Immaterial Competition: Rethinking the Roles of Economics and Technology in the US-China Rivalry

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Executive Summary

The US-China rivalry is likely to be the fulcrum around which international affairs are structured in the twenty-first century, akin to the Cold War from 1947 to 1991. This rivalry, like its predecessor, emerges from divergent geopolitical interests and imperatives. While the Chinese Communist Party’s aims are many, various, and subject to change, they include its continued control of the Chinese State; economic and technological modernization and leadership; internal order; complete union with Taiwan on Beijing’s terms; certain territorial concessions from its neighbors; and the disestablishment of security arrangements across the Indo-Pacific that it views as threatening and trammeling. The latter three are in direct conflict with US interests and imperatives in the Indo-Pacific: prohibiting China’s unilateral modification of the status quo vis-à-vis Taiwan; preserving the sovereignty and territorial integrity of its allies and partners; and maintaining its military partnerships and presence in the region. These antithetical interests animate a larger struggle for hegemony in the Indo-Pacific and serve as the terms on which this contest will be decided.

Explanations of the rivalry as an ideological contest or a competition born from competing economic interests are less compelling by comparison. The United States and China are motivated to an extent by ideological imperatives, but these do not appear to propel or serve as the central stakes for the rivalry as much as they affect each’s disposition toward the other. Long-standing trade, investment, and commercial disputes and competition, meanwhile, are not so substantial that they motivate the rivalry. While these issues are impactful to niche communities and conspicuous to national policymakers, they are not particularly consequential for national prosperity. The logic of competition, trade, and globalization, in fact, suggests that the US-China commercial relationship is mutually beneficial, notwithstanding each’s concerns with the other’s economic statecraft and market-leading firms.

In their geopolitical rivalry, there are a few key forces or contests of interest: path dependence, regime continuity, prudent strategy, third-party alignments, and the balance of military forces in the Indo-Pacific. Each affects the United States’ and China’s ability to achieve their ends and shapes their rivalry. Economic and technological statecraft, by contrast, is largely peripheral to these ends as it does not effectively advance political objectives relevant to territory, borders, security architectures, and national defense. That is not to suggest that economic and technological factors are irrelevant, however; they shape, constrain, and advantage the United States and China across their rivalry’s key forces and contests of interests.

Particularly noteworthy are economic and technological factors’ impact on the military balance. Tradition and intuition hold that nations with bigger and more advanced economies are better postured to resource, procure, and manufacture military equipment and can therefore generate greater military power. In the case of the US-China military competition, however, total military power is less relevant than the specific military balance in the Indo-Pacific, in which the distribution and strength of forces in the theater, the capability and reliability of key materiel inputs of outsized importance, and the operational concepts and tactics with which each’s military fights are more important. Total military power—and in particular greater military equipment—matters on the margin, of course, if only because the party with the greater mass and quality of materiel will be able to retain more forces in the Indo-Pacific, maintain more of these key materiel inputs, and develop novel operational concepts and tactics tailored to their superior materiel.

Neither the United States’ nor China’s total economic production, public balance sheet, high-technology commercial firms, and scientific production are likely to provide a decisive or lasting advantage on this count. Each country’s economy can support substantially greater military
spending, limiting the extent to which one can derive an advantage from the other’s more binding constraints. The capacity and maturity of each country’s defense industrial base is of greater relevance, but these are flexible quotients that investment can improve. This elasticity of defense production suggests that microeconomic endowments may be binding in the short run but variable in the longer run, meaning that policy choices—rather than existing economic endowments—constrain military production. Technological endowments, informing each country’s capacity for broad innovation, are of similarly bounded importance because military technology is somewhat narrow and other factors, such as military procurement processes and inflexibility in concepts of operation, limit the extent to which superior technology translates into military advantage.

The fundamental result of this argument is that the concerns that propel the emerging US-China economic and