China on an issues such as IP theft. And in the past, the United States has naïvely taken that deal, believing it has gotten the best of it.

Second, reflecting Stalin's naïveté and desperation with Hitler, many U.S. officials and pundits assume that China will help America shoulder the heavy responsibility for global order, including open and fair trade. Nothing is further from the truth. The CCP does not want co-responsibility for global order; it wants sole responsibility so it can impose its version of global order. And when it comes to trade, China's vision harkens back to British trade policy in the 1700s and 1800s, wherein Britain exported manufacturing goods to its empire and imported underpriced commodities. Given China's history and current practice of massive mercantilism, the idea that anyone could actually respond to these claims with a straight face is truly astounding.

Most importantly, engagement always comes at a price. The CCP and its leadership are realists, caring only about the CCP's Marxist-Leninist interests. When CCP officials see the USG asking it for help for addressing a global problem, they always exact a price.

If this litany of cooperation is of no real interest to China, then why are we pushing for them, when most of the issues are either related to global concerns (and why are these our concerns if addressing them comes at a cost to America?) or can be dealt with by the United States alone? A core reason, of course, is because so much of the U.S. foreign policy community puts governing the world ahead of advancing U.S. interests, especially techno-economic capabilities and strengths, something the engagers show absolutely no interest in.

Most importantly, engagement always comes at a price. The CCP and its leadership are realists, caring only about the CCP's Marxist-Leninist interests. When CCP officials see the USG asking it for help for addressing a global problem, they always exact a price. Sure, we will help you, but only if you have to back off key issues, especially our predatory trade, tech, and economic actions that are hurting your national power industry firms.

It would be one thing if the factors the USG were being supplicants for truly mattered and could be addressed by "cooperation." But the issues either don't or can't. Just look at the list of issues the USG constantly trots out as important to cooperate on. After the San Francisco summit of 2023 with Biden and Xi, the USG statement said that:

> the deliverables included more cooperation on artificial intelligence, a working group to promote tourism, cooperation in counter-narcotics, and combatting fentanyl trafficking, enhanced cooperation on climate change, an increase in airline flights, and people to people exchanges.[153]

Later, National Security Council head Jake Sullivan said, "We are ready to coordinate on climate, health security, macroeconomic stability, and … risks posed by AI."[154] Given that the Chinese cannot be negotiated with on issues of real concern, especially techno-economic and trade ones,

rather than walk away and say that nothing was accomplished, the administration put on a happy face with these "important" issues of cooperation.

No one ever asks, "Why do we need to cooperate on these?" They are seen as self-obvious. But they should be questioned, as they are either not needed, not important, or something countries can do on their own. Let's look at each one:

- **Artificial Intelligence.** What for? The United States does not need to worry about any AI use in our country because Congress could enact a regulatory regime to govern AI if needed. We don't worry about unsafe drugs from other nations because we have Federal Drug Administration drug approvals. AI is no different. Ahh, but what about the killer Terminator AI? What about it? It is science fiction, not reality. Even if it were reality, it's in the CCP's interest not to get terminated by AI too. We don't need to cooperate. What about AI weapons? Does anyone really believe that America should limit its battlefield use on the basis of an agreement signed with the CCP? If you do, I have a bridge to sell you.
- **Tourism promotion.** Surely, they must be kidding. Who cares? And why would the United States want more Chinese tourists, and why do we need to cooperate with the CCP on it in anyway?
- **Airline flights.** Again, what? If we want more airline flights from China, the Federal Aviation Administration and U.S. airports can make that happen. And if the CCP wants more U.S. flights, it can do the same.
- **People-to-people exchanges.** See above re: airline flights.
- **Cooperation in counter-narcotics.** Is this not something the CCP is very interested in? If so, they can ask us for help.
- **Combatting fentanyl trafficking.** Okay, this is another one of "you must be kidding." The CCP could stop the flow of fentanyl and precursors to the United States next week, but it chooses not to because they know it weakens America and strengthens China.
- **Health security.** Let me get this right. It is likely that a CCP lab created (with financial help from America's National Institutes of Health) and inadvertently let loose the COVID-19 virus on the world and then proceeded to cover it up and manipulated the World Health Organization to do its bidding. We should cooperate with a government that did that?[155] This is something out of Orwell.
- **Macroeconomic stability.** With China having a long-running a massive trade surplus with the world while intentionally trying to deindustrialize the world, we should ask their help with macroeconomic stability? Wow. And again, presumably China has an interest in macroeconomic stability in the face of a global financial collapse or massive recession. So why are we the ones asking for it?
- **And of course, wait for it… climate change.** The big kahuna. But isn't China concerned about climate change too? It is more vulnerable to climate change than the United States is given the larger share of its population at sea level and its lower per capita income. Why does the CCP not beg the United States to do more? Why should we implore them? And the reality is that climate change will never be solved until we get clean energy technology that costs the same or less as dirty. No amount of "cooperation" will help. The

> reality is that the CCP will keep increasing its emissions of greenhouse gases until it makes economic sense for it to stop.

To be sure, it is important not to unilaterally cut off diplomatic ties with China. But the idea that we need China to help us on certain matters and that this means not pressing them harder for their techno-economic aggression against U.S. (and allied) companies and the U.S. economy is just the ultimate in naïveté.

The reality is that we are long past the time when the USG could influence China policy in any meaningful way. The first Obama administration was the last time that was possible. Their power is just too great now. Let's top being a supplicant and get on with defending our economy from Chinese techno-economic aggression.

A good example of this view is from the Peterson Institute for International Relations. Ha Jiming (a scholar in China) and Adam Posen wrote:

> We all believe that China-U.S. trade has been clearly win-win, and will continue to be so if it is conducted by the rules of that order, and if those rules are consensually adapted to economic change. In fact, given the degree to which China has developed, the two economies have more fundamental economic interests in common now than before, including in safeguarding and abiding by that system.[156]

They view the competition as normal and healthy, writing, "Chinese companies have a right to compete with U.S. companies and succeed in any sector, including in high-tech."[157] They went on to state:

> While much has been made of Made in China 2025 and the earlier "indigenous innovation" programs, the Chinese government's aspirations to make China a technological leader in some fields should not be considered a threat to the United States. Even some government subsidization of relevant R&D or technical education in this pursuit should not be inherently contentious.[158]

In other words, in this view, global trade is always win-win, value maximizing, and pointing out that China is not a Ricardian trader but a power trader intent on dominance is simply "not cricket." Peterson's commitment to global integration and free trade is so blinding and all-encompassing that it simply cannot admit that China is not playing by global welfare-maximizing rules. No worry, it will all work out; the natural global division of labor will prevail.

Likewise, Ryan Hass at the Brookings Institution wants the United States not to be overly harsh with China, including on techno-economic issues, so that we can work cooperatively on global challenges such as global warming.[159]

The Marshall Plan: Give China Aid So It Will Have Goodwill Toward Us

As part of his naïveté toward communist regimes, including the CCP, George Marshall proposed the "Marshall Plan: to extend aid to the Soviets in part to bring them closer to the United States."[160] Stalin clearly had no interest in taking our money or becoming closer.

Likewise, the United States has long supported aid to China to keep them engaged. As Shambaugh wrote, the Carter administration saw that "science and tech was the perfect medium

to keep the Chinese engaged given Beijing's own prioritization on modernization."[161] Carter's agreement stated, "Affirming that such cooperation can strengthen friendly relations between both countries."[162]

In 2006, the State Department wrote of the agreement, "The S&T Agreement has withstood the test of political turmoil and has provided a stabilizing influence on U.S.— Sino relations."[163]

According to the Congressional Research Service, U.S. AID and the State Department provided over $417 million in aid to China between 2001 and 2017.[164] The U.S.-supported World Bank still provides funding to China.[165] Even the Department of War provides funding to Chinese research universities.[166] In other words, helping China grow its national power industries by sharing U.S. science and technology is good because it keeps the CCP favorable toward America. Clearly, this did not stop China from engaging in massive IP theft and forced technology transfer against U.S. companies.

Truman Caused the Cold War: Support China and It Won't Attack Us

The foreign policy Left loves to advance the narrative that it was Harry Truman's hawkishness, not FDR's coddling of "Uncle Joe" Stalin, that caused the Cold War. Stalin just wanted to be left alone. Of course, this framing is ideological nonsense. Stalin was always the aggressor, and all Truman did was help America wake up to it.

Today, this narrative is applied to the United States and China. If only the United States, and in particular China hawks, would just stop pressing China, CCP leaders would become more reasonable. As early as 1998, a review of Peter Rodman's book *Between Friendship and Rivalry: China and America in the 21st Century* (Rodman was deputy national security advisor in the Reagan administration) stated that there is a "drift toward strategic rivalry between China and the United States, but that it can be slowed or reversed if the two sides find common ground on such strategic issues as Korea, Pakistan, regional stability, and the Asian economic crisis."[167]

In other words, if we don't cooperate with China, they will try to become our rival.[168]

Foreign policy professor Charles Glaser agrees, writing that "China's Rise Can Be Peaceful If the U.S. Doesn't Provoke It."[169] As David Shambaugh wrote, this camp argues that "it was not China's fault or actions that had caused the relationship to deteriorate so precipitously, it was America's fault!"[170]

Some go even harder on this blame game. A report for the Quincy Institute, an organization that emphasizes military restraint and diplomatic engagement and cooperation, states:

> An alternative China policy would foreground internationalism, global cooperation, and multilateral efforts against climate change, public health dangers, and global inequality. Such an approach would not only reduce bilateral tensions, it would also confront the root causes of great power conflict and the rise of illiberal politics in China, the United States, and around the world.[171]

If we just got rid of capitalism, the CCP would like us more. I am sure it would.

Oswald Mosley: Let's Side With China

When Labour, Liberal, and Conservative parties in Britain in the 1930s started to wake up to the threat from German National Socialism, certain segments of British society were sympathetic to Hitler, especially Oswald Mosley's "black shirt" movement.

Today, while not as explicit or perhaps extreme, there are some whose strategy is that the United States should do everything possible to get close to China, downplaying its Marxist-Leninist nature and seeking friendship. The leading organization with this view is the National Committee on U.S. China Relations (NCUSR). It has written, worryingly, that "more than three-quarters of Americans hold an unfavorable view of China."[172] Rather than accept that Americans may be onto something (e.g., Uyghur oppression, lack of Chinese citizen freedom, closed U.S. factories, aggression toward Taiwan, etc.) NCUSR's "Public Intellectuals Program is trying to change that."[173] In other words, it would like to see these three-quarters of Americans hold a favorable view of China. And as such, its strategy is to do everything to keep relations strong.

NCUSR tells us that China has a massive military not because of external aggression, but because it needs to control tensions at home.[174] It tells us that China is not the only one that sees U.S. global leadership as problematic, and China needs to have much greater say in shaping global affairs.[175]

The progressive Left, with its global-proletariat and anti-U.S. views, also embraces this perspective. For many of them, having China replace the United States as the global hegemon would be a welcome relief.

Another is "The Committee of 100," a group of Chinese Americans chaired by former ambassador to China Gary Locke. The group objects to policies limiting China. For example, it opposes legislation limiting Chinese nationals' ability to buy U.S. farmland.[176] It argues that investigations and prosecutions of Chinese spies and IP thieves were racial profiling, even though it is clear that the CCP is massively supportive of IP theft in the United States, and there were no investigations of other Asian nationalities.[177]

The progressive Left, with its global-proletariat and anti-U.S. views, also embraces this perspective. For many of them, having China replace the United States as the global hegemon would be a welcome relief. Even CCP fellow travelers such as Columbia's Jeffrey Sachs are in this camp.[178] Sachs, a "useful idiot" to the CCP, publishes articles in the state-run journal *China Daily* about U.S. decline and the problems with U.S. hegemony and how China needs to become a global leader.[179] Sachs actually appears on Chinese TV news shows urging China and other countries to cooperate to resist the United States.[180] His message: Trump is a bad nationalist; Xi is a wonderful globalist.[181] And he believes that China is the economic model for much of the rest of the world, especially developing nations, despite the fact that Chinese industrialization has meant the stagnation of industrial development in other developing nations.[182] He straight up argues that the U.S. should not be the leader of the world. And he has told the CCP's *Global Times* that he "regrets U.S. foreign policy toward China."[183] Jeff, perhaps you should instead teach in China?

Another flavor of this capitulation is that, in large part because of severe structural disfunctions in the United States, mostly due to Trump, China will overtake us as the global hegemon. But

that's okay because the world needs someone to lead. Better China than a post-hegemonic world of chaos.

C. Fred Bergsten, former head of the Peterson Institute, exemplified this view in his 2022 book *The United States vs. China: The Quest for Global Economic Leadership*.[184] Bergsten is the dean emeritus of the U.S. foreign economic policy community, especially when it comes to global economic issues. And this book reflects that community's bias. He wrote about China seeking global leadership, which he views as simply tough competition, not a zero-sum battle to win the war for national power industries. In fact, the book is largely sympathetic and optimistic toward China. In Bergsten's conception, someone needs to lead the world order, and if it can't be the United States, China should step up. He (wrongly) sees China as "the largest engine of growth for the world economy," (see above) and (wrongly) says that Chinese cooperation with the U.S. is critical to solving key global challenges (see above).[185] And rather than discuss China's predatory policies, he wrote (wrongly) that "China is now emphasizing domestic rather than international drivers of growth" (written just before China doubled its global trade surplus). In fact, the CCP has been trotting out the promise of rebalancing to domestic consumption for over 15 years and American policymakers still believe them—like Charlie Brown believes Lucy will really hold the football this time. And amazingly, he blames both China and the United States for the problems from COVID-19.

He then wrote that once China catches up to the United States, it will become a responsible stakeholder and stop "cheating." (This is remarkably similar to what the advocates of China's WTO accession said in the late 1990s). He touts China's global economic leadership record, admitting that, sure, they have a few problems with mercantilism, but he is convinced that they will outgrow them once they catch up. But of course, that is like saying that once Stalin conquered most of the world, he would give up on his military aggression. By the time China becomes "responsible," it will have won the war.

If the CCP truly wants to help with global governance, it can start by dismantling its mercantilist techno-economic war machine and compete on the same basis other nations do.

Bergsten then gets to the key point: the CCP's main and overarching priority is to stay in power, not to dominate the world. And of course, he reminds us, don't forget the power of the Western-oriented liberal reformers in the CCP. Thus, his conclusion is that the United States should assist China in elevating itself on the global stage and in more global institutions so that China can help us solve the world's problems.

The Carnegie Endowment agrees, writing in a volume on U.S.-China relations that "the United States and China have a joint interest in finding a modus vivendi that provides the context for continued peace, prosperity, and national flourishing."[186] If the CCP truly wants to help with global governance, it can start by dismantling its mercantilist techno-economic war machine and compete on the same basis other nations do.

The Deniers: Nothing to Worry About With China

Many of the preferred strategic choices come from those who are so convinced of America's superiority and China's structural flaws that there is nothing to worry about. These strategies council patience and no need for fundamental U.S. policy change.

Kenan Containment: Wait for China to Self-Destruct

After President Truman and others sounded the alarm on the Soviets' global ambitions, few if any could ignore the Soviet Challenge. George Kenan, the architect of Soviet containment, argued that the Soviet Union would naturally self-destruct and counseled containment. And he was right about the outcome. But it took more than 40 years for that to happen, and the United States emerged victorious and dominant.

Today, one thing both Xi and Trump have done is to make it harder to ignore that China is a pacing competitor to the United States. And so, some U.S. China scholars and pundits feel that they cannot ignore that China challenge. But for those who finally now, albeit grudgingly, see China as a competitor, the preferred strategy is to Kennan-like wait for China to naturally decline. The idea is that just as with the Soviet Union, eventually, because of a raft of internal contradictions, the Chinese economy, and perhaps even the CCP, will self-destruct, and then China will no longer be a threat. Let's just contain China and all will be well. The problem, as discussed ahead, is that even with the Soviet union's rampant spying and IP theft from the West, it has never had the capability to structurally weaken America's power industries. China does and will likely win well before it—if it even does—becomes a democracy.

In 1998, right before China's growth accelerated even more, economist Nick Lardy wrote a book about China's unfinished revolution and argued, "Those who magnify the 'China threat' by extrapolating from China's past growth rates are seriously mistaken."[187] Indeed, they were mistaken because, in contrast to Lardy's pessimism, China grew even faster in the 2000s. But for neoclassical trade economists, there is no way a state-controlled economy can grow consistently. Not only that, but Lardy argued that continued growth depends on the CCP to surrender a great deal of economic and political power because, as we all know, state-directed capitalism is a failure.

It is the strong desire to avoid facing the bracing reality that the United States has never in its history faced such a serious geopolitical threat that makes this kind of "wait for Chinese decline" so appealing.

He then advocated that the United States needed to assist in China's enterprise and bank restructuring program. Here he was right, because if China had followed Lardy's neoclassical advice and its banks had focused on only making money rather than on fueling China's national power industries, China would not be the techno-economic power it is today.

More recently, John Mueller, a Senior Fellow at the Cato Institute wrote, "The lesson of the Cold War is not about the value of persistent containment in breaking your adversary's will and sapping its power. It is about the wisdom of standing back, keeping your cool, and letting the contradictions in your opponent's system become apparent."[188]

In other words, for free-market ideologues, the Chinese economy must self-destruct because it violates the free-market creed.

In addition, it is the strong desire to avoid facing the bracing reality that the United States has never in its history faced such a serious geopolitical threat that makes this kind of "wait for Chinese decline" so appealing. No need for the intellectually and emotionally difficult desire to

reassess long held and deeply committed to ideas and doctrines. No need to question whether the current American techno-economic and trade system will suffice to respond effectively to the challenge. No need to retool one's intellectual framework to adjust to new realities.

This is why any and all bits of bad news out of China are leaped on by so many as evidence of China's impending doom. China has too much internal competition.[189] Chinese firms have low profits. China has a housing bubble. China has a demographic challenge.[190] Chinese millionaires are fleeing. In 2021, *The New York Times* published an opinion piece entitled "How Will We Win the Second Cold War?" arguing that we will win by doing nothing and letting China self-destruct.[191] The article pointed to "the inner weakness that the regime can't get rid of because it's part of its DNA." Ahh, that is comforting. We can continue our ways, and the problem will take care of itself. A *Project Syndicate* article agreed: "No matter what China does, its economy's momentum will be sapped by an aging, shrinking labor force, past overdrafts of public spending, and weak consumption. While the country is often now compared to Japan three decades ago, its outlook is actually much bleaker."[192]

But to blindly assert that China will collapse because it has a broken economic model (i.e., not America's) is the height of hubris and wish fulfillment. As the author of the Atlantic Council report "The Longer Telegram" wrote, China is:

> more dexterous in survival than its Soviet counterpart, aided by the fact that China has studied carefully, over more than a decade, "what went wrong" in the Soviet Union. It would therefore be extremely hazardous for US strategists to accept that an effective future US China strategy should rest on an assumption that the Chinese system is destined to inevitably collapse from within.[193]

A bit like die-hard Marxists in the 1980s and 1990s still holding onto the view that capitalism must collapse of its own weight and internal contradictions, these China critics just counsel patience. Don't worry, the collapse is coming.

There is little evidence that if the "reformers" gained power they would not continue their practice of power economics and goal of dominating national power industries.

Assassinate Hitler: Support Xi's Opponents

Some alternative history advocates have explored what would have happened if the United Kingdom had supported the assassination of Hitler, surmising that the Nazi replacement leader would not have been as militarily aggressive.

Today, related to the view that China is on autopilot to self-destruct is the view that it is Xi Jinping that is the problem and when he leaves power, China will go back to normal cooperation. They assert that things were workable before him and when he and those in his camp lose power, as they surely must, conflict will significantly lesson.

Perhaps the best example of this is from "The Longer Telegram" report, wherein the author wrote that:

> the central focus of an effective US and allied China strategy must be directed at the internal fault lines of domestic Chinese politics in general and concerning Xi's

> leadership in particular. A fundamental error of US strategy has been to attack China as a whole, thereby enabling Xi's leadership to circle the wagons within Chinese politics around the emotional pull of Chinese nationalism and civilizational pride. Just as significant an error has been to crudely attack the Chinese Communist Party itself. However, the political reality is that the party is divided on Xi's leadership where he threatens the lives, careers, and deeply held policy positions of many within its senior political echelons.[194]

He went on to write that "all US political and policy responses to China's current strategy should be focused through the single lens of Xi himself."[195]

The 2019 Open Letter authors agree, stating,: "Efforts to isolate China will simply weaken those Chinese intent on developing a more humane and tolerant society."[196] They went on to write, "The United States should encourage Chinese participation in new or modified global regimes in which rising powers have a greater voice."[197] In other words, let's not rock the boat and the "anti-Xi's" will emerge and we can get back to friendly, win-win relations.

Whether CCP reformers can gain power is beyond the scope of this report. Given Xi's Marxist-Leninist extremism, it certainly couldn't hurt. But to assume that the problem is Xi and not the inherent logic and goals of the CCP expressed since its very formation is to naïvely misinterpret China's long-term goals. Deng Xiaoping had the same goals as Xi; he just knew that he had to bide his time and hide his light. There is little evidence that if the "reformers" gained power they would not continue their practice of power economics and goal of dominating national power industries. They might do it in more subtle and less aggressive ways because they would believe that it was a better way to achieve their goal, but domination would still be their goal.

There is a related strategy that some hold on to and that is to wait until the CCP is finally replaced. Perhaps this is possible if enough Chinese become truly middle class and the then current generation can't remember China's abject poverty. However, unlike Japan, Taiwan, and South Korea, which shifted to democracy when they got to a certain level of development, the United States is not directly influencing and pressing China to open up and become democratic. And the CCP appears to want to hold on to power vastly more than Asian Tiger autocrats did.

More fundamentally, assuming that China eventually follows the democratic path of other Asian Tigers, by then the techno-economic war will long be over, with the United States and the West having lost much of their national power industry base. A vast techno-industrial destruction would be left in the wake. Unchecked, China could very well take over the global semiconductor industry, the chemical industry, AI, electronics, robotics, aerospace, biopharmaceuticals, precision instruments, and more.

Let Them Have the Sudetenland: It's Okay for China to Want Power Industry Self-Sufficiency

Chamberlin's deal with Hitler was premised on the notion that Hitler only wanted to reunite former German territory. That may have been right in the West; it definitely was not in the East, as anyone who had read *Mein Kampf* would have understood.

Today, there is a similar strategic response, especially from European policymakers. Many in the EU believe that the CCP has no desire for global strategic industry dominance; it simply wants its own strategic industries, just like Europe wants to not be dependent on Trump's America. The

EU Parliament has written that China's "drive for 'self-reliance' in strategic sectors aims to lessen dependence on foreign technology, bolstering resilience and reducing vulnerability."[198]

The problem with this view is twofold. First, China is achieving that by closing its markets to foreign companies, something Europe is not willing to do in response to China's mercantilism because it still believes in the vision of the WTO. Second, and more importantly, the CCP wants domination, not just self-reliance. Self-reliance lessens its dependency on adversaries. Domination gives it leverage over adversaries. The CCP's entire Belt and Road and "going out" strategies are premised on attack and conquer, not just industrial defense of its homeland.

Many in the EU believe that the CCP has no desire for global strategic industry dominance; it simply wants its own strategic industries, just like Europe wants to not be dependent on Trump's America.

The French Strategy: Assume That the U.S. Techno-Economy Is Superior to China's

Before World War II, the French military high command and political leadership assumed that its forces were superior to Germany's. It had more men under arms, its tanks were considered superior, and it had the Maginot Line. This led both the civilian and military leadership to become overconfident, failing to spend money to rearm. At the same time, it led the French military to become complacent in strategy, planning to fight a long, protracted war, not a response to Guderian's blitzkrieg tank pincer formations.[199]

Today's version of this is widely believed in U.S. foreign policy circles. It holds that China hawks overstate Chinese capabilities and that the United States has enormous strengths that will lead us to automatically prevail in techno-economic competition.

Jude Blanchette and Ryan Hass exemplify this view:

> Even with its many shortcomings and vulnerabilities, the United States continues to command a strategic depth that China fundamentally lacks: a unique combination of economic vitality, global military superiority, remarkable human capital, and a political system designed to promote the correction of errors. The resilient and adaptable U.S. economy has the world's deepest and most liquid capital markets and unparalleled influence over the global financial system. The United States continues to attract top global talent, including many Chinese nationals now fleeing their country's autocratic political environment. Put plainly, the United States still has a vital edge over China in terms of economic dynamism, global influence, and technological innovation.[200]

They wrote in answer to the question, "Is China destined to be an economic superpower?":

> No. China has made huge, genuine strides in the past four decades, becoming dominant in manufacturing, prominent in many supply chains, and a leader in several high-tech sectors. However, China's economy has major structural challenges that will constrain growth, and its current economic strategy, which is rooted in pursuing technology leadership, is depressing growth due to industrial-policy waste and growing tensions with trading partners. Going forward, China could encounter a crisis, muddle through with low growth, or revive growth with a more market-oriented strategy.

> As reports in this series have definitely shown that is simply wishful thinking that relies on ideological platitudes and not on careful analysis of firms, industries and innovation systems. The preponderance of evidence suggests that China has vastly more manufacturing capabilities than America, including and especially in national power industries, and is making much faster progress in innovation.[201]

It is common for supporters of the view of U.S. superiority to point to U.S. universities, venture capital, high-skill immigration, and entrepreneurial culture as inherent sources of superiority. Many even still cling to the notion that U.S. manufacturing is strong. Professor and commentator Jerry Harr reflected this view when he wrote, "Examining U.S. manufacturing competitiveness today, one finds that the United States maintains a formidable position in global manufacturing despite facing intensifying international competition."[202] Yet, comparing U.S. advanced industry output with China's shows how far behind the United States is.[203]

Most U.S. holders of free-market doctrine dismiss the China threat because they believe that free-market economies are inherently superior to more planned economies.

A related view comes from CSIS. Its lead China analyst informed, "The United States needs to remember that it has not fallen behind China."[204] But nowhere on the CSIS China Power project website is any analysis of China's attempts to master advanced technology industries or any assessment of its progress and success. And to the extent it discusses China's actions in this realm, it largely suggests that it will fail, presumably just as it has done in steel, EVs, batteries, drones, telecom equipment, solar panels, and high-speed rail.[205]

Most U.S. holders of free-market doctrine dismiss the China threat because they believe that free-market economies are inherently superior to more planned economies. As such, there is no way we can lose, unless we become more like China. John Tamny, editor of *RealClearMarkets*, wrote, "The overblown China panic serves as a reminder of why the U.S. must maintain the market-friendly norms that have long made it the envy of the world."[206]

Box 3: U.S. Optimism: *Command of Commerce: America's Enduring Power Advantage Over China*

One of the more important questions to get right is whether the United States or China has more techno-economic and trade leverage over the other and what the trend in that dynamic is going.

A new book, *Command of Commerce*, addresses this issue.[207] As the title suggests, it's not an even, close contest: America dominates.

But the authors' methods and analysis are fundamentally flawed.

First, their key claim for U.S. superiority is that U.S. multinationals have a much larger share of profits than Chinese do. But as noted, that's largely because Chinese firms are willing to accept lower profits (in part because of government subsidies) in order to capture global market share. U.S. firms are not. Moreover, a higher share of Chinese firms are in more competitive segments where profits are low. For example, the profitability of electronics assembly firms is quite low compared with software firms. Does that not mean that being able to make things is not important to national power?

They also see profits from sales and marketing as key indicators of national strength. For them, an American firm that outsources low-margin production overseas but makes high profits because of sales and marketing boosts U.S. power. No, it weakens it, even if they argue that higher profits help a nation. They do, but profits are a small share of national income, around 14 percent in the United States.[208]

Second, like so many U.S. foreign policy and economic experts, the authors focus on firm nationality and not production location. In the authors' analysis, a firm such as Boeing or Intel could offshore all its production to China and U.S. power would not diminish because these are U.S. firms. In fact, they argued, power would increase because the USG could order these U.S. firms to stop production in China at any time. But in a war, what matters is not production in other nations, especially your adversaries; it's production at home.

They wrote, "For a nation to be able to transform its manufacturing output into geopolitical leverage it needs to have significant influence over the more complicated manufacturing and design activities that feed into most products, and it needs to have control over where those products are sold."[209]

In other words, they asserted that a U.S. company that designs a product but has it made in Chinese factories, and then sold through the U.S. company's distribution channel has geopolitical leverage. At one level, it does. The USG can tell it to stop producing in China, although that would mean major job loss and possible bankruptcy of the U.S. company, as sales would crater before it could establish new production facilities somewhere else.

But it also means that the U.S. does not have this production domestically. To the extent the industry is dual use, or even enabling, that absence weakens U.S. defense production. And to the extent the United States relies on the products made by a U.S. company in China, it would be cutting off its nose to spite its face.

Third, the authors did rightly point to a key metric as allied production strength (even if profits are their key measure). But it's not at all clear that our allies are really our allies when it comes to China. South Korea and Japan are increasingly split in their loyalties, while the EU, in the face of Trump's tariffs, is tilting East, not West. Indeed, the EU has still not cut off sales of Huawei 5G equipment within Europe because some EU nations want to save a few euros by buying Chinese. And overall, EU leaders are loathe to give up Chinese markets, which explains why they do so little to embrace U.S. export controls on China.[210]

Fourth, the authors ignored important measures. They failed to mention that in 2024 the United States ran a $1.3 trillion trade deficit, with $300 billion of that with China. China ran a $900 billion merchandise trade surplus.[211] Over the last decade, U.S. manufacturing value-added output has grown more slowly than GDP and 14 of 19 major industries saw absolute decline.[212] Moreover, U.S. manufacturing productivity has been stagnant since the early 2010s.[213] While there does not appear to be easily accessible data on Chinese labor productivity growth, overall Chinese productivity growth has been significantly higher than that of the United States.[214] The fact that China now has installed 74 percent more industrial robots per manufacturing worker than the United States has, and installed 7.3 times more in 2013—an even more impressive feat given that Chinese manufacturing wages are significantly lower, which reduces the ROI of robotics installation—suggests strong competitive advantage.[215]

Fifth, the authors finally got to the real measures of power when they looked at OECD's value-added output in various industries. The problem is that they considered only high-tech industries

as important—not motor vehicles, where tank production is classified; or shipbuilding, where aircraft carriers are classified; not steel, which weapons systems use; etc.

And even more, they included telecommunications services and professional services sectors that have no bearing on national power and leverage. If the Chinese were to cut off all exports to us, we'd still have these two perfectly functioning sectors, because they are not traded, they are domestic.

When looking at traded high-tech sectors, as the authors defined them, the OECD data shows that in 2022 (they used 2020 data), the U.S. share was 29.5 percent, with China's 18.5 percent, a significant U.S. lead.[216] But leaving out the two nontraded sectors, and the nongoods sector of IT and information services, China's share jumps to 27.7% while the U.S. share falls to 20.7 percent.[217]

Moreover, a core mistake the authors made is that they presented a static snapshot of China. They were absolutely correct that in certain sectors such as aerospace, drugs, semiconductors, and equipment that China lags behind the United States. And that does give the United States some breathing room. But in all these industries and more, China's progress is rapid. For example, from 2016 to 2022, China's output in other transportation, which includes aerospace, increased four times faster than U.S. value-added output, while its computer and semiconductor output increase twice as fast. And while the United States government is cutting federal R&D, the Chinese government is expanding it.

They also argued that Chinese GDP is exaggerated in official CCP figures. This may very well be the case, but it is not the key point if one is considering the global war for advanced industries. If China's personal services, retail, and legal services market is not expanding, that means lower GDP, but it has no effect on national power industries.

Sixth, the book goes all out to make its case. Case in point, the authors reported that because of the U.S. export sanctions, Huawei's global phone share fell from 11 percent in 2000 to 3.5 percent in 2024. They were either not aware of, or ignored the fact, that about 4 percentage points of that drop was due to Huawei spinning off its lower-end phone business to a new company, Honor. And they overlooked that Huawei is not the world's largest telecom equipment manufacturer, and its global market share for telecom equipment increased from 29 percent in early 2018 to 31 percent by 2024.[218]

Finally, the authors pointed to the fact that the United Staes has used export controls to supposedly hobble China (which they did not in the case of Huawei) while China has refrained from trying to do the same to the United States as evidence that it is weaker technologically and has little leverage. Because of this, the authors amazingly argued for even more export controls against China to weaken it.

This betrays a fundamental reading of China. China has no interest in cutting off sales of its products to the United States, because unlike the USG, it realizes that more Chinese sales strengthen its companies and weaken America's. Moreover, China still benefits from U.S. investment in China, and the technology transfer it gets. It doesn't close its markets to foreign investment until the industry in question is dominant. It is biding its time to gain even more from foreign firms.

"Peace in Our Time": There's Nothing the United States Can Do, So Do Nothing

Chamberlain probably rightly believed that there was little that France and the United Kingdom could do to deter or weaken Hitler, so he engaged in appeasement. Today, that is a common strategy toward China proposed by many in the foreign policy establishment. The 2019 Open Letter advocates this: "U.S. opposition will not prevent the continued expansion of the Chinese economy, a greater global market share for Chinese companies and an increase in China's role in world affairs."[219]

On what basis do they make this assertion, other than they value engagement above all else? Why wouldn't a strategy of limiting Chinese exports and working with our allies to do the same result in China having less global market share instead of more?

However, for them, even if we could do something to limit China's rise, we shouldn't because it would hurt ourselves. The authors went on to write that "the United States cannot significantly slow China's rise without damaging itself."[220]

China scholar Susan Shirk agreed, stating that "there is no objective measure to suggest that a dramatic reduction in the extent or quality of China's participation in global commerce and finance would do anything except harm economic growth in the United States."[221]

A Brookings report in 2022 expressed the same sentiment that the fight will be costly, so it will hurt us. It states that:

> Fully extracting Chinese firms from Department of Defense supply chains, including those that produce rare earth minerals for example, would likely be infeasible, and may discourage innovation by imposing costs that would likely be insurmountable for start-up companies.[222]

It goes on the criticize the idea that the United States should produce more key goods that we compete for with China, presumably because it would entail the dreaded "industrial policy" and because it would cost money:

> While it is reasonable to geographically diversify this particular portfolio, the imperative should not be applied more broadly to the high-tech industry overall. The goal of subsidies, tax breaks, and loan guarantee programs should be to incentivize greater supply chain resilience in sectors that are vital for the provision of necessary public goods; it should not be to strengthen the balance sheet of domestic firms or increase domestic production of high-tech goods and services per se.[223]

And above all, the authors worry that tariffs "increase the costs of goods for consumers."[224]

Why not eliminate the U.S. defense budget because it raises costs for taxpayers? We would be much better off spending money on consumer goods than defense goods if we didn't have to worry about national defense. And besides, this broad assertion of self-damage, made with no real logic, is certainly true with some actions, but not with others. Limiting the imports of national power industry goods or services produced unfairly helps, not hurts the United States.

We Wanted to Fight in Europe, While Stalin Had Other Ideas: Fighting Only Battles of Your Own Choosing—Derisking

After WWII, the entire U.S. defense and foreign policy establishment focused on Europe, largely ignoring Asia. The belief was that if Stalin attacked, he would go West, not Southeast. But Stalin, and Mao, had other ideas, giving the green light to North Korea's Marxist-Leninist dictator Kim Il-Sung to invade South Korea.

The analogy to today is the notion of derisking: a denial of the China threat and capabilities. Popular in the EU—which abhors having to take a stand against China and can't dare to consider that the old vision of globalization (a world where no nation other than America needs to spend money on defense) is dead, and wants to sell as much to China as it can—the idea is that it's only a few industries that we have to fight for to "derisk" from China.[225]

In a recent EU report on derisking, the EU Parliament wrote:

> According to Ursula von der Leyen, de-risking is not exclusively vis-à-vis China, as it is about 'managing the risks we see, addressing excessive dependencies through diversification of our supply chains. This is a positive communication move, as it has the potential to be better perceived in China than the triptych (China as a cooperation partner-economic competitor, systemic rival.[226]

Jake Sullivan also supported this strategy when he proposed, "De-risking and diversifying, not decoupling."[227]

In other words, the EU above all does not want to make the CCP mad by calling it a systematic rival. The term derisking allows, the EU believes, the limiting of some dependencies on China while not making it so angry that it limits EU sales to China, something the EU puts at the top of its agenda with China. The EU report goes on to state, "Trade and openness are deeply engrained within the European project, and the more moderate de-risking concept is meant as a way to find a better equilibrium between seizing opportunities and managing risks."[228]

The EU above all does not want to make the CCP mad by calling it a systematic rival. The term derisking allows, the EU believes, the limiting of some dependencies on China while not making it so angry that it limits EU sales to China, something the EU puts at the top of its agenda with China.

"Seizing opportunities" is a euphemism for selling more to China, especially if it comes at the expense of U.S. exports, while welcoming Chinese factories to be built in the EU.[229]

The report goes on to narrow the scope for derisking, even embracing more dependency on China:

> In many fields, European firms also look to the Chinese market and Chinese partners not only for research and development opportunities, but also as a source of technology. Ultimately, the de-risking approach proposed by the Commission may be considered one of risk mitigation or management, rather than a cleansing exercise. Indeed, many companies, Member States and even the Commission seek generally to maintain avenues of economic and technological cooperation,

> ensuring that China remains a partner for Europe in areas that do not constitute a palpable risk for Europe's security.[230]

The EU also defines derisking not as only with China, but amazingly also with the United States: "De-risking is strongly tied to the EU Economic Security Strategy that goes beyond China."[231] And the EU seeks to derisk from the United States, as the recent "Draghi report" suggests.[232] When it talks about strategic dependencies in the IT hardware sector, it talks more about the United States than it does about China. In the fact, the report is only partially focused on China, with much of the discussion on the United States' techno-economic capabilities.

Worry About the United States, Not China

Finally, there are a range of strategic approaches that largely ignore either attacking Chinese capabilities or defending against its techno-economic aggression, and instead focus only on ways the United States can improve.

Another French Strategy: Don't Attack China, Only Boost Our Own Force

France relied on defense against Hitler. It failed.

A similar approach is in vogue in the United States today. In a report for the Carnegie Endowment for International Peace Jon Bateman argued that "the primary effort should be 'offensive': new investments and incentives to bolster and diversify innovation pathways, supply chains, talent pipelines, and revenue models in strategic technology areas."[233]

In a 2018 article in *Foreign Affairs*, Kurt Campbell and Ely Ratner, former members of the Biden administration. argued:

> The starting point for a better approach is a new degree of humility about the United States' ability to change China. Neither seeking to isolate and weaken it nor trying to transform it for the better should be the lodestar of U.S. strategy in Asia. Washington should instead focus more on its own power and behavior, and the power and behavior of its allies and partners.[234]

Even if the United States had the political will to come together to fight the war and the willingness to commit the significant resources to spur domestic competitiveness, that would still not be enough.

A Biden interim national security guideline issued in March 2021 echoes this: "[O]ur enduring advantages will allow us to prevail in strategic competition with China or any other nation."[235] It went on to note, "The most effective way for America to out-compete a more assertive and authoritarian China over the long-term is to invest in our people, our economy, and our democracy."[236]

Even if the United States had the political will to come together to fight the war and the willingness to commit the significant resources to boost domestic competitiveness, that would still not be enough. The CCP's pockets and tools will always be deeper and sharper than America's.

Escape to Higher Ground: Support AI and Other Frontier Technologies

In the U.S. Civil War, General McLellan let Robert E. Lee intimidate him and set the stage for where to fight. McLelland reacted and retreated. But Ulysses S. Grant did not, famously stating, "I propose to fight it out on this line if it takes all summer."[237]

McLellan's thinking is what passes for much of U.S. competitiveness and tech policy thinking today. Well, we can't compete with China in "x" (e.g., drones, telecom equipment, chemicals, and even manufacturing generally), so we will retreat to higher ground of "x." Usually, "x" is AI. Well, China is good at manufacturing, but we are good at AI, so we can let them have manufacturing; we will win in AI. Some justify this by hyping AI as the secret weapon in the techno-economic war—akin to Hitler's jet fighters and V-2 rockets. Once the United States gets to artificial general intelligence (AGI) or even artificial superintelligence (ASI), the war is over, and the United States has won. AGI will give us utmost power to outcompete China everywhere.

As one study puts it:

> The contest between China and the United States to harness the potential of artificial intelligence (AI) has become this generation's defining technological rivalry. The report concludes that America's ability to shape AI's trajectory depends on extending its technological advantage over China as much as possible. Rather than focusing on unlikely cooperation, the United States must pursue decisive technical superiority fueled by a vision for American AI that advances democratic values and global development. Effectively managing the fraught issues on AI's horizon can strengthen the United States' soft power and technological advantage; failing to do so risks derailing American AI progress and ceding ground to Beijing.[238]

It is a seductive notion, but likely as wrong as Hitler's betting the war on *Wunderwaffen* (wonder weapons) rather than more tanks. First, China is making rapid progress in AI. It's not like the 1990s with "Wintelism" (Windows and Intel) and U.S. dominance in personal computing and then the Internet. China is in the game.

Second, it is a bet-the-farm risk that AI is the superweapon of the techno-economic war. What if AI is just another normal, albeit important technology? A technology that improves production in many sectors, but does not transform the world like never before. In that case, AI will not be able to preserve our national power industries such as drugs, aerospace, chips, machine tools, chemicals, etc. That, rather than sci-fi stories about ASI is the much more likely outcome, at least in the next quarter century when this conflict really matters.

A related story is that it's not just AI, but rather a host of emerging technologies that will save us. Through the magic of Silicon Valley, America will lead in the industries of the future: blockchain, humanoid robots, quantum, synthetic biology, 3D printing, and of course AI. Biden's Secretary of State Antony Blinken agreed, identifying six technologies as core to the U.S. competitive strategy: "microelectronics, advanced computing and quantum technologies, artificial intelligence, biotechnology and biomanufacturing, advanced telecommunications, and clean energy technologies."[239] (Although the administration never bothered to explain why clean energy is strategic when we have lots of dirty energy.) It seems like advocates of this view get their

understanding of technology from *Wired Magazine*, focused on the cool, cutting-edge stuff, much of what they experience in their own lives.

No need to fight to win the silicon chip wars; just develop the next generation of processors such as neuromorphic computing and the like.[240] No need to win the compute wars; just jump ahead to quantum. Don't worry about the chemical sector; embrace "synthetic biology."[241]

And don't forget, we have Silicon Valley; we can afford to cede the rest of the territory as long as we have the commanding heights of the Valley. This wrongly implies that atom-based industries—or "deep tech"—such as aerospace, vehicles, machine tools, and chemicals are not strategic. Moreover, for all the wonder of Silicon Valley, it's just not that big, accounting for just 1.5 percent of U.S. GDP.[242]

The problems with this approach are similar to those of AI. First, capacity in breakthrough technologies often comes from leadership in prior technologies. Biotech breakthroughs depend on strong, large U.S. biopharmaceutical companies. 6G might come from startups, but more likely it will come from incumbents such as Qualcomm and Ericsson. Quantum could come from new entrants, but existing IT and computer companies are more likely to develop it.

Second, the United States has a long history of leading in innovative breakthroughs only to lose production to other nations. Why would this time be any different if the fundamental U.S. strategy and policy remain the same? In fact, with China poised to hoover up U.S. breakthrough knowledge and commercialize it in China, one would expect even more of the same pattern. China is fighting hard in all of them, and some of these industries have a very similar dynamic to ones that the United States has already lost to China.

The United States has a long history of leading in innovative breakthroughs only to lose production to other nations. Why would this time be any different if the fundamental U.S. strategy and policy remain the same?

Third, there is no reason to expect that the United States will win all these sectors, especially with the deep cuts in federal funding for research. It was much easier for the United States to win past tech breakthroughs when the federal government funded such a massive amount of research. It no longer does.

Finally, there are many sectors, such as machine tools, basic chemicals, and others that are strategic but not cutting-edge, cool, high-tech. These and others are less likely to experience breakthrough innovations that could launch new companies in the United States.

Higher Ground II: Develop Science and Hope for the Best

Another strategy, related to the AI and emerging technologies ones, is to rely on some kind of vague, promised scientific innovations. Presumably, this pays off in commercial success in the United States and in strategic industries and technologies.

In a report for CSIS, Rand's Mike Mazzar wrote, "The domestic foundation for success in turn has three major components: nurturing a supportive ecosystem for science and technology, promoting diffusion, and managing the wider social effects of technology for competitive advantage."[243]

His first component for U.S. success is, "The domestic U.S. foundations of scientific and technological innovation, including the supporting science and technology ecosystem, must remain at a world-class level."[244]

This is a widely held view that a better science system will go a long way toward saving us. In a 2022 speech, National Security Advisor Jake Sullivan stated, "Advancements in science and technology are poised to define the geopolitical landscape of the 21st century. They will generate game-changers in health and medicine, food security, and clean energy. We'll see leap-ahead breakthroughs and new industries that drive our prosperity."[245]

In his otherwise excellent book, David Shambaugh reflected this conventional wisdom when he wrote, "We also need to invest considerable sums into basic scientific research in order to maintain all American comparative advantage in innovation."[246]

This is an appealing and safe framing because it doesn't require a dreaded strategic industry strategy that involves picking winners. It doesn't even involve the painful task of telling U.S. scientists that they have to do more work related to the national interest. Rather, it's grounded in the more widely accepted view that government can play the key role in innovation by funding scientific research that U.S. scientists choose to focus on.

But it also reflects a shallow and misguided view of how innovation takes place and even what it is. Innovation is not scientific discovery, something that is now available widely around the globe. Innovation is the successful bringing to the market of a new product, process, or service, and beating the competition while doing it. Innovation doesn't come from STEM workers or science funding. It comes from organizations with embedded knowledge. That requires a deep understanding of organizational production and corporate strategy. And sophisticated organizations anywhere on the planet can absorb a significant portion of the science breakthroughs funded by the USG.

Exactly how does the U.S. military fight wars with the best lawyers, consultants, accountants, and universities?

Higher Ground III: Our Post-Industrial Future

The ultimate retreat is to say that no particular part of land is strategic enough to defend. This is the view of the "potato chips, computers chips, what's the difference?" group. In this view, all industries are the same. Who cares if America manufactures anything; it's dirty and dull anyway? We will take the commanding heights of global finance, business consulting, content, and higher education. A report from CSIS summarizes the view: "What is missing from both strategies for competing with China is a focus on what is too often the unsung driver of U.S. competitiveness: services."[247] Exactly how does the U.S. military fight wars with the best lawyers, consultants, accountants, and universities? But these are soothing visions. No need to fight. You walk away from the aggressor. You do better things than the aggressor.

The Ultimate Higher Ground: Fix Capitalism and Praise Chinese Capitalism

Still another distraction from the war is the view by elites, especially global business elites and fellow travelers in the academic and punditry, which is that the problem is with the West and that only a new kind of capitalism will save it. Besides implying a self-loathing of Western

capitalism, this view is a major distraction from the task at hand of not letting the West lose in national power industry war.

One example is the famous (or infamous) Trilateral Commission, whose "Task Force on Global Capitalism in Transition" argued that it is Western capitalism that is inherently problematic, something that is remarkably similar to what Xi Jinping says.[248] The Task Force has argued, "There are growing concerns about whether market-based economies will be able to adequately address climate change, the disruptions triggered by the digital revolution, and rising inequalities. Moving toward a more sustainable and inclusive capitalism is thus a defining challenge of our age."[249]

In other words, climate and inequality demand a new kind of capitalism. Maybe even capitalism with Chinese characteristics? In fact, the Task Force has lauded the CCP's efforts as fellow reform travelers: "Even China—the largest beneficiary of global capitalism over the past 40 years—launched a campaign in 2021 to curb 'the disorderly expansion of capital.'"[250] It appears that they did not know that the disorder the CCP was trying to put in order was from companies not investing in ensuring Chinese global dominance in national power industries. The Task Force has even stated that the Chinese economy arguably meets the criteria for a capitalist system. Hence, China is in the club with America seeking "the transition in global capitalism" to a happy, clean, more equal sixth phase.

And of course, the World Economic Forum (WEF) is at the forefront of this kind of self-flagellation. Former director Klaus Schwab recently stated, "We now have a window of opportunity to create this Global Reset which we all need. This Global Reset is necessary because we have seen how our policies which we pursued before the coronavirus struck us because those policies do not create the necessary inclusion of society necessary for harmonious societal development."[251]

Was he not aware that the term "harmonious societal development" is a CCP global talking point to attack the Western model of development?[252] It's worth adding that this was from a person who told a Chinese forum, "We are coming out, thanks also to the leadership of China in terms of fighting the pandemic."[253] And he was "happy to see China putting high priorities on developing its 'fourth industrial revolution' capabilities."[254]

Sounding like *China Daily,* WEF touts that China is "driving global growth," "reshaping food systems," and powering a "remarkable green transition." It is even helping the world with its rare earth minerals policies.

WEF sees China as no different than any other nation, except it's bigger, provides more benefits, and is more committed to free trade than America is. One WEF article about China at Davos 2025 states, "China showcased its transition from traditional growth drivers to a new model centered on domestic consumption, advanced manufacturing, and green transformation, while emphasizing continued commitment to opening up amid geopolitical tensions."[255]

Yes, that would be the "new" model on domestic consumption the CCP has been promising without delivering for the last 15 years. Yes, if you consider green transition to be China' coal-fired power plant construction hitting a 10-year high.[256] And yes, if it's possible to commit to

opening up while simultaneously shutting out more and more foreign companies from its markets.

And the writer went on to castigate America for being closed:

> The recent US Department of Defense designation of CATL as a "Chinese military company" highlighted the challenges ahead for Chinese companies operating globally. While Chinese officials and business leaders consistently emphasized openness and collaboration, there was clear recognition of the need to navigate an increasingly complex international environment.[257]

Sounding like *China Daily,* WEF touts that China is "driving global growth," "reshaping food systems," and powering a "remarkable green transition." It is even helping the world with its rare earth minerals policies.[258] (True, if helping means putting the rest of the world's rare earth miners and processors out of business.) And the author, a professor educated in China and now teaching in Australia, has argued, "A more balanced narrative is the first step towards a coherent, globally coordinated policy response."[259] That is CCP speak for, "Stop criticizing us."

The pacifist Quincy Institute agrees, blaming capitalism for U.S.-China competition:

> The United States and China are trapped in zero-sum economic competition today because neoliberal globalization consistently failed to create the broad growth that would allow prosperity in all countries… The U.S. and China are thus locked in a zero-sum struggle that is distracting both sides from the root causes of the conflict and strengthening the forces of authoritarianism and nationalism in both countries.[260]

Ahh, if only the United States abandoned "neoliberalism," the CCP could get back to what it really wants to do: boost the Chinese proletariat.

Just Rely on Krupp: Defense Procurement Is Enough

In WWII, Krupp was the major defense contractor in Germany, and Hitler relied on it for building superweapons to win the war. Today, there is a similar myopic focus of just reforming defense procurement in order to address the China threat.

U.S. industrial policy for defense goods was seen as necessary because markets would fail. But an industrial policy for dual-use and enabling industries? That's a whole other matter. Much of the discussion of national power industry competition with China focuses narrowly on the defense industrial base and the myriad of reforms offered to improve it. These range from more competition, more procurement from the civilian sector, multi-year procurement, more foreign military sales, more allied cooperation and specialization, and of course, more flexible contracting and funding mechanisms.[261] It's not that these proposals are not useful, they very well may be. But the belief that we cannot lose the power industry war with China by only improving how DOD spends its procurement and R&D budgets is wishful thinking.

Redoubt: Let the China Take Over Everywhere But America

In the first half of the 20th century, the Swiss had a great strategy: let the rest of Europe destroy itself by making sure that the costs of invading mountainous Switzerland were very high and that

Switzerland would stay neutral. The problem with this strategy was that it could have let either the Nazis or the Soviets control Europe.

But still, the redoubt strategy is attractive and seductive. Many neo-protectionist Republicans want to erect high mountains from tariffs and therefore couldn't care less about what other nations, including China, do. Tariffs will ensure that the American economy will be self-sufficient and that China can do it little harm, at least economically. In this view, while a country such as Canada or the United Kingdom couldn't do that because their GDP is too small, the U.S. market is big enough to let every industry comfortably produce and thrive, as long as they are protected by high enough tariff walls.

The problems with this strategy are many. Most importantly, it ensures that China wins the global war. It may not "occupy our land" (e.g., hollow out our strategic industries), but it is likely to occupy the rest of the world. The United States would find itself living in a world where our influence would be minimal: no country would want to risk alienating the hegemon of Beijing. Just look at Europe now, tiptoeing around in fear of aggravating the CCP (or India, going to Beijing to get closer). Imagine how obsequious Europe would be without the United States to protect it.

A protectionist redoubt is a prescription for U.S. national power industry decline.

Second, most strategic industries that are technologically advanced, such as semiconductors, pharmaceuticals, aerospace, fine chemicals, and more, require global market share to survive. The fixed cost is too high to hope to recover them in a market even as large as the United States'. A protectionist redoubt is a prescription for U.S. national power industry decline.

The Right Strategy: FDR and Churchill—Enlist Allies and Fight the War for Chinese Power Industry Containment and Domestic Development

Just as in World WWII and the Cold War with the Soviet Union and the Eastern bloc, the only effective strategy is to stand and fight collectively. We have to take a stand. Like General Grant in the battle of the Wilderness: no more retreat. not one step back, only attacking the next day. Or like in World War II, when the Nazis were relentless in their advance and the Soviets had their backs to the wall, Stalin issued his famous not one step back order. While it meant hundreds of thousands of Soviet military deaths, it also meant that the back of the Wehrmacht would be broken.

Accepting that this is the only acceptable high-level strategy means a fundamental reexamination and reformulation of past institutional arrangements and policies. This means disruption and rethinking past assumptions about globalization, financial capitalism, the role of government, and the regulatory state. And it means embracing the development and implementation of a strategy to not lose the war.

In this sense, the Kennan concept of containment is the right one. Kennan understood the threat to the West from Soviet communist expansionism. And he knew that the ability of the West to defeat the Soviets, especially militarily, was minimal—at least until the Soviet Union began to fall significantly far behind the United States as they started doing in the 1970s. As such, the strategy was to limit the ability of the Soviet bloc to develop (through export controls and limited

trade) while limiting its ability to expand into allied nations, and finally working to gain the hearts and minds of the unaligned world.

Today, the United States does not have the capability to defeat China from a techno-economic perspective. We might have been 20 years ago, when the techno-economic capabilities ratio was much more in our favor, but it no longer is. While various export controls and other means might throw a wrench into Chinese progress (delaying them and raising costs), there is no evidence or reason to believe that it can keep the CCP from its ultimate goal of techno-economic domination.

The goal has to be, first and foremost, not letting the CCP win the battles for strategic industries in allied nations. The reason is simple: more sales for its strategic industry firms means more innovation and lower costs for China. Fewer sales for our strategic industry firms mean less innovation and higher costs for us. An overarching strategy for how to do that is laid out ahead, but for now, suffice to say it involves offense (supporting domestic companies in their battles) and defense (limiting Chinese companies' access to our markets).

Unless the United States rejects both free-market-based consumer welfare economics and progressive, quasi-socialist worker economics and instead adopts a national power economics doctrine and framework, it will lose the war.

Taking this seriously and to heart has major implications for the nation. First, it means that we have to give less attention to many of the political hot-button issues that the Right and the Left are willing to go the ramparts for. And it means, just as in the Cold War, that the American people and our leaders need to admit and bear the very serious costs that engaging in this war will cost. JFK said that "we shall pay any price, bear any burden, meet any hardship, support any friend, oppose any foe to assure the survival and the success of liberty."[262] Few Americans likely believe that today; in fact, many are ambivalent about the very value of liberty.

As such, setting that as the core strategy is paramount. But unless the United States rejects both free-market-based consumer welfare economics and progressive, quasi-socialist worker economics and instead adopts a national power economics doctrine and framework, it will lose the war.

CONSUMER WELFARE AND PROGRESSIVE ECONOMICS VS. NATIONAL POWER ECONOMICS

Two economic doctrines compete for U.S. dominance: free-market, consumer welfare economics and neo-New Deal worker-oriented progressivism.

Consumer Welfare Economics

Most economic policy, including trade, technology, tax and budget, and regulatory policy is grounded in the discipline of economics. In America's case, this is neo-classical economics. Another term for it is consumer welfare-focused economics because the goal is maximizing consumer welfare, ideally by allowing the free reign of market forces enabling the efficient allocation of resources.

In this frame, policies are usually judged by their effects on consumers and free markets. The free trade, free-market think tank The Peterson Institute reflects that view when it argued that:

> the United States cannot and should not have as its policy goal greater self-sufficiency across a wide range of activities. The nation—and the manufacturing sector in particular—is too deeply engaged in international trade to make that advisable. Furthermore, the efficiency gains from this diversification of supply are substantial.[263]

And in this view, efficiency is maximized when prices are set by natural supply and demand forces in markets. A minimum wage: bad because it substitutes government dictate for market forces and hurts consumers. Tariffs: bad because they substitute government dictate for market forces and hurt consumers. Industry subsidies: bad because they substitute government dictate for market forces and hurt consumers in their role as taxpayers. Company market power: bad because it gives them the ability to limit supply or raise prices in ways that true free markets would not.

In conventional economics, consumption is paramount. Trade deficits are actually good because they enable more consumption. No industry is more important than any other because consumer spending determines which industries are important. And foreign subsidization of export industries are good for the United States because they lead to lower prices. If these countries are dumb enough to give us "discounts" on their exports, we'd be dumb to say no. As such, this doctrine sees limiting Chinese auto imports to the United States as bad economic policy because consumers lose. Ignore the fact that much of China's cost advantage comes from government subsidies and a suppressed currency and that open imports would likely significantly harm U.S. auto producers.

And because companies make profits by most efficiently serving consumer needs, strong profits are a reflection of a strong economy. In this theory, the fact that U.S. firms are vastly more profitable than Chinese firms means not only that the U.S. system is better than the Chinese system, but also that the United States is stronger. Indeed, the United States has evolved into a society where it seems that stock prices are the paramount concern. Stocks up, economy strong. Stocks down, economy weak.

A Council of Foreign Relations article on China reflects this consensus consumer welfare view:

> U.S. trade with China has grown enormously in recent decades and is crucial for both countries. Today, China is one of the largest export markets for U.S. goods and services (second to Mexico), and the United States is the top export market for China. This trade—much of which grew after China joined the World Trade Organization (WTO) in 2001—has brought lower prices to U.S. consumers and higher profits for U.S. corporations.[264]

Andy Rothman, an American financial advisor in China, argued:

> China drives global economic growth, so a sound bilateral relationship is important to American consumers and workers, as well as to families who are counting on stock market returns to pay for their retirement. In the 10 years through 2019, China, on average, accounted for about one third of global economic growth.[265]

In this system, if U.S. companies offshore manufacturing or exit from manufacturing altogether, this is optimal, for two reasons. First, by definition, whatever market forces lead to is optimal, as it reflects the most efficient allocation of resources. Second, offshoring must lead to higher profits for firms exiting low-margin industries or business segments. And as we have seen, higher profits are seen as synonymous with a strong economy. If investing in software and information services firms generated higher profits than investing in factories did, then it is American firms that are the smart ones and the American economy that is the strong one.

Box 4: Adam Smith: Wrong and Misinterpreted

It's striking that few people seem to think it strange that the core economic thinkers for both today's Left and Right—Karl Marx and Adam Smith, respectively—put pen to paper more than 150 years ago. Maybe antiquity is why their works are treated as scripture.

But Marx is far worse than Smith, in retrospect. Most of what he wrote is completely wrong, including his claim that capitalism repeals the laws of competition such that all the fruits of technological progress go to the capitalists.[266] And of course, his followers were responsible for unspeakable crimes against humanity.

While Adam Smith is not as wrong as Marx was, at times, it's a close call. Why does this matter? Because the principle intellectual grounding today, at least among the Right and Center, in America against a national power industry strategy finds it succor in Smith's 1976 *Wealth of Nations.*

Smith's famous line, "By pursuing his own interest [an individual] frequently promotes that of society the more effectually than when he really intends to promote it," has morphed into biblical certainty.[267] To be sure, the pursuit of individual profit can and often does lead to societal benefit.

But this is such a simplistic framing, it's blatant in its obviousness. What about the cases where self-interest is not enough? This gets to Smith's core error: his disregard of production externalities.

Economists define an externalitiy as a side effect or consequence of an industrial or commercial activity that affects other parties without being reflected in the cost of the goods or services involved. If these are minimal, than a Smithian world does produce optimally. But even in Smith's time, they were not minimal—and in a world driven by advanced tehcnology, they are even more ubiquitous and important.

The reality is that the success of any one venture depends on the success of many others, both public and private. If an individual in Smith's time wanted to open a pin-making factory, he would have had a hard time if there had had also not been companies making steel and tools to cut the steel. In other words, success of companies depends in part not just on entrepreneurial will and vigor, especially in technologically complex industries, but also on the overall industrial ecosystem. And because companies are indifferent to externalities, by definition—they are external to the firm—relying on firms alone can lead to underperformance. Markets seldom solve externalities on their own. Governments do though.

Smtih was also wrong when it came to domestic vs. foreign production. While Smith was accurately describing his times, he did not worry about the negative effect of offshoring production because doing so was quite difficult. Indeed, he wrote that "every individual endeavors to employ his capital as near home as he can, and consequently as much as he can in

the support of domestic industry."[268] But what happens to his laissez-faire model if moving production to Shanghai is as easy as moving it to Sheffield?

In other cases, Smith qualified his statements with important caveats, but these are largely ignored by die-hard free-market, consumer-welfare economists. Even before David Ricardo, Smith argued that it made no sense to produce something domestically when it could be purchased more cheaply from abroad. This obvious insight is treated as Nobel Prize-winning genius and used to inform all of U.S. trade policy. Sure, it makes no sense for the United States to grow coffee, but what about other things such as cars and semiconductors?

It seems as if free-market Smithians never bothered to read: "There seem, however, to be two cases, in which it will generally be advantage to lay some burden upon foreign, for the encouragement of domestic industry."[269] In other words, Smith did not rule out government action for trade competitiveness, and in fact, downright encouraged it.

The first is for defense industry. He wrote, "The first is when some particular sort of industry is necessary for the defense of the country." Given the criticality of the British navy at the time, he used the case of shipbuilding. If he had been writing in the 1920s, he would have mentioned airplanes.

As Barnett Corelli wrote regarding *The Wealth of Nations*, "This vital distinction was totally lost by nineteenth-century apostles of Free Trade."[270] And, it could be added, by 21st century apostles of free trade in the United States. For Smithians, free markets and free trade, by definition, maximize what Smith termed "opulence."

Smith went on to note a second key caveat to free markets and trade:

The second case, in which it will generally be advantageous to lay some burden upon foreign countries for the encouragement of domestic industry, is when some tax is imposed at home upon the produce of the latter. In this case, it seems reasonable that an equal tax should be imposed on the like produce of the former.[271]

He wrote that when a foreign nation limits imports of goods, the home nation has an advantage if the other nation should impose some "duties or prohibitions upon the importation of some or all of their manufacturers into ours."[272] But to be fair, he only proposed that as a tactic to get the foreign nation to reduce its distortions. If they would not, then the home nation should do nothing. Except if the industry were important to national defense.

This all gets to the fundamental flaw of Adam Smith's doctrine, which Barnett rightly calls "(classical) liberalism." In his book *The Decline of British Power*, he wrote, "This swift decline in British vigor at home and the failure to exploit the empire were not owing to some inevitable senescent process of history. They shared a specific cause. That cause was political doctrine; a doctrine blindly believed in long after it had ceased to correspond with reality."[273]

He went on to say:

The doctrine was liberalism, which criticized and finally demolished the traditional conception of the nation-state as a collective organism, a community; and asserted the primacy of the individual. According to liberal thinking, a nation was no more than so many human atoms who happened to live under the same set of laws. From such belief it followed that the State, instead of being the embodiment of a national community as it had been under the Tudors and the Commonwealth, was required to dwindle into a kind of policeman, standing apart from the

national life, and with the merely negative task of keeping the free-for-all of individual competition with the bounds of decorum.[274]

He noted that as Adam Smith brought this doctrine to the fore, when it came to the national production system, the doctrine held, "What was socially necessary could be safely untrusted to spontaneous creation by private initiative."[275]

The problem then for Britain was when advanced economies evolved from small production shops with limited technological sophistication to mass production factories of increasing scientific and technological sophistication, Britain was completely unprepared. As Barnett wrote, "The English therefore entered the industrial era—the era of organization—with a deep-seated horror or organization, the larger the organization the greater the horror."[276] Spoken as a true neo-Brandeisian of the Left or Right would today.

We see that in the United States after the rise of traditional liberalism and libertarian, free-market economics in the 1970s. Free-market scholars such as Oliver Williamson dealt with the horror of organization by simply assuming it away, seeing large corporations merely as a way to reduce transaction costs among self-interested individuals.[277]

As a result, with the exception of wartime, the role of the British state was limited to writing reports about how backward British business was and how that threatened national security. As Barnett wrote, "To suggest in Britain in the late nineteenth century that the government should guide the industrial and commercial life of the nation was like suggesting medical treatment to a Jehovah's Witness."[278]

This was a doctrinal spell that was cast over the British leaders. Again, Barnett: "Like an enchantment, liberal doctrine seemed to blind British eyes and paralysis British willpower."[279] This was, to say the least, a crisis of utmost proportions as Germany, Japan, and the United States were racing ahead, all three with at least some, if not strong, support from government.[280] Barnett continued, "Thus after 1870 liberal economic doctrine itself was the most catastrophically inappropriate of all the outdated components of British economic development."[281] And as it became clearer and clearer on just how far Britain was falling behind, even as many continued to keep their head in the sands of denial (as in the United States today), he wrote, "No evidence of foreign success therefore shook the general British faith in British industry."[282]

While the parallels of British history then are certainly not exact with the American situation today, there are striking similarities. Liberalism dominates U.S. political economy thinking, and with it the belief that no industry is more important than others, that trade is largely welfare-maximizing, and that state policy is not needed, other than in the form of limited regulations and taxes and perhaps science spending and immigration, to ensure national power industry capabilities. To use Smith's terms, it is time to give more priority to "power" and less to "opulence."

There are two key problems with this conceptualization that consumer and investor welfare is synonymous with national welfare. First, this might be true, or at least truer, if we were talking about net-present value welfare. But all too often stock prices go up when companies take steps that weaken their long-term position but strengthen their quarterly or yearly financials. When CEO Mark Hurd was cutting Hewlett Packard's long-term investments, including in R&D, he helped drive HP stock prices through the roof. Yet, the real net present value of the firm was

declining, as was made clear when this "rob the future to pay the present" strategy was made clear to shareholders.

Second, even consumer-welfare economists recognize the existence of externalities wherein the costs or benefits from an individual actor's decision (including a firm) are not the same as the costs or benefits to society. But despite their incorporation of externalities in economic theory, for the most part, they ignore them, especially when advising on policy. Their view is that externalities are too messy, too uncertain, and too open to manipulation by politics. Let's pretend they don't exist, and that market forces alone produce optimality.

But, by definition, national power is an externality. From a consumer-welfare perspective, defense spending is a complete waste—as are, for the conventional economists, national power industry policies. But clearly defending the nation from aggression is an important benefit, even if individual consumers or firms taxed to pay for it don't benefit. At the end of the day, national power industries have much in common with pure defense industries, and their strength provides important national benefits.

By definition, national power is an externality. From a consumer-welfare perspective, defense spending is a waste—as are, for the conventional economists, national power industry policies.

It is inappropriate to blame conventional economists for the paucity of their theory and concepts. Consumer welfare economics is what it is, and it certainly has its uses. But its uses are close to zero when it comes to shaping and guiding national industry power strategy. Where mainstream economists deserve blame is veering from their lane to negatively pontificate against a national power industry strategy. They should stick to their knitting: issues such as interest rates, the problems with housing price controls, and the like. Leave national power industry strategy to the experts.

This means that conventional economics as practiced in the United States and Commonwealth nations, and to somewhat lesser extent in Europe, can no longer by the lodestar guide shaping national economic policy. It was not designed to operate in a national power trade world, and it was not designed to generate national power industry strength. As such, it is now fundamentally harmful to the nation, and if it continues to be the policy bible, it will lead to the decline of the United States.

The reality of this techno-economic and trade attack fundamentally undercuts the foundation of consumer welfare economics, and exposes its inability to address the current challenge. If national power, not consumer welfare, is the ultimate goal, this doctrine fails, at least for guiding the share of the economy composed of national economic power industries. If a nation's industrial mix is critical, then this doctrine of "potato chips, computer chips, what's the difference?" fails.

Neo-New Dealism Progressivism

While there has been growing criticism of consumer welfare economics—what its critics call "neoliberalism"—the replacement that most on the Left have adopted is no better in dealing with the China threat; in fact, it is likely worse. A broad-strokes consensus has gelled around the contours of a neo-New Deal economic agenda marked by redistribution, global economic autarky,

and worker-centric animus toward large corporations and markets. If implemented, neo-New Dealism might generate a one-time reduction in inequality, but it would come at the longer-term cost of economic stagnation, fiscal crisis, and greatly diminished U.S. national power industry capabilities. In its worst form, neo-New Dealism would severely erode the meritocratic, individualist capitalist system as America has known it.

Progressive journalist Michael Tomasky perhaps defined neo-New Dealism best. He calls it "middle-out economics" which "is the belief that prosperity comes from a thriving middle class, and therefore government plays a role in supporting families and communities. This version of capitalism—more just, more equal, and in which prosperity is shared—could be the American future."[283]

Many of those who have turned toward neo-New Dealism hold a deep skepticism toward corporations, markets, and American global power.

Consumer welfare economics is what it is, and it certainly has its uses. But its uses are close to zero when it comes to shaping and guiding national industry power strategy.

Proponents of neo-New Dealism, a faction that now includes much more than just the Bernie Sanders and "Squad" wing of the Democratic Party, insist that they are just providing a needed alternative to neoliberalism, filling a gap that needed filling. But with its animus toward large companies; its deep suspicion of markets, globalization, and capitalism; its focus on short-term worker welfare; and its overriding goal of redistributing rather than growing the pie, neo-New Dealism would mean losing the national power industry war with China.

Neo-New Dealism is about redistribution that ignores, and often rejects, growth (e.g., it's bad for the planet, it only helps the rich get richer, it creates too much disruption, etc.). Its "middle out" agenda—including eliminating college debt; free health care, elder care, college tuition, and childcare; weakened IP protection; drug price controls; mandates on companies, such as forcing Internet service providers (ISPs) to sell broadband at a loss; breaking up big companies and limiting productivity-enhancing mergers; subsidizing more expensive clean energy; and even a universal basic income more is a way to divide a fixed pie, not grow it. Its proposed massive spending on social policy goals and redistribution would leave little to invest in national power industries.

To be fair, neo-New Dealers are not averse to "industrial policy." But most of their "investments" would be to advance their "green equity" agenda of clean energy, human service industries such as childcare and eldercare, subsidized housing, and mass transit. In a report for the Brookings Institution, Harvard professor Dani Rodrik has advocated for "good jobs," including more jobs in nursing homes.[284] And of course, its anticorporate, neo-Brandeisian antitrust agenda would mean constant attacks on large corporations doing battle with CCP-backed national champions. And its pro-worker fixation would mean an anti-automation agenda, something that is critical to not losing to China that has the opposite effect: automation full steam ahead.

Sadly, some Republicans have begun to embrace some of these progressive views, especially the animus toward large corporations, the focus on redistribution (in this case, to working-class

families rather than on race, as the Democrats focus more on), and their putting worker interests ahead of national interests, especially related to automation and technology.[285]

Emulating the progressives' neo-New Dealism "middle-out" framing, Oren Cass, the founder and president of American Compass, a conservative reform organization, has written:

> This response emerges from an insight that I like to call the working hypothesis: that a labor market in which workers can support strong families and communities is the central determinant of long-term prosperity and should be the central focus of public policy. Genuine prosperity depends upon people working as productive contributors to their society, through which they can achieve self-sufficiency, support their families, participate in their communities, and raise children prepared to do the same.[286]

Sadly, some Republicans have begun to embrace progressive views, especially the animus toward large corporations, the focus on redistribution, and their putting worker interests ahead of national interests, especially related to automation and technology.

The reality of the CCP's techno-economic and trade war on the West undercuts the foundations of neo-New Deal progressivism. If the United States is in an existential contest for global power, then boosting taxing and regulations on business is especially ill-advised, as is the neo-Brandeisian campaign to destroy large corporations. As are unrestrained demands from organized labor. Progressive advocates know this quite well, which is why they go to any end to deny that China even is a competitor.[287]

AN OPERATIONAL STRATEGY FOR "STAND AND FIGHT"

The grand strategy of stand and fight, ideally with the support of U.S. allies who hopefully don't cave and strike their own separate Quisling deals, requires a coherent national power industry strategy. Free-market policy, and even a manufacturing policy, competitiveness policy, and innovation policy—none will get the United States where it needs to be, because, by definition, they are all agnostic to strategic industry capabilities.

The problem is that Washington has virtually no experience with a national power industry strategy. There is neither the conceptual framework for how to craft a strategy, the institutional and legal frameworks to enact it, nor the skills in the federal workforce to manage it. The last time Washington tried do something like this was in WWII when the Roosevelt administration, under the leadership of "Big Bill" Knudsen and Henry Kaiser, organized industry into the arsenal of democracy.[288] Knudsen, then the CEO of General Motors, was put in charge of the Office of Production Management. His task was not to spur innovation or even generate more manufacturing, but rather to help American industry transition to build mass amounts of weapons to defeat our enemies. Kaiser, CEO of Kaiser Steel, was tasked with building a flotilla of "liberty ships." At the same time, the Office of Scientific Research and Development was created to drive scientific and engineering research for military purposes.[289]

That task, while daunting, was in many ways easier and more straightforward than today's. The United States already had the world's largest and most technologically sophisticated manufacturing sector. And the transition from trucks to tanks and passenger planes to bomber

planes was not as complicated as it would be today, given the advanced technology involved in today's weapons systems. And the focus was somewhat narrow: produce a massive amount of a relatively small variety of weapons.

Today's task is much harder. The United States has already lost significant manufacturing capabilities, and its "industrial commons" is hollower than it should be. And the focus must be much broader than just weapons systems, to include dual-use industries. That suggests that any effort needs to be guided by strategic analysis, not just throwing a jumble of disconnected policies and programs at the problem.

Where to start? Fortunately, the concept and theory of strategy have been formulated in business. Business schools have long had courses in strategy, and the number of books and articles published on the topic are legion. Business strategy is a much more valuable intellectual vein to mine compared with economics because, in contrast to the latter, which sees transactions as utility maximizing for both parties, business strategy sees competition as win-lose, exactly the dynamics between the United States and China.

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In addition, economics is largely based on theories, models, and equations and assumes that the real world fits the models—and when it doesn't, economists complain about the world, not the models. And at the same time, the field of international affairs largely overlooks business competition, industry structure, and technology innovation. For both fields, the concept of technology is limited to things that are broadly familiar, such as AI and cybersecurity. Neither consider things such as catalysis, computer numerical control processes (CNC), or combustion engineering. And both assume, as Robert Solow did, that technology emerges out of nowhere, like manna from heaven. So, they don't even contemplate the possibility of defeat. Rather, they assume there might be shocks that harm some blue collar workers, which is to be lamented and addressed with career training and free bus tickets to help them move out of their loser communities to the coasts, where they can aspire to become two-earner professional couples in more lucrative service industries.

Business strategy can't afford this luxury. It has to be based on ground truth reality, or as close as strategists can get to, because the costs of being wrong are usually obvious, immediate, and painful. A business strategy consultant, or a firm implementing business strategy that has the wrong strategic formulation, will soon be out of business. In contrast, economists are seldom if ever punished for being wrong. Just think that, in 2007, most economists, including Alan Greenspan, Ben Bernanke, and economists at the NY and Boston Fed and International Monetary Fund, said a nationwide housing price collapse was virtually impossible. It is hard to think of a single one that suffered professionally from this flawed ideologically based advice.

Finally, good business strategy is based on a deep understanding of competitors, one's own organizational capabilities, and threats and opportunities in the current and emergent environment. This kind of thinking is completely absent in economics, but it is central to national power industry competition.

As such, it's worth reviewing corporate strategy literature and then discussing how it can be applied to national power industry strategy. The godfather of corporate strategy, Harvard Business School's Michael Porter, wrote:

> The essence of strategy formulation is coping with competition... Whatever their collective strength, the corporate strategists' goal is to find position in the industry where his or her company can best defend itself against those forces or can influence them in its favor... Rivalry among existing competitors takes the familiar form of jockeying for position, product introduction, and advertising slugfests.[290]

He went on to note, "Once the corporate strategist has assessed the forces affecting competition in his industry and their underlying causes, he can identify his company's strengths and weaknesses."[291]

Strategy is always in the service of goals. And organizations and nations can have strategies or not. But what often passes for strategy in government is policy. Policy for nations is an amalgam of different government actions (e.g., different tax provisions, spending on a particular area, a specific regulation). If these are oriented toward a common goal, they can be described as a comprehensive policy for "x" (climate, innovation, equity, etc.). But policy is not strategy. Strategy is the use of policies to achieve particular outcomes that take into account the overall internal and external environment.

What should be the goal of national economic strategy? That is the single most important question and the one that must be answered first and gotten right. Organizations have an easier time agreeing on a goal. For most companies, the goal is maximizing profits—ideally net present value profits. Not only do nations seek to achieve many goals, but also the process of deciding on these goals, at least in democracies, is messy to say the least.

Policy is not strategy. Strategy is the use of policies to achieve particular outcomes that take into account the overall internal and external environment.

When it comes to economic goals, for the last half century or so, the United States has not been able to come close to agreeing on an overarching one. Some on the Right put freedom from government as the paramount goal, with the belief that this will solve any and all economic problems. But as noted previously, there is no logical reason why a laissez-faire policy would lead to a strong competitive position in national power industries that the United States must be strong at to compete with China. Free-market advocates either deny that the U.S. needs industrial capabilities in key industries or simply assert that this is the role for defense spending.

The problem with the latter approach is twofold. First, defense capabilities increasingly rely on commercial capabilities, and what use to be mostly spin-off (defense innovations being used by the commercial sector) are now more spin-on (commercial innovations being used by defense).[292] This is one reason for the creation of organizations such as In-Qtel, the Defense Innovation Unit, and DOD's Office of Strategic Capital. Second, even if DOD could create its own self-sufficient and technologically advanced ecosystem, with rest of the economy being law firms, personal service firms, and retail, the costs would be enormous. For example, commercial semiconductor

manufacturing relies on mass production to achieve economies of scale and drive down costs. A defense-only model would forego these benefits, leading to vastly higher prices per chip. Moreover, with no commercial partner to share the cost, DOD would have to bear the full expense of developing custom technologies for its unique security, performance, and radiation-hardening needs.

While the free-market hold on Washington thinking has lessened in the last decade especially, it's possible that replacement doctrines, while better, all suffer from systematic limitations for being guides to a national power industry strategy. This is true even for the new manufacturing reshoring doctrine, that many on the Right and the Left have embraced. In this doctrine, restoring manufacturing is the overarching economic goal. In this narrative, the goal should be to restore the working class to its prior position and advocates to see the way to do this by boosting manufacturing, regardless of sector. But even if the United States grew manufacturing so much that it eliminated its manufacturing trade deficit, the number of blue-collar jobs that would be created would be modest at best, less than 2 percent of the U.S. workforce.[293] And like the free-market doctrine, there is no logical reason why a manufacturing doctrine would lead to a strong competitive position in the national power industries the United States must be strong in to not lose to China. It might very well grow consumer sectors such as furniture and plastics, but not power sectors such as aerospace and biotech.

The same problems exist with those that embrace the competitiveness and innovation policy doctrines. These doctrines rightly want government to do more to spur competitiveness, especially of advanced sectors and technological innovation broadly. And certainly, more of both would be better and would contribute to boosting U.S. power. But again, there is no reason why generic competitiveness and innovation strategies (e.g., more STEM immigration, a stronger R&D tax credit, more federal support for science) would necessarily preserve critically needed national power industries.

Competitiveness policy is indifferent to particular industries and therefore there is no need to conduct strategic industry strategy.

The same is true for the new fashionable "Abundance" and "Progress" movements.[294] These movements rightly argue that America needs to once again embrace progress and risk taking, and that we need to significantly reduce the barriers to building things. They want to "shape the progress movement into a cultural force."[295] But while certainly useful and needed, to think that fewer regulations, a bit more policy risk taking, and more general optimism of the future is enough to not lose the national power industry war is to not understand the nature of the challenge. [296]

Finally, there are those who are indifferent to industrial development and have an anticapitalist, neo-New Deal doctrine. The Democratic Left is increasingly focused on economic, social, and demographic equity and the fight against the privileged classes. To the extent it has an industrial strategy, it is for human services industries such as day care and elder care.

In addition, much of the Left's support for industrial policy is actually climate policy, such as supporting the Inflation Reduction Act to spur the building of factories producing renewable energy technologies. But for the most part, with the exception of motor vehicles, these sectors

are not strategic in relation to China. For example, if China cut off exports of solar panels, the effect would not be felt immediately and other electricity generation technologies, such as natural gas turbines, could be used.

That leaves national power industry strategy.[297] It is a subset of competitiveness policy, but differs in one critical way. Competitiveness policy is indifferent to particular industries and therefore there is no need to conduct strategic industry strategy. But before delving into national power industry strategy, it's worth examining competitiveness strategy and its limitations.

Figure 6: Relationship between competitiveness strategy and national power industry strategy



The Limits of Competitiveness Strategy and the Michael Porter Framework

It would seem that competitiveness policy should be the replacement doctrine to neoclassical consumer welfare-focused economics. But while it is closer to the solution we need than consumer-welfare economics or neo-New Deal economics is, it cannot be the guide for the simple reason that it does not prioritize defending key industries. Competitiveness policy is much broader, relating to a more robust competitive trade position for U.S. companies—like how manufacturing policy is indifferent to strategic sectors, competitiveness policy is even more indifferent, as it is agnostic whether the United States is competitive in goods or services.

When it comes to national competitiveness strategy the bible remains Michael Porter's *The Competitive Advantage of Nations*, published in 1990. The book was a major contribution to the debate at the time, and it remains highly influential for how competitiveness experts and politicians think about the issue. Because of that, it is worth examining what Porter got right and what he got wrong, especially for today's China era.

What Porter Got Right

Porter got much right. First, he rightly pointed out that national prosperity is created, not inherited, a direct challenge to much of international trade theory at the time, which still believed in comparative, rather than competitive advantage.

Second, Porter pointed out that competitive advantage is something governments should strive for—yet is something most U.S. economists still question.

Third, he stressed the importance of innovation in creating competitive advantage.

Fourth, he built theories of competitive advantage up from the experience of industries, not down from broad macro conditions. This is critical because almost all that passes for competitiveness or industrial policy today ignores industry analytics. As Porter wrote, "The particular industry—passenger cars, facsimile machines, accounting services, ball bearings—is where competitive advantage of firms is either won or lost."[298] He went on to note that "firms play a central role in the process of creating competitive advantage."[299] This is why he wrote that his theory drew on several fields, including of course the business literature of competitive strategy, but also fields of "technological innovation, industrial economics, economic development, economic geography, international trade, political science, and industrial sociology."[300] Note that he did not include macro- and micro-economics, the disciplines that dominate economic policy thinking in the United States. The fields Porter drew from are largely ignored in Washington in favor a sterile and model-based abstract economics.

Fifth, he brought in the critical field of strategy, writing that "a new theory must reflect a rich conception of competition that includes segmented markets, differentiated products, technological differences and economies of scale … and process innovation."[301] Despite Porter's contribution, these insights have had virtually no impact in Washington, where sectoral level analysis and strategy largely do not exist and where macro-economists and finance experts run economic policy.

Sixth, Porter demonstrated the importance of dynamic, not static, competition—something that today's economic theory, including antitrust, too often misses. As he wrote, "In actual competition, the essential character is innovation and change. Instead of being limited to passively shifting resources to where the returns are the greatest, the real issue is how firms increase the returns available through new products and processes."[302]

Seventh, he recognized a role for government, something most economists deny or minimize. But as discussed ahead, Porter significantly underestimated that role, as almost all corporate strategists still do.

Porter's Key Flaw: Competitiveness Is Not National Productivity

Much of what Porter wrote represents an important contribution to the understanding of national competitiveness. But Porter's thinking, and the thinking of other experts and organizations who have adopted the conventional Porter-inspired competitiveness framework, contains fatal flaws that make policy recommendations stemming from it be inadequate at best, and harmful at worst.

His cardinal intellectual sin was that he wrongly argued that "the only meaningful concept of competitiveness at the national level is national productivity." [303] At one level, it's surprising that

someone of his stature could make such a fundamental error of logic as this, but few scholars can escape their intellectual background when delving into adjacent fields, and his background was in how firms boost their profits (e.g., productivity). Others have followed his framing. WEF's *Global Competitiveness Report* defines competitiveness as "the set of institutions, policies, and factors that determine the level of productivity of a country."[304] And IMD's *World Competitiveness Yearbook* defines competitiveness similarly, but more broadly, as how an "economy manages the totality of its resources and competencies to increase the prosperity of its population."[305]

But while these two terms are related, competitiveness should not be equated with productivity or GDP growth. To see why, it's important to differentiate between traded and nontraded industries. A traded industry is one in which the firms sell a significant share of their output outside a particular geographical area. For example, a printing firm in Michigan that sells printed material to customers across the United States would be a traded firm from the perspective of the Michigan economy, but a nontraded firm from the perspective of the U.S. economy. In contrast, a software firm in Washington that sells software throughout the world would be a traded firm from the state and national perspective.

Porter's thinking contains fatal flaws that make policy recommendations stemming from it be inadequate at best, and harmful at worst.

Thus, competitiveness relates only to the economic health of a region's or nation's traded sectors. (For the purpose of this memo, the term "region" shall refer to both national and subnational economies) But how do we define health? One definition is jobs. But this can't be right, because if one region's traded sector is highly productive, it will have fewer jobs than another region's traded sector that is less productive, yet it may be more competitive. Another definition is value added—the amount of value that traded sector firms add to the inputs of production that they purchase. This is closer to the right definition, but it fails to control for the extent to which a region's economy is traded. One region's economy might be more traded than another's and therefore its traded sector is larger, but it might have vastly more imports, meaning that its traded sector is not holding its own when it comes to competitiveness. But even this is not quite precise enough, for one region might run a trade surplus but do so by subsidizing its exporters (e.g., by manipulating its currency) or erecting barriers to importers (e.g., tariffs). In this case, the trade surplus may not be a reflection of the true competitiveness of the region's traded sector firms, but rather a reflection of the extent of mercantilist aid the traded sector firms receive.

This sets up the true definition: competitiveness is the ability of an economy to export more in value-added terms than it imports, while accounting for the "terms of trade" to reflect all government "discounts" (including an artificially low currency, suppressed wages in export sectors, artificially low taxes on traded sector firms, and direct subsidies to exports), as well as foreign barriers to its exports (both tariff and nontariff). Under this definition, a nation may run a large trade surplus (one component of competitiveness), but if it does so by providing large "discounts" to its exporters or by blocking imports, it would not be truly competitive, for such policies would reduce its terms of trade by requiring its residents to give up some of their income to foreign consumers, pay higher prices for foreign goods and services, or both.

We can see this by looking at past trends in the U.S. trade deficit. When the rise in the relative price of imports brought about through the lower value of the dollar in the last half of the 1980s helped reduce the U.S. trade deficit, it also reduced the U.S. terms of trade (the United States could buy fewer imports for the same quantity of exports). Therefore, U.S. competitiveness was unchanged even as the trade deficit declined. Likewise, the fact that the United States runs a massive trade deficit today but many of its trading partners run surpluses by means of massive "discounting" (including currency manipulation) and import blocking means that we cannot determine with certainty that the U.S. economy is uncompetitive.

In fact, despite numerous studies claiming to compare national competitiveness, no study to date has actually done this because none has fully accounted for the magnitude of export discounting and import blocking, in part because the data is extremely difficult to collect. While data exists on trade balances for virtually all nations, data on the extent of export discounts and import blocking (especially through nontariff barriers) is difficult to obtain. Despite this, at a cursory level, it would appear that nations such as Austria, Germany, and Sweden would be on a list of competitive economies (they run trade surpluses while also having relatively high wages and limited other discounts). In contrast, nations such as China (too much discounting) and the United States (too large a trade deficit even when accounting for foreign subsidies) would likely not make the list of competitive economies.

How does productivity fit into competitiveness? Productivity can enable competitiveness, especially if it is concentrated in traded sectors, which lowers costs and enables firms to sell more in global markets without relying on government-provided discounts. But productivity growth can also be relatively unrelated to competitiveness if it is concentrated in nontraded sectors. Imagine a nation with strong productivity growth but almost all of it in nontraded sectors such as grocery stores, electric utilities, and nursing homes. Certainly, incomes would go up as relative prices in these sectors fell, but firms in traded sectors would only see modest reductions in their costs based on the extent of purchased inputs from nontraded firms.

The United States could very well be much stronger internationally with no trade deficit and no diminution of the value of the dollar and still see key industries beaten and destroyed by China.

Porter recognized that "to firms, competitiveness meant the ability to compete in world markets."[306] Although he should have added the caveat that this only matters for firms in traded industries, not domestic serving industries. But he can't go to the next logical step of saying that to nations, competitiveness meant the ability to compete in world markets. Presumably, this is because he worried that it would empower protectionists who cared about deindustrialization. But in fact, countries do compete, as we will see ahead regarding China.

But even this true definition of competitiveness still does not address the core existential challenge facing the United States: predation by China for strategic industries. The United States could very well be much stronger internationally with no trade deficit and no diminution of the value of the dollar and still see key industries beaten and destroyed by China. It could boost exports in tourism, banking, consulting, higher education, natural resources, food products, plastics, and furniture but lose is aerospace, machinery, biotech, semiconductors, and other advanced industries to China.

Porter's Other Flaws and Gaps

Before discussing the concept and importance of strategic national power industries, it's important to consider the other major problems in Porter's work, because so many people continue to rely on the Porter framework even though it no longer applies to the world the United States finds itself in today.

A Focus on Democratic Nations: First, Porter analyzed democratic, capitalist nations; not China. As such, he made two key assumptions. One was that other countries would generally play by the rules. And two was that it was okay if U.S. firms disinvested in certain industries. It didn't matter if other nations won in certain industries, as long as the United States' firms generally invested in areas they had competitive advantage in. In fact, Porter did not even mention China in his book.

The assumptions he made about the competitive environment of firms in the United States or any of the countries he advised simply do not hold when it comes to China. Porter was writing about capitalism, not state capitalism. And state capitalism changes everything. Among other items, he assumed that 1) foreign firms would not engage in systematic dumping; 2) nations would not be able to afford massive subsidies to targeted industries; 3) to the extent they did dump or subsidize, national trade policies would effectively respond to such policies; and 4) foreign markets would generally be open to imports, and if they were not, negotiations would pry them open. Of course, none of that applies to Chinese state capitalism.

Porter went on to claim that "subsidies of any kind will have little leverage when competition is based on quality, rapid product development, and advanced features."[307] But what about when the competitor has pretty good quality, fairly rapid product development, and many advanced features but on top of that has massive subsidies from the government? This describes many Chinese firms. Then those subsidies provide massive leverage. Moreover, in many markets, particularly middle-income countries, price matters more and buyers are willing to buy Chinese goods that are not quite as good as American because of the strong price advantage. Porter ignores this because he couldn't conceive of what China became and didn't anticipate the strong growth of global GDP in developing markets.

Porter was writing about capitalism, not state capitalism. And state capitalism changes everything.

To the extent Porter envisioned tough price competition, his advice was that firms downsize and even exit, because competing on price is a fool's errand. And he applied this advice to governments to give up on industries that they couldn't easily compete in because of price, even if most of the price differential was due to unfair government practices.

Porter also wrote that companies, and nations by extension, should give short shrift to unfair foreign trade practices. For Porter, this just opened up rent seeking that ultimately kept firms from evolving. In fact, he noted unfair trade practices with italics ("unfair") to suggest that they really are not unfair. He argued that firms and governments pushing pack against foreign unfair trade practices "postpone change, dampen innovation … and work in exactly the wrong direction from those necessary for competitive advantage."[308] This is clearly wrong. If it's true, why not encourage other nations to ramp up unfair advantages, as doing so would really motivate U.S.

firms to compete. But if the unfairness is actually a Colt 45 to the head, as it is with China, it won't motivate, it will decimate.

Porter also applied the same corollary to domestic policy, when he wrote, "Direct government 'assistance' [again note the quotation marks to imply that it is not actually assisting] in one firm or industry also has a strong tendency to create forces that cause it to spread and multiply."[309] He was writing as if assistance were highly contagious and a deadly communicable disease and not a key factor to respond to Chinese power industry predation.

Related to this, and reflecting his firm orientation, Porter repeatedly rejected the idea that nations should seek to address systematic cost disadvantages, in fact, bizarrely saying that these are good, as they spur firms to compete and innovate more. Perhaps, but not when the cost differentials are large and persistent as they are vis-à-vis the United States and China. Perhaps betraying his lack of understanding of international economics Porter did not appear to ever consider that currency is the natural market adjustment mechanism in international trade except that it doesn't work for the United States because the dollar is the reserve currency.

A Limited Role for Government: Second, Porter only saw a limited role for government in boosting firm or industry competitiveness. The role of government "is inevitably partial."[310] When a nation's companies are competing against companies from other nations that generally play by the rules, perhaps this framing is correct. Although Porter largely ignored the key role the USG played in the development of many industries, including shipbuilding, aerospace, semiconductors, and interchangeable parts. But again, in a world where China practices techno-economic predation, such a limited role is by definition a death sentence for domestic industry that China targets.

He applied his famous Porter diamond of five forces that affect firm competitiveness to national policy. These were threat of new entrants, bargaining power of suppliers, bargaining power of buyers, threat of substitute products or services, and in the middle, rivalry among existing competitors. For countries, he listed four: national factor conditions, firm strategy, structure and rivalry, related and supporting industries, and demand conditions.

But this reflects his overarching ideology of limited government, a blind spot most business strategists suffer from. Sure, government can build some roads and fund some R&D and put in place some regulations. But under no circumstances should it be involved in industry strategy.

Porter's theory allowed firm exit from markets, and in fact actively supported it. But countries cannot allow power industry exit unless they want less power.

He made assumptions that at least in the case of China are not true as when he said that "even when staffed with the most elite civil servants, governments make erratic decisions about the industry to develop, the technologies to invest in, and the competitive advantages that will be the most appropriate and achievable."[311] Yet, he assumed that leaving these choices to a nation's firms would maximize competitiveness: which Porter meant as productivity.

Porter opposed governments targeting particular industries because "targeting distorts market signals by altering the incentives of private firms to compete in an industry."[312] He wrote that when government distorts market signals, especially through direct targeting, it cannot rely on

firms to invest only in fundamentally sound industries. It places the burden on government planners to understand the subtle conditions for national advantage."[313]

He went on to complain that "one nation after another crowds into the same industries," creating overcapacity.[314] Perhaps in a pre-China world this might have some basis, but not now. When China targets U.S. firms with attacks, fundamentally distorting market forces, not responding distorts market forces.

Nations Can Choose Any Industry: Porter's third error was that he treated industry choice the way companies treated it. Profit-making companies are indifferent about the industry they are in, as long as they maximize profits. So should nations be, said Porter, writing, "Manufacturing is not 'better' than services … because many services involve sophisticated technology and high levels of productivity."[315] If the goal is productivity, Porter was correct. Whatever set of industries maximize productivity are the best ones. But if the goal is competitiveness, and in particular power industry competitiveness, then nations cannot be indifferent about which industries they are strong in. Porter's theory allowed firm exit from markets, and in fact actively supported it. But countries cannot allow power industry exit unless they want less power.

Cost Competition Is Not Key: Fourth, Porter rejected cost competition. Like almost all strategy gurus, he advised firms to not engage in slugging it out in price competition because doing so eroded margins. Better to find ways to move up the value chain or seek niches that maintain margins. If that doesn't work, then shrink. But that clearly cannot be the answer for strategic industries. The United States does not have the luxury of getting out of industries such as semiconductors and aerospace even if China attacks the margins. He wrote that a "10 percent cost saving through economies of scale … is nullified quickly by rapid product and process improvement."[316] But in a hyper-competitive environment with China, where it will have the former and the latter, not pursuing the former is a recipe for market share loss.

Porter's third error was that he treated industry choice the way companies treated it. Profit-making companies are indifferent about the industry they are in, as long as they maximize profits. So should nations be.

Top-Line Growth Is Key: Fifth, Porter reflected the common view in the business strategy literature that the best strategy is to go for top-line growth in new markets, rather than slugging it out with other firms in existing markets. He wrote, "The most sustainable strategies are those that widen and upgrade the market rather than simply taking business away from foreign firms."[317] That might be a good strategy for firms that have no fundamental responsibility for maintaining production of power goods. But it is a defeating strategy for nations.

Firms Must Choose Between Cost and Differentiation: His sixth error was in assuming that firms had a fundamental choice in industry positioning between lower cost and differentiation. This was common business strategy advice at the time. As David Moshella argued:

> In 1995, Michael Treacy and Fred Wiersema argued that companies could excel in one of three areas—*product leadership (PL), operational efficiency (OE),* or *customer intimacy (CI)*7 . Strategically, they needed to choose which discipline to focus on, and then be competitive in the other two. This thinking made great

> sense in the pre-digital age—with Sony (PL), McDonald's (OE), and the Ritz-Carlton (CI) serving as iconic examples of each approach. But the digital leaders shown in the figure typically excel in all three dimensions. For example, Amazon and Netflix have the widest product selection, the most efficient operations, and the most personalized customer experience in their respective markets.[318]

That was certainly true when he wrote the book *Seeing Digital: A Visual Guide to the Industries, Organizations, and Careers of the 2020s*.[319] But the emergence of digital technologies has made that much less true. Digital-first companies can now achieve low costs, high quality, and differentiation. That means the safety niche of moving upscale to differentiation is less safe from attack.

Porter's Concept of "Bad Competitors" and Its Application to China

One key aspect of Porter's work (and others in the field) is the idea of bad competitors. For anyone who plays poker, a bad player is someone who is so bad they don't know when the opponent is making a great bluff and hence stay in and win. In the case of bad competitors, Porter argues they have several characteristics. First, they are aggressive price cutters even if doing so hurts their long-term profitability and overall industry profitability. Second, they are low-differentiation players that offer similar products with little or no differentiation, making it difficult for any firm to establish a sustainable competitive advantage. Third, they are unstable participants that enter an industry with aggressive tactics and limited resources, potentially destabilizing the market. And finally, they are high-stakes competitors that are heavily invested in an industry and will fight aggressively to maintain their position, even during downturns.

These factors largely describe Chinese competitors that, for the most part, are bad competitors employing almost militaristic, scorched-earth policies. They aggressively cut prices, not worrying about year after year of losses, usually backed up by Chinese government deep pockets. This China price—aggressive pricing—destroys gross margins industry-wide.

Second, they specialize in copycat products. Third, they aggressively enter new industries such as biotech, aerospace, and high-speed rail where they have little experience and ultimately completely destabilizing markets, in part because they end up closing their own markets to competition. And finally, they don't blink in either economy- or industry-wide downturns; they keep investing and expanding, leading to global overcapacity.

U.S. and allied nations must prepare for a decades-long siege wherein a share of national income will have to be devoted to shoring up power industries in order to endure grueling trench warfare.

When it comes to dealing with such competitors in normal countries, Porter proposed three possible strategies.

First, abandon the industry. If the industry is structurally unattractive due to bad competitors and offers limited profit potential, a company might choose to exit the market and pursue opportunities elsewhere. Or it might abandon the United States and seek to match the artificial China price by moving production to China, or more recently, to even lower-cost locations such as India. Or it might go "asset-light" and outsource capital-intensive, lower-margin shares of the business to other companies, including companies outside the United States. In these

situations, it makes little economic sense to invest, which is why so many companies return free cash to shareholders through stock buybacks. But this is temporary strategy at best. Moreover, both strategies hollow out domestic industrial capacity: strategy 1 directly reduces the manufacturing base, while Strategy 2 degrades supplier ecosystems and workforce capabilities. The result is a self-reinforcing cycle wherein American firms lose the ability to scale innovation and compete in advanced manufacturing, validating Andy Grove's 2010 warning about the strategic risks of abandoning production competencies.[320]

While this might be useful for the company in the short run, eventually, the company will have few places to run. And more importantly, abandonment is not a choice that countries seeking to maintain national techno-economic power can make.

Second, convert bad competitors. Porter says that a company might try to influence or educate bad competitors to adopt more sustainable competitive practices, such as focusing on differentiation or value-added services. Perhaps this might work with a normal company in a normal government, but it absolutely will not work with China. For at least two decades, U.S. policymakers thought that if they just engaged in enough dialogue, they could show the CCP the error of its ways and that it would start to compete fairly. Needless to say, that proved to be false.

If neither of these two steps is possible, Porter advised preparing for a siege. In this case, the company needs to adopt a long-term strategy focused on cost leadership or differentiation while enduring intense competition and potentially lower profits. That is what U.S. and allied nations must do: prepare for a decades-long siege wherein a share of national income will have to be devoted to shoring up power industries in order to endure grueling trench warfare.

Applying Business Strategy to National Power Industry Strategy

America needs a national power industry strategy. Conventional consumer-welfare economics won't cut it, nor will progressive neo-New Dealism. Competitiveness, innovation, and manufacturing policy, while closer, all fall short of the mark. While there was considerable excellent work done on competitiveness policy, including by scholars such as John Zysman, Laura Tyson, Robert Hayes, Lester Thurow, Michael Piorre, James Womack, Annalee Saxenian, Ira Magaziner, and others in the 1980s and 1990s, that work did not have to focus on national power industries because our core competitors—particularly Japan and Germany—were allies.[321] Finally, new concepts such as the "abundance movement," at best address only small parts of the challenge.

For a national power industry strategy, the first issue is to identify which industries (products in business strategy terms) to compete for. And the second is development of an action plan based on an amalgam of deep industry analyses.

What to do? Unfortunately, in part because the United States has never faced this kind of challenge before, there is little intellectual work on which to build. As discussed, the closest is the field of business strategy. We need to look at this field, not for cookie cutter answers, but rather for inspiration and ideas that can be built upon to construct a national power industry strategy framework.

What is business strategy? It is not culture. It is not operational excellence. It is not planning and policy. Rather, strategy is about positioning and reacting. As strategy guru Roger Martin has written:

> Planning and strategy are two fundamentally different actions—and conflating them undermines performance. Planning is about allocating resources and setting out actions within a company's control, like opening a new plant or hiring staff. Strategy, on the other hand, is about making a coherent set of choices that position an organization to win in a specific market.[322]

One business strategy article argues that a business strategy has two core elements:

> The first is the product-market investment decision which includes the product-market scope of the business strategy, its investment intensity and the resource allocation in a multiple business context. The alternatives range from a withdrawal from a business area to a milking strategy to various growth strategies such as market share growth, or expansion of the product line or served market. The second core element is the development of a sustainable competitive advantage which encompasses underlying distinctive competences or assets, appropriate objectives, functional area policies, and the creation of synergy. A sustainable competitive advantage is usually based upon a strong point of differentiation such as product quality, a sustainable cost advantage, or a focus upon one or more market segments.[323]

In other words, for a national power industry strategy, the first issue is to identify which industries (products in business strategy terms) to compete for. And the second is development of an action plan based on an amalgam of deep industry analyses.

The Advantages of Business Strategy as an Intellectual Base

Business strategy is a much more effective source of information for a national power industry strategy than conventional dominant consumer welfare economics.

First, unlike consumer welfare economics, which assumes in the Ricardian framework that trade is win-win, business strategy sees competition as mostly win-lose, with market share gains of one company coming at the expense of a competitor. And that is exactly what the U.S.-China techno-economic and trade relationship is. The PricewaterhouseCoopers journal *Strategy and Business* wrote:

> The concept of strategy originates in war, where the objective is to destroy the enemy. In business, if the enemy is your competitor, then the objective of strategy must be to crush the competition. Michael Porter gave academic standing to this way of thinking when he made popular the idea of "competitive advantage" with his best-selling textbook, *Competitive Strategy*, published in 1980.[324]

One leading strategy book from 1986, *Marketing Warfare,* notes that it:

> applies military strategic principles to business competition, outlining four primary competitive strategies: defensive warfare (for market leaders), offensive warfare (for strong challengers), flanking attacks (for smaller players finding

> undefended market segments), and guerrilla warfare (for small companies using focused, limited attacks).[325]

Second, unlike consumer welfare economics, which assumes that all industries are similar (they all compete on demand and supply), business strategy also is grounded in recognition that industries (and technologies) are fundamentally different, and require different strategies. And that matters when competing with China because winning in biopharmaceuticals requires a very different kind of strategy than competing in quantum computing.

Third, unlike consumer welfare economics, business strategy largely sees firm inputs as undifferentiated commodities firms can buy in markets. Business strategy recognizes the many different factors that go into a firm being able to win competitive challenges, including taxes. This is key because winning (or at least not losing) in various national power industries requires understanding that each requires unique inputs and policies.

The concepts in business strategy are vastly richer than economics, wherein everything boils down to supply and demand, profit and loss, and allocation efficiency.

Finally, unlike consumer welfare economics, which assumes that national economies tend toward a state of equilibrium, business strategy, especially work after the late 1990s, assumes a constant dynamic process. And also unlike consumer welfare economics, which assumes that innovation is constant, essentially "manna from heaven," business strategy sees it as intentional. UC Berkely professor David Teece wrote:

> Dynamic capability is "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments." Dynamic capabilities can be distinguished from operational or "ordinary" capabilities, which pertain to the current operations of an organization. Dynamic capabilities, by contrast, refer to "the capacity of an organization to purposefully create, extend, or modify its resource base."[326]

As one article notes, "Competitive dynamics refer to a series of attacks and counterattacks launched by companies operating in a particular market to strengthen their competitive positions, where strategic actions by one firm often trigger reactions from rival firms."[327]

The concepts in business strategy are vastly richer than economics, wherein everything boils down to supply and demand, profit and loss, and allocation efficiency. In other words, if you would have one discipline to shape national techno-economic and trade policy, economists or business scholars we would be better off with the latter.

While certain sub-disciplines of economics such as industrial organization and regional economics address some of these concepts, by and large, consumer welfare economics glosses over them. These concepts include the following:

- Choices of technology leapfrogging
- Overcoming latecomer disadvantages
- Role of market share building

- Fixed costs and variable costs and impacts on marginal costs
- Economies of scope and scale
- Importance of execution vs. strategy
- Sources of competitive advantage (price, quality, customization, innovation)
- Incremental vs. disruptive innovation
- Organizational culture and resistance to disruptive innovation
- Turnaround strategies vs. sustaining
- Experience curve and learning curve[328]
- Growth-share matrix[329]
- Cost advantage vs. differentiation
- Barriers to entry
- Product life cycle and commodification
- Market growth rates
- Sustaining vs. disruptive innovation
- Industry positioning
- Market scope (local, national, global)
- Kinds of innovation (product, process, business model)
- Kinds of competition (dynamic vs. static)
- Industry externalities
- Network effects
- Agglomeration (localization and urbanization)
- First mover vs. latecomer advantages[330]
- Threat of entry and barriers to entry
- Expected retaliation from incumbent
- Substitutability
- Modularity

These and other business strategy concepts can be incorporated into the shaping of a national power industry strategy and the multitude of sub-industry strategies that must be developed.

Where Business Strategy Does Not Effectively Translate for a National Power Industry Strategy

While the business strategy frame offers a much more promising foundation to build on, there are important ways it does not fully translate for the establishment of a national power industry strategy.

First, business strategy is based on indifference to strategic sectors. If Intel can make more money by becoming a fabless chip designer than it can competing with the likes of TSMC to produce chips, by all means it should do this. But that cannot be an acceptable outcome from a power industry strategy because the nation needs leading chipmakers that are headquartered in the United States.

Second, business strategy advises firms to not slug it out in markets based on cost competition. Pretty much every business strategy tells business executives to retreat to higher-margin parts of the business. This may or may not be good business advice, but it also might be bad in that it assumes that the cost challenger is consigned to cost competition, not other forms of higher-margin competition such as quality, customization, or brand. But either way, it is poor strategy for a nation seeking to not lose in cost competition because China always starts industry competition with a cost assault—and if U.S. firms fold and run at the first whiff of gunpowder, America will lose power industry capabilities. Besides, Chinese firms have shown that they always intend to move up the value chain and attack the high-margin segments.

Going asset-light is usually counter to the goals of a national power industry strategy, which is based on boosting capital assets in country.

Third, some of the business strategy literature, and most of the equity market advice, is for firms to maximize return on net assets. A key way to do boost this ratio is to reduce net assets. Companies do this by going asset-light and outsourcing more capital-intensive work to other companies that presumably don't listen to business consultants. This way, capital can be freed up for other uses, such as stock buybacks. This may or may not be a good strategy to maximize long-term profitability and net-present value returns. But going asset-light is usually counter to the goals of a national power industry strategy, which is based on boosting capital assets in country. As one article notes, "The tension is often between financial goals, such as cash flow and profit, and strategic goals, such as market position and growth."[331] For a corporation, the former dominate. For a country, the latter must dominate.

Fourth, of course, is that the fundamental goals and operations of an economy are different than that of a firm, and the business strategy literature largely ignores the role of the state. It is instructive that chapter 12 of Porter's book *Competitive Advantage of Nations* is not "government strategy" but "government policy." This is key. The competitiveness community eschews strategy, but without it, we can't solve for China strategic industry aggression.

Box 5: Shih-Paisano Industry Classification Model

At the same time, calls for massive reshoring ignore the fact that it makes sense to rely on global supply chains for at least some manufacturing production. One useful framework for thinking about this comes from Harvard Business School professors Gary Pisano and Willy Shih.[332] They have argued that the degree to which it makes sense to offshore production or keep it at home depends on two factors: process maturity (the extent to which the technologies used to produce a product are mature or continuing to evolve) and modularity (the degree to which information about product design can be separated from the manufacturing industry).

Their argument is that in industries with high modularity and mature production processes, offshoring in order to lower costs makes good business sense and does not come at the cost of

product or process innovation. They put the production of active pharmaceutical ingredients (APIs) in this category; the production process is relatively mature and product innovation (the development of new drugs) is not dependent on close linkages to the production process. This is why a significant share of API production has moved offshore. In contrast, they've argued that biotechnology production (the production of large-molecule, living compounds) is not a mature production process and there are closer links between drug development and drug production. This is why a much larger share of biotechnology production is still in the United States. There are at least five main policy implications from this. The first is that, to the extent that policy can spur more drug innovation, especially in large-molecule, biotech drugs, it is more likely that production will be located in the United States. The converse is also true: the more there is a push to replace novel drugs with generics, the more likely that supply will be filled through offshore production. As Shih and Pisano wrote, in sectors developing breakthrough products at the frontiers of science, the major process innovations are evolving rapidly and are critical to product innovation.

A NATIONAL POWER INDUSTRY STRATEGY FRAMEWORK

Later reports in this series will lay out in greater detail a national power industry strategy, including a comprehensive list of actionable policy steps America needs to take. For now, a broad framework follows.

As in any conflict, there are two main tactics: strengthening one's own forces and slowing the advance of the adversary's forces or even degrading them. The former tactic requires a coherent national strategy to bolster domestic economic power. The latter requires steps to limit the PRC's advances in national power industries. Both are required to succeed. The PRC's subsidies and other weapons are so powerful that responding by simply boosting America's domestic capabilities will not be enough, because for a variety of reasons the United States and core allies will never be able to do enough to counter PRC advantage.

To slow Chinese gains, the United States and its core allies need to take actions in four areas: 1) limiting Chinese knowledge acquisition; 2) limiting Chinese imports and investment in U.S. and key allied markets; 3) reducing allied firms' production in China; and 4) contesting Chinese firms in non-allied markets. Doing all of this will require a host of detailed legislative actions, plus administrative follow-up and enforcement.

The PRC's subsidies and other weapons are so powerful that responding by simply boosting America's domestic capabilities will not be enough.

Meanwhile, spurring U.S. and allied gains also will require action in four main areas. First, allied nations need to invest much more in the foundations of technology-based competitiveness, including R&D and skills development in science, technology, and engineering. And these initiatives will need to be structured and targeted in new ways for national power industries, working closely with industry leaders and experts. At the same time, a wide range of federal policies and programs need to be scrapped or modernized for the new era—especially environmental regulations, immigration policy, antitrust policy, tax policy, and economic policies pertaining to small businesses and industrial support.

Second, it's time to jettison the entire idea of free trade agreements. The very concept is based on the quasi-utopian idea that all nations are allies and inherently free traders. Alas, the last 15 years have proved that vision is deficient. Rather than free trade agreements, the United States needs to take the lead in forming strategic national power industry partnerships with allies that are willing to stand up against the CCP's techno-economic aggression. These partnerships would require not only eliminating virtually all trade and investment barriers, but also requiring that each nation commits to limiting Chinese investment in their domestic markets, adopts a robust export-control and outward bound investment-review regime when it comes to China, agrees to share commercial counterintelligence, and engages in close techno-industrial partnerships.

The U.S. government needs to craft industry-specific strategies as part of an overarching national power industry strategy.

Third, as American capitalism and corporate financing have evolved into a finance-driven system that presses companies to be asset-light and to prioritize short-term returns, U.S. firms' ability to robustly fight this techno-economic war has declined. They are competing with Chinese firms that are willing to accept zero or negative returns; that receive massive subsidies for capital investment; and that are prepared to slug it out in market competition until capitalist adversaries throw in the towel. While specific techno-industrial development policies are needed, as long as those incentives are in place for Chinese firms, it will be critical for the United States to provide incentives for even the most patriotically minded CEO not to act in ways that will lose the war. That will likely entail thoroughly overhauling the corporate tax code to reduce or eliminate incentives for short-termism, while at the same time putting in place positive incentives for long-term investment, such as a stronger R&D tax credit and an investment tax credit.

Fouth, the U.S. government needs to craft industry-specific strategies as part of an overarching national power industry strategy. Industries are all different in terms of their structures, competitive forces, technology needs, and other factors. While generic support policies like the R&D credit, infrastructure, and science investment can help the overall innovation and competitiveness environment, they lack the specificity needed to help firms in the United States compete effectively in global markets. So, we need a national semiconductor strategy, a national biopharma strategy, a national machine tool and robotics strategy, a national aerospace strategy, and more. These strategies would assess industries' strengths, weaknesses, opportunities, and threats in a classic "SWOT" analysis, and examine how a wide array of federal, state, and local policies impact their power and competitiveness.

Box 6: National Power Industry Policy vs. Industrial Policy

At first glance, it would appear that national power industry strategy and traditional industrial policy (industrial policy designed around U.S. competitiveness, as opposed to industrial policy for social goals such as climate change or social welfare) would be quite similar. They are at the same level, as they both reject consumer-welfare, free-market economics and envision an active role for government in boosting value added output in certain industries.

But there is where their similarity ends. Traditional industrial policy advocates stress its benefits for productivity. Oren Cass has stated that industrial policy is needed because the industries it grows "are actually the place where we get a lot of our productivity growth over time."[333] But

that's no longer true, as manufacturing productivity growth has lagged behind overall economy productivity growth over the last 15 years or so. The pro-industrial policy group Prosperous America has written that industrial policy is "essential to rebuilding U.S. industry and prosperity."[334]

The logic is that industrial policy will boost output in industries with high value added per worker and by definition will reduce output in industries with lower value added per worker (this is an identity because the models and theory have to assume full employment). When a country is early in its development phase, as South Korea was in the 1950s, this moving-up-the-value-chain model can be quite effective. Workers move from lower productivity sectors such as agriculture and textiles to higher productivity sectors such as steel and then semiconductors.

But once an economy becomes fully industrialized, the potential gains from such a strategy are quite limited. For example, the Bureau of Economic Analysis ranks the 19 major manufacturing industries by value added per worker, with petroleum and coal products at $836,600 per worker and furniture and related products at just $69,000. Assume that industrial policy boosts the higher value-added sector output and jobs by an average of 30 percent and reduces the lower value-added sector output and jobs by the same (so the economy has the same number of manufacturing jobs), GDP would experience a one-time increase of $230 billion, or about 1 percent of GDP.[335] Even if we assume that the losses are in even lower value-added nonmanufacturing sectors such as retail trade and personal services, the gains would still be quite small, perhaps 2 to 3 percent of GDP.

Second, traditional industrial policy is indifferent to industries in terms of their importance to national power. If an industry has high value added (such as tobacco products), it's a valuable industry, even if it has no impact on national power.

In contrast, the goal of national power industry strategy is not to boost national income; it's to preserve national power, even if that means a lower standard of living because consumers are paying more for products than they would in a world where more of these products were imported. In addition, national power industry strategy is not agnostic toward industry type.

These distinctions may seem esoteric—after all, both approaches embrace industrial policy. But in fact, they are key. Adopting the former strategy will have some positive effects on national power industries, but much of those effects may be irrelevant. The latter strategy will focus on national power industries, even if consumers and taxpayers pay a price.

THE POLITICAL ECONOMY OF NATIONAL POWER INDUSTRY STRATEGY

Political economy is almost everything. To be sure, articulating the right strategic framing for a national power industry strategy is key. But at the end of the day, what matters is executing and implementing that strategy. For the most part, the USG is lacking implementation capabilities. There are too few people in government with deep understanding of technology, industry, and national industry strategy. And too many government programs are bogged down with too many rules and restrictions to make them fully effective.

The characteristics of the U.S. political economy will have a major influence on the extent to which the United States can put in place an effective national power industry strategy. Even if, by miracle, a president were elected who placed the U.S.-China techno-economic war as their top priority and were fully committed to formulating and carrying out a national power industry

strategy, the odds of its success would be limited unless there were broad political support for it, or at least the absence of vociferous opposition.

With regard to the political economy of a national power industry strategy, the single biggest factor is that the United States no longer has a developmental state. A developmental state works to prioritize industrial and economic development, along with technological innovation, to strengthen a nation's competitive standing and geopolitical power. In this model, the state plays an active role in fostering specific sectors and capabilities, in contrast to the more hands-off approach of neoliberalism or the more antibusiness, redistribution of neo-New Deal liberalism. We have a developmental state for defense, but nothing else.

With regard to the political economy of a national power industry strategy, the single biggest factor is that the United States no longer has a developmental state.

What we have is a fight between a capitalist class that wants nothing more than to be left alone and a Left that wants to limit them and redistribute wealth and power.

The U.S. political economy is made up of at least five key players: business, labor unions, civil society, universities, and government. And within each group, there are key subgroups. Unfortunately, none of the five groups fully supports a national power industry strategy.

Business

Arguably the most incisive analysis of the role of corporations in U.S. economic policy is from U.C. Berkely political science professor David Vogel in his 1979 article "Why Businessmen Distrust Their State: The Political Consciousness of American Corporate Executives."[336] While Vogel wrote this almost 50 years ago, little has changed. Vogel tried to answer why such a large share of U.S. corporate leaders looked askance at the state and wanted little to do with it, unlike corporate leaders in Europe and rising Asian nations. He wrote:

> The business community has been remarkably consistent in its opposition to the enactment of any government policies that would centralize economic decision making or strengthen the authority of government over the direction of the business system as a whole. It is only with respect to policies that have their impact on particular firm or industry that its much heralded pragmatism at times comes into play. The criterion by which business evaluates government policy has remained quite firm: does the proposed intervention strengthen or weaken the autonomy of management?[337]

This was not, in Vogel's view just some recent development; it was baked into the evolution of the U.S. economy. He wrote that this:

> was an element in conservative doctrine throughout the first seventy-five years of the Republic. After the Civil War, however, it became clear that capitalism was now strong enough to get along without more active assistance from government than it already enjoyed. Equally important, it began to appear that in a partnership between government and business the danger of gratuitous political interference was becoming too serious to justify the risk. The idea of a positive

> relationship between government and economic life thus fell out of favor among those who underwrote the conservative program.[338]

It wasn't that the state per se would be inept of anticorporate, it was that democratic forces, albeit stronger in the United States than in any other nation, would capture the state in ways that would harm business and overall economic development. Again, Vogel wrote, "Indeed, it was the fact that the state was not required to overthrow anticapitalist forces in the United States that leads to the unique view among U.S. business leaders." Vogel went on:

> The critical key to understanding why businessmen are more anti-statist than virtually any other major interest in American society lies in the unique role of the state at their institution's birth. Business—both large and small—developed during a period when the state was relatively weak and small: in the case of virtually all other major national institutions, the state and the political process played a critical role in their formation… Accepting their nation's most powerful legitimating ideology, they remain concerned that governmental policy will indeed come to reflect popular preferences. Their hostility to both the ideal and the idea of government involvement in the economy is significantly due to their lack of confidence in their ability to dominate the political process. Unlike France, Germany and Japan, we have no tradition of a strong and autocratic state or of a bureaucracy independent of popular pressures.[339]

He added:

> This historical development pattern, doesn't just shape business leaders' views toward business, it shapes their self-identity. For despite what Marxists might say, the United States does not have a unified, self-aware capitalist class, it has individual business leaders who see themselves as such for most interactions, every once in a while seeing them as part of a narrow industry, but almost never once as capitalists.[340]

Vogel then wrote:

> The extent to which capitalism has been ideologically unchanged in America—either by an aristocracy or by a socialist working movement—has also inhibited American businessmen from developing a stronger sense of internal unity. A sense of classlessness that pervades American society, cited so frequently by both defenders and critics of America's unique political tradition, not only made American unions relatively indifferent to socialist ideology; the individualistic ethic that is so critical a component of the liberal tradition also inhibits a sense of solidarity within the bourgeoisie. Nearly one hundred and fifty years ago, de Tocqueville remarked: To tell the truth, though there are rich men, the class of rich men does not exist; for these individuals have no feelings or purposes, no traditions or hopes, in common; there are individuals, therefore, but no definitive class… The rich are not compactly united among themselves…. In their intense and exclusive anxiety to make a fortune, they lose sight of the close connection which exists between the private fortune of each of them and the prosperity of all… The discharge of political duties appears to them to be a troublesome

> annoyance, which diverts them from their occupations and business ... These people think that they are following the principle of self-interest, but the idea they entertain of that principle is a very rude one; and the better to look after what they call their business, they neglect their chief business, which is to remain their own masters.[341]

He quoted one business executive: "We don't have a business community. Just a bunch of self-interested people."[53] He further wrote, "American businessmen appear to behave quite rationally toward government when the interests of their firm or industry are at stake, yet their understanding of the American business system remains remarkably shortsighted and provincial: they confuse their role as businessmen with their interests as capitalists."[342]

This unfortunately has gotten worse, not better, since 1979. As Vogel pointed out, because of the nature of capitalist development in the United States, where the state did not have to play a strong role to overthrow feudal interests, U.S. business leaders never adopted a very strong role as "capitalists." But even so, their understanding of that role and the key importance of it declined significantly after the late 1970s. Before then, many corporate leaders saw themselves as not only as business leaders but also as corporate statesmen. CEOs such as Reg Jones of General Electric, Irving Shapiro of Dupont, Thomas Watson of IBM, David Packard of HP, George Romney of American Motors, and even John Young of HP in the 1980s spent considerable time advancing the interests of the nation, not just their own firms. And unless you are a diehard anticorporate advocate, there is no doubt that this advocacy strengthened America.

But that started to die in the late 1970s and 1980s, prompted by the shareholder value movement and the libertarian notions of popular economic figures such as Milton Friedman, who proclaimed that the only purpose of business is to maximize profits. At one level, this is, of course, true. Companies have to make profits, or they cannot stay in business. But if support for the capitalist system and the policies that support it are weakened, then the ability to earn individual profits is lessened.

As Wall Street shifted from providing long-term capital for productive investment to a short-term extraction game—led by raiders such as Mike Miliken, Carl Icahn, Nelson Peltz, T. Boone Pickens, and others—CEOs could no longer afford anything but a focus on short-term profits. The capitalist system would have to take care of itself. And it has not.

At the same time, corporate norms shifted and so what was once a system that enabled and largely required statesmanship was now one that penalized it. And the rise of intense global competition only contributed to that short-termism and selfish focus. Doug Henwood wrote that "the transaction replaced the relationship—not just on Wall Street but in American business generally."[343] And it turns out that relationships are critical to the effective functioning and strength of the U.S. economy.

At the same time, the decline of the traditional American WASP ruling class, with all its flaws, had the singular advantage of promoting leaders who were civic minded and not only self-interested, and played a key role. Say what you will about this class, it at least had an ethos of service to the nation. We saw this in the motto of private boarding school Groton, the lead training ground for American leadership class before the 1950s: "Cui servire est regnare," which is conventionally translated as "To serve is to rule." In other words, service was key. This didn't

mean that these leaders were always right or altruistic. It did mean that there was an expectation to serve and preserve the Republic. Today, WASPs are a timid minority that recognizes itself at its private clubs, but not much more.

It's not just the change in the system, it's that the U.S. business community has not been able to generate its own leadership. Who are the top few business leaders who represent American business. Elon Musk? Tim Cook? Jamie Diamond? Not really. Even in 1979, Vogel dismissed the effectiveness of leading "peak associations" such as the Business Roundtable and the Council of Foreign Relations. He argued that the closest the capitalist class came to this was from the 1890s to 1920s, particularly with the leadership of Rockefeller and J.P. Morgan. Morgan was said to have told President Theordore Roosvelt during the Northern Securities antitrust case, "If we have done anything wrong, send your man to my man and they can fix it up" reflecting his centrality to U.S. business.[344]

Vogel wrote that four factors weakened that:

> Since the 1920S four developments have markedly reduced the ability of corporate executives to generate their own political leadership: the decline of the dominance of the Morgan financial interests; the reduction in market control of many of the turn-of-the-century monopolies, e.g., Standard Oil, U.S. Steel, International Harvester; the displacement of entrepreneurs by professional managers; and the internationalization of U.S. corporations. The impact of the first two developments is obvious: they significantly decentralized authority within the corporate system, making it less likely that the position of any one firm could provide a point of departure for understanding the needs of business as a whole. Most of the voluminous literature on the separation of ownership and control is concerned with its impact on corporate economic behavior; what has been overlooked is its impact on corporate political consciousness. This is serious: the managerial revolution severely undermined the formation of corporate class consciousness and business solidarity.[345]

Their class consciousness and solidarity are now almost completely gone.

The state itself will have to have stronger capabilities, of course, deeply informed by industry, but willing to act for U.S. national power, even when business support might be lacking.

At the same time, in part because of the overreach of the neoliberal vision (e.g., tax cuts for upper-income Americans and excessive globalization, reduced public investment, and an acceptance of what was once seen as a fringe ideology, libertarianism) what was once a Left that supported the American capitalist system but wanted it tamed and regulated to reduce excesses, is now largely antagonistic to the system. As an example, while Senator Elizabeth Warren (D-MA) will proclaim that she's pro capitalist, this appears to be mostly a smoke screen to defend her anticorporate positions.

All this has two major implications for the development of a national power industry strategy. First, it means that companies, even if they realize the nature of the China challenge, will be hesitant about asking for state help because they do not trust the ability of the state to either not

get captured by nonbusiness interests or to effectively implement a developmental program. Such concerns are not unwarranted, as we saw with the politicization of the CHIPS program by the Biden administration and now the Trump administration. But there are policies and program designs that can limit such flaws, such as tax incentives and industry-led programs.

Second, it means that there are few voices advancing the overall U.S. business interests, especially as they align with state interests. Few companies have the leeway to think much beyond their own firm's interests—especially their near-term interests. This is not because the leadership is populated with selfish individuals. It is because they are operating in a financialized capitalist system wherein any behavior other than that will be punished by markets.

As such, it means that the state itself will have to have stronger capabilities, of course deeply informed by industry, but willing to act for U.S. national power, even when business support might be lacking.

Box 7: From Shareholder Value Capitalism to National Power Capitalism

The emergence of the shareholder value movement—the notion that the sole purpose of capitalist enterprises is to maximize profits—is often attributed to a 1970 *New York Times Magazine* article by economist Milton Friedman, who wrote that the purpose of a business "is to increase its profits."[346] Radical libertarian Friedman saw anything other than extreme selfishness as socialism:

This is the basic reason why the doctrine of "social responsibility" involves the acceptance of the socialist view that political mechanisms, not market mechanisms, are the appropriate way to determine the allocation of scarce resources to alternative uses.[347]

Today, the shareholder value movement tolerates no other corporate purpose than producing short-term profits.

Yet, from the early 1900s until the 1970s, there was a general view held by corporations that their mission was not just to increase stock price but also to serve other constituencies, including the national interests (something libertarians such as Friedman do not believe exists). Eminent business scholar Peter F. Drucker represented this view in 1952, writing:

We believe today, both inside and outside the business world, that the business enterprise, especially the large business enterprise, exists for the sake of the contribution which it makes to the welfare of society as a whole. Our economic-policy discussions are all about what this responsibility involves and how best it can be discharged. There is, in fact, no disagreement, except on the lunatic fringes of the Right and on the Left, that business enterprise is responsible for the optimum utilization of that part of society's always-limited productive resources which are under the control of the enterprise.[348]

But beginning in the 1980s, changes in the institutional system of U.S. investing and management, under the rubric of the "shareholder value movement," changed all that. How investment funds were structured and their managers were rewarded meant that funds moved money around in search of the quickest return, regardless of where long-term value might be found. How managers were compensated—increasingly with stock options that were not always related to actual managerial performance—reflected this new view that a manager's job was to maximize value for the shareholders. And because managers themselves became key short-term stockholders (through the significant growth of stock options), they made even more effort to

enhance the welfare of short-term stockholders, including by boosting dividends and through stock buybacks.

Now stock price was all that mattered, and the best way to get that price up was to engage in frenetic bidding wars to get the best CEO and top-level management team, which meant a massive increase in executive compensation. The rise of the shareholder value movement and its later evolution into corporate short-termism, or what some call "quarterly capitalism," meant that CEOs were rewarded for downsizing firms, limiting investment in capital stock (in order to maximize return on net assets), and paying attention solely to the bottom line.

This focus on short-term returns was not rational in the sense of maximizing returns for society, or even for companies (if returns are defined as maximizing the net present value of all future profits). The shareholder value revolution hurt national economic power. Indeed, as companies began paying out more in dividends and engaging in stock buybacks as a way to boost stock prices for short-term investors, relatively less was available for investing in activities that would boost national economic power.

With the rise of the shareholder value movement came a shift in the political role and orientation of the corporate community. Prior to the mid-1980s, many CEOs, such as GM's Charlie Wilson, GE's Reginald Jones, HP's John Young, DuPont's Irving Shapiro, and Loral's Bernard Schwartz, saw their role not just as CEO but as corporate statesman. But around that time, the role of "business statesman" began to fade. Executives came under increasing pressure to focus ruthlessly on boosting profits and share prices. Those who didn't risked losing their jobs or seeing their companies swallowed up in hostile takeovers. This is not to say that some of today's CEOs don't try to play some broader role, but overall, U.S. corporate leaders have abdicated their roles as statesmen for roles as CEOs alone. In his book, *The Fracturing of the Corporate Elite*, Mark Mizruchi observed:

[After] World War II, American business leaders hewed to an ethic of civic responsibility and enlightened self-interest.... In the 1970s, however, faced with inflation, foreign competition, and growing public criticism, corporate leaders became increasingly confrontational with labor and government. As they succeeded in taming their opponents, business leaders paradoxically undermined their ability to act collectively.[349]

A survey by the corporate organization Committee for Economic Development supports this observation, finding that the three biggest barriers to business leaders taking a more active role in public issues were "concern about criticism others have experienced; shareholder pressure for short-term results; and belief that a CEO should focus on his/her company."[350] For the CEOs, it became a collective action problem. Why step up and fight for big business and the U.S. economy generally when it only means taking valuable time away from your company? As a thought experiment, try to name a current CEO who is seen as a leader for good policy for the American economy.

Today, the lunatic fringes of the Right and Left are no longer fringes. The Right embraces Friedman's shareholder value movement. Today's Left, at best, talks about stakeholder capitalism (e.g., helping workers, the environment, and other interests). Some, such as radical globalist Klaus Scwab, even argue that the key stakeholder should be the entire global proletariat and environment.[351] Others, including many on the progressive Left, would have companies completely do away with a focus on profits, while others would wrap corporations up in a Gulliver-like straitjacket.[352]

But even mainstream thinking has missed the point. The Business Roundtable says that the best companies "put the customer first and invest in their employees and communities" and supporting their suppliers.[353] For many, shareholder capitalism is following an alphabet soup of ESG (environment, social, and governance) goals. Absent is any discussion of the needs of the nation as a whole.

What is needed is an alternative to shareholder capitalism that is not stakeholder capitalism. We need national power capitalism. In this framework, companies don't ignore profit, but they work wherever possible to align that with U.S. and allied techno-economic and trade power. And they certainly do not oppose, and ideally support, national government policies to encourage the alignment of companies and the national interest.

Labor Unions

Just as corporations used to think of themselves as defenders of the system, so did organized labor. Of course, this was before labor unions were significantly weakened and now largely represent government workers, some low-pay service workers, and certain construction trades. Like corporations, unions focus largely on their own interests, in this case, demanding higher wages and benefits and resisting automation.

A 2023 United Auto Workers strike led the Big Three U.S. automakers to grant workers at least 27 percent wage increases.[354] The Writers Guild strike resulted in studios agreeing to limit the use of AI to automate creative work. The International Association of Machinists and Aerospace struck for a 40 percent wage increase and a restoration of defined-benefit retirement plans.

The question few are asking is what the effect will be on the global competitiveness of these companies, and by extension the U.S. economy. It's one thing for a teachers' union to demand higher wages; the only result would be higher taxes. But in industries that are globally traded, overly aggressive union demands often put firms at a competitive disadvantage—helping current union members in the short term, but hurting the firms, future workers, and the national economy in the long term as the firms become less competitive in global markets.

We have the role of unions in leading to industrial decline in the United Kingdom, as all their incentives have been to maximize short-term gains at the expense of long-term stability. Even if unions realized the harm they were doing to their firms, all too often, they haven't been able to stop themselves. As one scholar wrote with regard to U.K. unions:

> What occurred in industry after industry in the U.K. was a Greek tragedy.... Somehow workers in some sectors have found themselves destroying their firm, fully aware of what they were doing, yet unable to stop. They found themselves answering strike calls ... in the full awareness that ... the result could only be ruin for all concerned.[355]

That description bears a striking resemblance to what has also occurred in many unionized U.S. industries. Around 2015, I asked a former UAW leader whether, if the UAW had known in the 1970s and 1980s what it knows now about the decline of the Big Three, it would have done things differently. His response was, "No." While he acknowledged that UAW actions hurt the Big Three's global market share, he believed that union leadership could have acted no differently. If it had, he said, workers would have voted UAW leadership out and installed leaders who would stand up for the interests of workers now.

Moreover, while some in the AFL-CIO have called for more industrial policy support, the lion's share of its efforts to go boosting wages and expanding members.[356] On its web page "What We Care About," the Federation lists better pay and benefits, civil rights, corporate greed, gender equality, global worker rights, immigration, infrastructure, and workplace health and safety.[357] Lower on the page, on a list of other issues, it does list manufacturing.

Civil Society

As Vogel has rightly pointed out, institutionalized civil society after the New Deal accepted and even supported the corporate capitalist system. They just wanted to ensure that broader societal interests were adequately represented, and their concerns addressed.

That is no longer the case. Most of these groups, largely funded by major left-wing foundations, now reject the U.S. capitalist system, seeing it as inherently evil and harmful. It is racist, sexist, imperialist, and every other "ist." Hundreds of these often-well-funded groups push for ever stronger land use and environmental regulations, stronger privacy rules, stronger antitrust prosecution, higher business taxes, and technology bans. The philanthropy consultancy, Blue Tent, has identified over 200 left-leaning foundations in America.[358] These include groups that reject copyright enforcement, seek to hold tech firms "accountable," promote technology justice, protect individual privacy, oppose new technologies such as facial recognition and AI, highlight "power imbalances," and want to break-up large firms and regulate large telecom providers to bridge various digital divides. The Ford Foundation alone has funded nearly 100 nonprofit advocacy groups focused on "public interest technology."[359] Not one comes close to supporting a national power industry strategy.

Most of these groups, largely funded by major left-wing foundations, now reject the U.S. capitalist system, seeing it as inherently evil and harmful.

At the same time, most free-market foundations fund organizations that are diametrically opposed to the government development of a national power industry strategy because their task is less government. While that can be an important component of a national power industry strategy, if it focuses on eliminating or streamlining regulations inimical to national power industry competitiveness, overall, they oppose the areas where government needs to be more active and strategic.

In addition, a variety of nonprofits now mobilize political interests to not only prevent any reforms needed to better compete with China, but also to rachet up new regulatory restrictions. We see this with the pressure environmental organizations exert any time Congress attempts even the most common-sense reform of environmental laws.

Universities

A national power industry strategy would entail a very different role for U.S. research universities. They would, among other things, need to focus more on STEM education, especially for Americans; on research areas critical to success in national power industries; and on working more closely with industry to ensure that more of the benefits of that research flow to firms in America, rather than China.

But the problem is that U.S. universities resist the imposition of even guidance from the federal government. As Vogel argued that U.S. business executives value autonomy from government above all else, the same is true with faculty, who ultimately call the shots at universities. We have seen this with the reaction to President Trump's "Compact for Academic Excellence in Higher Education," which would provide universities with a set of benefits if they adopt the measures in the Compact. The point here is not whether the Compact is good, or if the president has the authority to implement it; it's to show the utter focus on autonomy by higher education.

For example, in rejecting the invitation to join, Brown University's president, Christina Paxson, said that the compact "by its nature and by various provisions would restrict academic freedom and undermine the autonomy of Brown's governance."[360] Todd Wolfson, president of the American Association of University Professors (AAUP), stated:

> By declining to compromise its core mission, Brown University has affirmed that no amount of federal inducement is worth surrendering the freedom to question, explore and dissent. In rejecting the compact, Brown stands as a bulwark for higher education's sacred commitment to academic freedom and institutional self-governance.[361]

To be sure, they would be mostly correct if they were not receiving funding from taxpayers through federal grants. If they want to give up that, then have at it. But the acceptance of federal funding should come with it an expectation to act in the national interest, not just the university's own interest, however it defines it. Academic freedom is a code word for being able to say and do whatever they want with virtually no constraints.

But with the national industry power war, it is in the national interest for universities to operate differently. This means boosting the quality of undergraduate education from its fairly mediocre levels. Keeping tuition increases reasonable so students can afford education without federal subsidies. Focusing more on STEM education, especially for American students. And focusing on research critical to the success of national power industries.

With the national industry power war, it is in the national interest for universities to operate differently.

However, as we saw with the vociferous resistance by higher education to the provisions in the Endless Frontier Act (which was incorporated with the CHIPS Act to become the Chips and Science Act) that would have given most of the increase in National Science Foundation funding to the Technology Innovation Partnerships program rather than to traditional programs, we can expect most higher education institutions to actively resist ensuring that higher ed policy be guided by a national advanced industry strategy. They will continue to trot out stale bromides such as academic freedom and Vannevar Bush's linear model of science that lets researchers study whatever they want and only focus on research publications. Universities that agree to support U.S. national power industries would likely be attacked by their fellow universities and academics.

Government

Finally, government. The state itself is an actor advancing interests: something the MAGA right calls the "deep state," implying that government interests are not national interests.

Notwithstanding this radical view, the U.S. state itself is actually weak. Vogel nailed it when he wrote, "The American state still lacks essential information about the basic functioning of the economy and even if that information were available the fragmentation of authority and power within the federal bureaucracy would make any coordinated government policy extremely problematic."[362]

Given the hollowing out of the federal government since he wrote this in 1979, including the recent calamity of the Department of Government Efficiency (DOGE) haphazardly slashing and burning bureaucracy, this is even more true now.[363] To the extent that the state has real capacity, it is largely limited to DOD, and as discussed in later work on policy steps, the problem is that DOD (or now called the Department of War) has become another interest group, focusing on advancing its own narrow military interests rather than national power writ large, especially through a national power industry strategy.

In writing about how corporations have to succeed, Gary Hamel and Prahalad stated:

> To create the future, an entire company, not just a few isolated boffins or "research fellows" must possess industry foresight. Top management cannot abdicate its responsibility for developing, articulating and sharing a point of view about the future. What is needed are not just skunk works and intrapreneurs, but senior managers who can escape the orthodoxies of the corporation's current "concept of self."[364]

DOD has become another interest group, focusing on advancing its own narrow military interests rather than national power writ large, especially through a national power industry strategy.

They went on to write:

> Making industry and company conventions explicit, understanding how these conventions could imperil the firm's success in the future, delving deeply into industry discontinuities, establishing a process for extending industry foresight and working collectively to craft a strategic architecture are the means for genetic reengineering on a large scale.[365]

That is all the more true for the USG. But today's few SES (Senior Executive Service) or political appointees have those capabilities, and as discussed later, there are few easy ways by which they can attain them.

Today's Limitations

When David Vogel wrote his book, majorities in both parties accepted both government and corporate capitalism. The Republicans were always a bit more on the side of corporations. The Democrats were on the side of civil society and used the state to advanced broader public interests and concerns, especially workers' and consumers'. Now most of the Right wants significantly limited government and some no longer trust corporate America. And much of the Left has rejected large corporations and the capitalist system itself.

Vogel noted how the U.S. democratic system, with its open democracy, was one of the few developed economies without a socialist opposition:

> Whatever may be inconveniences of a relatively open and responsive governmental system to the achievement of specific corporate objectives—and they are often considerable - they are clearly the price the American bourgeoisie pays for a luxury enjoyed by no other business community in the advanced capitalist nations—the absence of a socialist opposition. American executives continually complain about the large number of organizations and interest groups that routinely turn to the state to redress their grievances against the corporation, but this state of affairs certainly preferable to one in which these non or antibusiness factions did not use the political process because they perceived it as fixed against them. The latter would seriously undermine the political stability upon which a sound economic system depends.[366]

That is no longer the case. A large swath of progressives now embrace socialism, even if they do not call it that. And it is quite possible that America will become like Europe: a social welfare state wherein socialism represents the Left.

Given that any effective national power industry strategy has to be built around large corporations and a strong government role, all this bodes ill for the ability to take effective action.

For conservatives, it's just as bad, if not worse. For much of the post New-Deal through to the election of President Reagan, the business community, and more important conservative intellectuals accepted the New Deal. As Vogel wrote:

> At his presidential address delivered to the annual meeting of the American Economic Association in 1962, Edward S. Mason noted …the fact that the really revolutionary changes in the role of government and in the relation of various groups to government produced by the depression and the war have not yet been fully accepted in this country. Where counter-revolution is still considered to be a possibility no one is quite prepared to lay down his arms.[367]

Dwight Eisenhower warned that abolishing New Deal programs would undermine any political party's viability, and for decades, Republicans largely grudgingly heeded that caution. Even though many on the Right have long viewed Wilson's New Freedom, Roosevelt's New Deal, and Johnson's Great Society as fundamental deviations from America's founding principles, conservative politicians, like liberals, have dared not touch them. The policies and programs of those eras were assumed to be sacrosanct pillars of the post-World War II power and prosperity we have known as the American Century.

But the counterrevolution was always nascent, occasionally breaking out with someone like Goldwater or Gingrich. Now the counterrevolution has triumphed, working to restore the nation to the pre-New Deal, and even pre-Wilson era.[368] President Trump and the MAGA movement, buoyed by a perception of the Biden administration's overreach, are now actively revolting against all that was once held sacred. Many are doing so under the banner of "drain the swamp." More fundamentally, though, the animating desire is to return to the governance of more than a century ago—that of the Gilded Age, an era of small government, protective tariffs, limited immigration, and America as regional power—a period that reached its zenith during the Republican administration of President William McKinley.

Given that any effective national power industry strategy has to be built around large corporations and a strong government role, all this bodes ill for the ability to take effective action.

Ironically, the business community in the United States distrusts the state because it worries that it will be captured by populist forces that neither understand nor care about the economic system—and even more ominously, they will try to dismantle that system. With such a risk always in the background, U.S. corporate leaders have long preferred to be left alone, and to support a weak central government.

If America is to not lose the national power industry war to China, it needs a political economy that puts the restoration of U.S. power, especially from national power industries, at the center.

It is ironic that in a Marxist-Leninist China, the last thing the state wants is for democratic forces to derail capitalist progress. To be sure, the CCP inserts itself into capitalists' business, but it is only to 1) make sure that the capitalists do not challenge the Party and 2) to make sure that the companies advance CCP and Chinese power globally.

If America is to not lose the national power industry war to China, it needs a political economy that puts the restoration of U.S. power, especially from national power industries, at the center.

APPENDIX 1: SELECTED CHINESE ADVANCED INDUSTRY POLICIES

Until recently, China's playbook was to imitate the advances of industrialized countries, but since the 12th Five-Year Plan (2011–2015), the Chinese government has shifted its strategy toward incentivizing innovation. We see that in a variety of advanced sectors.

Biotech

China has named biotechnology as a strategic emerging industry and has set development priorities for drugs, biomedical engineering, agriculture, and biomanufacturing. It has developed a comprehensive national strategy to enhance the innovation capabilities of its domestic biotech industry. The strategy includes subsidies, financial incentives, national reimbursement for innovative therapies; the creation of high-tech science parks, start-up incubators, and public-private partnerships; talent recruitment initiatives; reforms to expedite drug review, especially for domestic products; and efforts to enhance IP protection to foster innovation. China has set several milestones and goals for the industry, including enhancing the originality of biotech through new technologies and products, creating a biotech innovation platform, and strengthening the industrialization of biotechnology.

To implement this strategy, China has increased R&D activity and built out its innovation infrastructure—science parks, incubators, and national gene and cell banks. The number of high-quality biotech publications and clinical trials in China has surged. Still, structural challenges remain, such as inconsistent hospital data systems and difficulty translating scientific research into market-ready products, with China lagging behind the United States in commercialization capabilities. However, it is expected that the Chinese share of the global biotech drug market will grow significantly, at the cost of Western leaders' market share.

Quantum Computing

China's quantum strategy reflects a clear belief that competing in this field requires central political control, not just industrial strength. Rather than backing a decentralized commercial ecosystem like in the United States, Beijing has placed universities and state-run labs at the center of its quantum push, with funding, talent, and political oversight all flowing through the Party apparatus. The focus is on the areas where state coordination can yield strategic wins—namely, quantum communications and sensing, which are easier to deploy and carry direct national security value.

To implement this strategy, the government has folded private industry into its preferred channels. High-profile exits, such as Alibaba and Baidu abandoning their quantum research divisions and transferring their assets to state-linked institutions, reflect a system wherein firms are discouraged from independent leadership and instead are expected to serve as suppliers or technical partners to state-led projects. Rather than bet on uncertain, long-term breakthroughs in quantum computing, China is locking in an early advantage in quantum key distribution (QKD) and quantum sensors, which are more mature fields that can scale faster and shape international norms.

For the United States, the impact is dual. First, China's rapid progress in quantum communications and sensing shortens the window for U.S. institutions to upgrade to post-quantum secure systems. That raises national security risks; if adversaries establish quantum-secure channels or advance quantum sensing before the United States adapts, it could

compromise intelligence, defense, and critical infrastructure. Second, China's early dominance in export-ready quantum systems, especially sensing technologies, threatens U.S. competitiveness in emerging markets. By offering heavily subsidized AI solutions through state-directed firms, China could lock in long-term customers and establish its standards as the default, making it harder for U.S. companies to enter or influence these strategic sectors later on.

AI

China is using state power to tilt the AI playing field. Rather than relying on market dynamics alone, China is using state-led tools—subsidies, open-source acceleration, massive data access, and political endorsement—to build national champions and crowd out foreign competitors. Tsinghua-affiliated start-ups such as Zhipu AI and Moonshot AI, backed by government-linked funding and supercomputing access, show how China incubates AI firms within a politically protected ecosystem. These firms now produce competitive large language models, and some, such as DeepSeek, outperform U.S. peers on key benchmarks.

China implements this strategy by tightly aligning AI firms' development with state priorities. The government funnels capital through targeted venture funding, particularly benefiting companies overlooked by private markets, and supports strategic partnerships that quickly scale AI platforms. Firms such as DeepSeek receive explicit political endorsement, securing privileged market positions and accelerating their ability to innovate and commercialize. Furthermore, China leverages its enormous population to generate extensive, unrestricted datasets, feeding AI models at a scale unattainable in democratic societies constrained by privacy rules. This creates a structural advantage, allowing Chinese firms to train advanced AI systems more cost-effectively and rapidly.

If China's model for AI becomes the reference point in fast-growing markets, U.S. firms may find themselves shut out of both standards-setting processes and adoption pathways. This doesn't mean replicating China's model, but it does mean recognizing the structural advantages it creates and rethinking the domestic policies that may be holding U.S. companies back.

Electric Vehicles

China has pursued an ambitious strategy to become the world's leading EV and battery manufacturer and, in so doing, displace "Western" (including Japan and South Korea) leadership in internal combustion engine (ICE) vehicles. The Chinese government began investing in EV-related technologies as early as 2001, when EV technology was introduced as a priority science research project in China's 10th Five-Year Plan.

Subsidies have proven indispensable in building Chinese EV competitiveness. From 2009 to 2023 alone, China channeled $230.9 billion in subsidies and other support to its domestic EV sector. From 2018 to 2023, the Chinese government extended $1.8 billion in subsidies to EV battery developer CATL (Contemporary Amperex Technology Co., Limited) alone.

Chinese policymakers have put their thumb on the scale for electric as opposed to ICE vehicle adoption, such as by giving EV owners license plates at no cost and not subjecting them to traffic control measures. China has established the world's largest public charging infrastructure network.

Growth in Chinese competitiveness in autos has been astounding. In 1985, Chinese enterprises manufactured a grand total of 5,200 passenger vehicles; by 2024, they produced 26.8 million vehicles (including 10 million EVs)—21 percent of global production—a share automotive analysts expect will reach one-third by 2030.

The Alliance for Automotive Manufacturing has referred to Chinese EV growth as a potential "extinction-level event." While Chinese EV makers have yet to make significant inroads in the U.S. market, they're capturing considerable market share in third-market countries. The United States has responded by offering 100 percent tariffs on Chinese EV imports.

Semiconductors

Ever since the 2013 Third Party Plenum, the Chinese government has made semiconductors the country's top industrial innovation priority. China's "2014 National Guidelines for Development and Promotion of the Integrated Circuit Industry" called for $150 billion in central government investments to establish a fully "closed-loop" semiconductor ecosystem in China. The plan called for eliminating China's trade deficit in ICs by 2030 and achieving 70 percent self-sufficiency in semiconductors by that year.

Chris Miller has suggested that adding up semiconductor-sector investments made by Chinese governments at all levels, China "has probably invested the equivalent of [America's] CHIPS Act virtually every year since 2014."[369] One OECD study of the global semiconductor industry from 2014–2018 found that China accounted for 86 percent of all below-market equity injections and that subsidies accounted for 40 percent of foundry SMIC's revenues. The Chinese government stood up NAND memory-maker YMTC from whole cloth by a $24 billion investment.

China added more chip-making capacity than the rest of the world combined in 2024, with most centered in the legacy (28 nm or greater) market, which is particularly concerning because Chinese companies are gaining a foothold there and selling products 20–30 percent less than Western competitors, disrupting the industry's innovation economics. Huawei Ascend AI and Kirin mobile chips are increasingly capable and pose market share threats to U.S. companies in China and third-party markets. Elsewhere, Document 79 articulates an import substitution approach that has directed Chinese EV and ICT firms to remove foreign semiconductors from their products.

APPENDIX 2: KEY TAKEAWAYS FOR MAJOR U.S. POLICY AREAS

The final report in this Chinese National Power Industry War series will be a comprehensive and detailed policy agenda. But as a way to frame that, based on the argument presented here, this appendix briefly describes major changes needed in various policy areas.

Antitrust

For the free-market Right, the goal of antitrust is short-term consumer welfare; and for the populist Left and Right, the goal is attacking and breaking up big companies. It is time to incorporate a national power industry "screen" in antitrust analysis and enforcement wherein national power industries would be treated differently. Merger review, as well as enforcement, would be viewed in equal part of how much the actions would hurt U.S. power industry capabilities.

Environmental Regulation

U.S. environmental regulation came of age in an era of supposed plenty with virtually no international industry competition. And over the years, it was largely a one-way ratchet, with more regulation added on. Some regulation makes sense. But much of it could be implemented in ways that are less damaging to competitiveness and with lower compliance costs. And some are just unnecessary. The poster child of this is the National Environmental Protection Act, which imposes massive costs and delays, or even bans, on needed development. Again, as with antitrust, environmental regulation needs to reformed and implemented through the "screen" of national power industry health.

Industry Regulation

Industry is regulated in a number of ways besides environmental regulation. This includes sector-specific regulation (e.g., freight rail, housing construction, etc.), data privacy regulation, worker safety, and others. Again, as with environmental regulation, these were put in place and enforced with little consideration for impact on national power industry competitiveness. That needs to change.

Business Tax Policy

For most Republicans (and neoclassical economists), the best business tax code is a broad base (few to no exemptions of incentives and a low rate). For most Democrats, the best business tax code is one that raises the effective tax rate of large corporations. A national power industry-based tax code reduces the effective rate on business, but especially on national power industries, by boosting specific incentives to align their interests with national interests for a strong national power industry sector.

Budget and Taxes

Both parties are afraid of the wrath of selfish American voters of raising taxes on anyone but the rich. And most Republicans favor cutting USG discretionary spending, including on activities that would support U.S. national power industry competitiveness. Most Democrats want to boost spending to help current consumers and workers, even if this means less public investment that would support power industries. And both parties are terrified of controlling entitlement spending, even though without that, there is almost no way to generate the fiscal headroom for the kinds of direct and indirect (tax) expenditures needed to win the national power industry war with China.

International Trade

Most in Washington are loathe to prioritize particular industries in trade policy—"agriculture is as important as aerospace." That needs to change, where the interests of U.S. national power industries are paramount on trade policy and negotiations may require comprising with other nations in ways that hurt nonpower industries while helping U.S. power industries. At the same time, traditional trade supporters see free trade with all nations as good, and populist trade advocates on both the Right and the Left now reject global trade and seek autocracy; sometimes euphemistically called a "trade agenda for the middle class." A national power industry trade agenda prioritizes China, including strengthening allied trade relations and allied efforts to restrict Chinese exports, especially of power industry goods and services.

Foreign Policy

U.S. foreign policy on the right prioritizes the United States being the policeman throughout the world. On the Left, it prioritizes pushing for human rights throughout the world, including in China. In addition, foreign policy has long been willing to spend "national power industry capital" to achieve these globalist foreign policy goals. We see this in how the United States has consistently engaged in export controls to punish nations for taking actions we didn't like, even though that came at the cost of U.S. power industry competitiveness. A national power industry foreign policy prioritizes China over all else, and seeks to advance U.S. national power interests throughout the world.

Small Business

Since the start of the first Cold War, U.S. policy has idolatrized small business, blessing it with a wide panoply of regulatory, tax, and spending protections and favors. The Left supports it because it believes that it can convince petit-bourgeois small business owners to think of themselves as part of the proletariat oppressed by large capitalist corporations. The Right supports them because they see them as being driven by Adam Smith-like competition, unlike large supposedly woke, crony capitalist large corporations. In a world of national power industry war with China, the nation can longer afford to do this. It costs too much money, and it weakens power industry firms. In a power industry world, all U.S. policy would become size neutral.

Banking and Investment Regulation

Banking and investment regulation has largely supported financial markets, even though many of them have become zero-sum casinos benefiting a small cadre of billionaire hedge fund managers, driving national power industry corporations toward short-term financial maximization at the cost of long-term competitiveness. Investment regulation needs to focus first on how to drastically reduce the size of the industry as it sucks off needed talent and GDP away from national power industries. Second, it needs to reform the industry away from its parasitic short-termism toward long-term national wealth and power creation.

Science Policy

Science policy still is under the post-WWII shadow of Vannevar Bush and the linear model of science focused on prioritizing early-stage basic science of whatever scientists want to study. Science policy should evolve to "science, technology, and engineering" policy and more money should go to targeted areas critical to advancing U.S. national power industries and in ways that involve industry more. Whether that can be done at the National Science Foundation with its

deep commitment to the desires of individual scientists and research universities, or whether it requires the creation of separate institution is an open question.

Overall Government Goal

There is a reason the United States has no real national power industry strategy and why so few policy areas are aligned to support that. And it is because there are few forces in American politics pushing for this. Most Republicans, including most "Trumpians," still are committed to small government and "freedom" from government. That is largely what the president wants. And most Democrats now are firmly redistributionists, wanting more now, especially for those "oppressed" by the U.S. capitalist system and big corporations. That is largely what President Biden pushed for. Not losing the national power industry war with China requires more state capacity and action, strong support for power industry corporations, and way more sacrifice of current consumption toward future investment.

As Robert Kagan of the Brookings Institution put it:

> If and when American power declines, the institutions and norms that American power has supported will decline, too. Or more likely, if history is a guide, they may collapse altogether as we make a transition to another kind of world order, or to disorder. We may discover then that the U.S. was essential to keeping the present world order together and that the alternative to American power was not peace and harmony but chaos and catastrophe—which is what the world looked like right before the American order came into being.[370]

APPENDIX 3: NATIONAL POWER INDUSTRY TYPOLOGY AND CATEGORIZATIONS

Figure 7: Breakdown of six-digit NAISC industries according to ITIF's typology

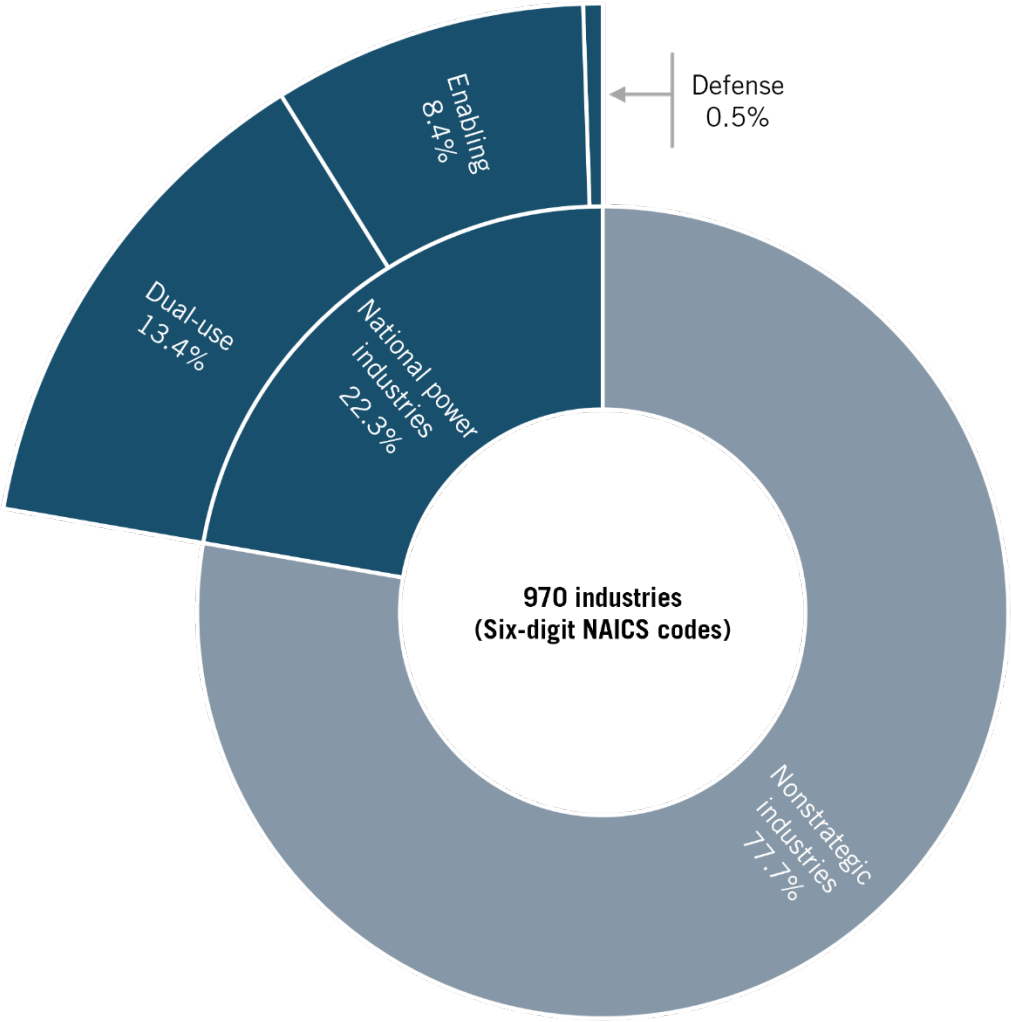

Table 2: National power industries in ITIF's typology—namely, defense, dual-use, and enabling industries—together account for 22.3 percent of NAICS six-digit industries (216 out of 970)

NAICS Code	NAICS Description	Power Category
336414	Guided Missile and Space Vehicle Manufacturing	Defense
336992	Military Armored Vehicle, Tank, and Tank Component Manufacturing	Defense
336419	Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	Defense
336611	Ship Building and Repairing	Defense
332993	Ammunition (except Small Arms) Manufacturing	Defense

NAICS Code	NAICS Description	Power Category
334111	Electronic Computer Manufacturing	Dual-use
334210	Telephone Apparatus Manufacturing	Dual-use
334118	Computer Terminal and Other Computer Peripheral Equipment Manufacturing	Dual-use
331313	Alumina Refining and Primary Aluminum Production	Dual-use
334112	Computer Storage Device Manufacturing	Dual-use
334413	Semiconductor and Related Device Manufacturing	Dual-use
334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	Dual-use
334412	Bare Printed Circuit Board Manufacturing	Dual-use
332991	Ball and Roller Bearing Manufacturing	Dual-use
334310	Audio and Video Equipment Manufacturing	Dual-use
336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing	Dual-use
327910	Abrasive Product Manufacturing	Dual-use
336411	Aircraft Manufacturing	Dual-use
336510	Railroad Rolling Stock Manufacturing	Dual-use
327212	Other Pressed and Blown Glass and Glassware Manufacturing	Dual-use
333912	Air and Gas Compressor Manufacturing	Dual-use
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	Dual-use
334517	Irradiation Apparatus Manufacturing	Dual-use
333612	Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing	Dual-use
333515	Cutting Tool and Machine Tool Accessory Manufacturing	Dual-use
335312	Motor and Generator Manufacturing	Dual-use
333519	Rolling Mill and Other Metalworking Machinery Manufacturing	Dual-use
334290	Other Communications Equipment Manufacturing	Dual-use
334512	Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use	Dual-use
339113	Surgical Appliance and Supplies Manufacturing	Dual-use

NAICS Code	NAICS Description	Power Category
325412	Pharmaceutical Preparation Manufacturing	Dual-use
333511	Industrial Mold Manufacturing	Dual-use
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	Dual-use
332410	Power Boiler and Heat Exchanger Manufacturing	Dual-use
332996	Fabricated Pipe and Pipe Fitting Manufacturing	Dual-use
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	Dual-use
326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	Dual-use
332510	Hardware Manufacturing	Dual-use
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	Dual-use
332420	Metal Tank (Heavy Gauge) Manufacturing	Dual-use
333613	Mechanical Power Transmission Equipment Manufacturing	Dual-use
333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing	Dual-use
336390	Other Motor Vehicle Parts Manufacturing	Dual-use
325411	Medicinal and Botanical Manufacturing	Dual-use
325212	Synthetic Rubber Manufacturing	Dual-use
333618	Other Engine Equipment Manufacturing	Dual-use
339112	Surgical and Medical Instrument Manufacturing	Dual-use
327993	Mineral Wool Manufacturing	Dual-use
334417	Electronic Connector Manufacturing	Dual-use
333414	Heating Equipment (except Warm Air Furnaces) Manufacturing	Dual-use
334419	Other Electronic Component Manufacturing	Dual-use
334519	Other Measuring and Controlling Device Manufacturing	Dual-use
325110	Petrochemical Manufacturing	Dual-use
327390	Other Concrete Product Manufacturing	Dual-use
331314	Secondary Smelting and Alloying of Aluminum	Dual-use
333914	Measuring, Dispensing, and Other Pumping Equipment Manufacturing	Dual-use

NAICS Code	NAICS Description	Power Category
334510	Electromedical and Electrotherapeutic Apparatus Manufacturing	Dual-use
333120	Construction Machinery Manufacturing	Dual-use
333994	Industrial Process Furnace and Oven Manufacturing	Dual-use
333517	Machine Tool Manufacturing	Dual-use
325180	Other Basic Inorganic Chemical Manufacturing	Dual-use
332117	Powder Metallurgy Part Manufacturing	Dual-use
335313	Switchgear and Switchboard Apparatus Manufacturing	Dual-use
336412	Aircraft Engine and Engine Parts Manufacturing	Dual-use
333314	Optical Instrument and Lens Manufacturing	Dual-use
335311	Power, Distribution, and Specialty Transformer Manufacturing	Dual-use
325320	Pesticide and Other Agricultural Chemical Manufacturing	Dual-use
335991	Carbon and Graphite Product Manufacturing	Dual-use
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	Dual-use
327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing	Dual-use
327410	Lime Manufacturing	Dual-use
324191	Petroleum Lubricating Oil and Grease Manufacturing	Dual-use
325211	Plastics Material and Resin Manufacturing	Dual-use
336360	Motor Vehicle Seating and Interior Trim Manufacturing	Dual-use
334516	Analytical Laboratory Instrument Manufacturing	Dual-use
334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables	Dual-use
327211	Flat Glass Manufacturing	Dual-use
333611	Turbine and Turbine Generator Set Units Manufacturing	Dual-use
335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing	Dual-use
324199	All Other Petroleum and Coal Products Manufacturing	Dual-use
333111	Farm Machinery and Equipment Manufacturing	Dual-use

NAICS Code	NAICS Description	Power Category
336120	Heavy Duty Truck Manufacturing	Dual-use
325920	Explosives Manufacturing	Dual-use
333993	Packaging Machinery Manufacturing	Dual-use
325414	Biological Product (except Diagnostic) Manufacturing	Dual-use
327992	Ground or Treated Mineral and Earth Manufacturing	Dual-use
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	Dual-use
332992	Small Arms Ammunition Manufacturing	Dual-use
332994	Small Arms, Ordnance, and Ordnance Accessories Manufacturing	Dual-use
325311	Nitrogenous Fertilizer Manufacturing	Dual-use
336415	Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing	Dual-use
213112	Support Activities for Oil and Gas Operations	Dual-use
316998	All Other Leather Good and Allied Product Manufacturing	Dual-use
322220	Paper Bag and Coated and Treated Paper Manufacturing	Dual-use
325193	Ethyl Alcohol Manufacturing	Dual-use
325199	All Other Basic Organic Chemical Manufacturing	Dual-use
325992	Photographic Film, Paper, Plate, and Chemical Manufacturing	Dual-use
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	Dual-use
326211	Tire Manufacturing (except Retreading)	Dual-use
326291	Rubber Product Manufacturing for Mechanical Use	Dual-use
327332	Concrete Pipe Manufacturing	Dual-use
331110	Iron and Steel Mills and Ferroalloy Manufacturing	Dual-use
331221	Rolled Steel Shape Manufacturing	Dual-use
331315	Aluminum Sheet, Plate, and Foil Manufacturing	Dual-use
332439	Other Metal Container Manufacturing	Dual-use
332613	Spring Manufacturing	Dual-use
332618	Other Fabricated Wire Product Manufacturing	Dual-use

NAICS Code	NAICS Description	Power Category
332911	Industrial Valve Manufacturing	Dual-use
332919	Other Metal Valve and Pipe Fitting Manufacturing	Dual-use
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	Dual-use
333131	Mining Machinery and Equipment Manufacturing	Dual-use
333241	Food Product Machinery Manufacturing	Dual-use
333242	Semiconductor Machinery Manufacturing	Dual-use
333249	Other Industrial Machinery Manufacturing	Dual-use
333316	Photographic and Photocopying Equipment Manufacturing	Dual-use
333318	Other Commercial and Service Industry Machinery Manufacturing	Dual-use
333413	Industrial and Commercial Fan and Blower and Air Purification Equipment Manufacturing	Dual-use
333921	Elevator and Moving Stairway Manufacturing	Dual-use
333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	Dual-use
333992	Welding and Soldering Equipment Manufacturing	Dual-use
333996	Fluid Power Pump and Motor Manufacturing	Dual-use
333997	Scale and Balance Manufacturing	Dual-use
333999	All Other Miscellaneous General Purpose Machinery Manufacturing	Dual-use
335129	Other Lighting Equipment Manufacturing	Dual-use
335911	Storage Battery Manufacturing	Dual-use
335912	Primary Battery Manufacturing	Dual-use
335921	Fiber Optic Cable Manufacturing	Dual-use
335929	Other Communication and Energy Wire Manufacturing	Dual-use
335931	Current-Carrying Wiring Device Manufacturing	Dual-use
336310	Motor Vehicle Gasoline Engine and Engine Parts Manufacturing	Dual-use
336320	Motor Vehicle Electrical and Electronic Equipment Manufacturing	Dual-use
511210	Software Publishers	Dual-use
541360	Geophysical Surveying and Mapping Services	Dual-use

NAICS Code	NAICS Description	Power Category
541713	Research and Development in Nanotechnology	Dual-use
541714	Research and Development in Biotechnology (except Nanobiotechnology)	Dual-use
339999	All Other Miscellaneous Manufacturing	Enabling
335314	Relay and Industrial Control Manufacturing	Enabling
333991	Power-Driven Handtool Manufacturing	Enabling
336340	Motor Vehicle Brake System Manufacturing	Enabling
334416	Capacitor, Resistor, Coil, Transformer, and Other Inductor Manufacturing	Enabling
332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing	Enabling
339991	Gasket, Packing, and Sealing Device Manufacturing	Enabling
336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing	Enabling
332710	Machine Shops	Enabling
326130	Laminated Plastics Plate, Sheet (except Packaging), and Shape Manufacturing	Enabling
334514	Totalizing Fluid Meter and Counting Device Manufacturing	Enabling
324121	Asphalt Paving Mixture and Block Manufacturing	Enabling
325510	Paint and Coating Manufacturing	Enabling
339114	Dental Equipment and Supplies Manufacturing	Enabling
325312	Phosphatic Fertilizer Manufacturing	Enabling
326140	Polystyrene Foam Product Manufacturing	Enabling
324110	Petroleum Refineries	Enabling
335220	Major Household Appliance Manufacturing	Enabling
325314	Fertilizer (Mixing Only) Manufacturing	Enabling
336999	All Other Transportation Equipment Manufacturing	Enabling
327215	Glass Product Manufacturing Made of Purchased Glass	Enabling
336612	Boat Building	Enabling
332721	Precision Turned Product Manufacturing	Enabling
326150	Urethane and Other Foam Product (except Polystyrene) Manufacturing	Enabling

NAICS Code	NAICS Description	Power Category
325991	Custom Compounding of Purchased Resins	Enabling
326112	Plastics Packaging Film and Sheet (including Laminated) Manufacturing	Enabling
327991	Cut Stone and Stone Product Manufacturing	Enabling
326220	Rubber and Plastics Hoses and Belting Manufacturing	Enabling
336211	Motor Vehicle Body Manufacturing	Enabling
325413	In-Vitro Diagnostic Substance Manufacturing	Enabling
325520	Adhesive Manufacturing	Enabling
325120	Industrial Gas Manufacturing	Enabling
336212	Truck Trailer Manufacturing	Enabling
326121	Unlaminated Plastics Profile Shape Manufacturing	Enabling
324122	Asphalt Shingle and Coating Materials Manufacturing	Enabling
326122	Plastics Pipe and Pipe Fitting Manufacturing	Enabling
113310	Logging	Enabling
211120	Crude Petroleum Extraction	Enabling
325130	Synthetic Dye and Pigment Manufacturing	Enabling
325194	Cyclic Crude, Intermediate, and Gum and Wood Chemical Manufacturing	Enabling
325220	Artificial and Synthetic Fibers and Filaments Manufacturing	Enabling
325612	Polish and Other Sanitation Good Manufacturing	Enabling
325613	Surface Active Agent Manufacturing	Enabling
326199	All Other Plastics Product Manufacturing	Enabling
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	Enabling
331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	Enabling
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	Enabling
331511	Iron Foundries	Enabling
331513	Steel Foundries (except Investment)	Enabling
331524	Aluminum Foundries (except Die-Casting)	Enabling

NAICS Code	NAICS Description	Power Category
332119	Metal Crown, Closure, and Other Metal Stamping (except Automotive)	Enabling
332215	Metal Kitchen Cookware, Utensil, Cutlery, and Flatware (except Precious) Manufacturing	Enabling
332311	Prefabricated Metal Building and Component Manufacturing	Enabling
332313	Plate Work Manufacturing	Enabling
332321	Metal Window and Door Manufacturing	Enabling
332431	Metal Can Manufacturing	Enabling
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	Enabling
332912	Fluid Power Valve and Hose Fitting Manufacturing	Enabling
333132	Oil and Gas Field Machinery and Equipment Manufacturing	Enabling
333243	Sawmill, Woodworking, and Paper Machinery Manufacturing	Enabling
333244	Printing Machinery and Equipment Manufacturing	Enabling
333922	Conveyor and Conveying Equipment Manufacturing	Enabling
333923	Overhead Traveling Crane, Hoist, and Monorail System Manufacturing	Enabling
333995	Fluid Power Cylinder and Actuator Manufacturing	Enabling
334613	Blank Magnetic and Optical Recording Media Manufacturing	Enabling
335110	Electric Lamp Bulb and Part Manufacturing	Enabling
335122	Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing	Enabling
335210	Small Electrical Appliance Manufacturing	Enabling
335932	Noncurrent-Carrying Wiring Device Manufacturing	Enabling
336111	Automobile Manufacturing	Enabling
336112	Light Truck and Utility Vehicle Manufacturing	Enabling
488999	All Other Support Activities for Transportation	Enabling
517410	Satellite Telecommunications	Enabling
518210	Data Processing, Hosting, and Related Services	Enabling
541330	Engineering Services	Enabling

NAICS Code	NAICS Description	Power Category
541380	Testing Laboratories	Enabling
541511	Custom Computer Programming Services	Enabling
541512	Computer Systems Design Services	Enabling
541513	Computer Facilities Management Services	Enabling
541519	Other Computer Related Services	Enabling
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	Enabling

ERRATA

This report was updated on July 14, 2026, to clarify a quotation from Charles Barton in the section on What the CCP Says.

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Acknowledgements

The author would like to thank Jared Banks, Michael Brown, Daniel Tobin, Liza Tobin, Meghan Ostertag, Treylsa Long, and Sreenivas Ramaswamy for sharing insights and providing editorial feedback and support. Any errors or omissions are the author's responsibility alone.

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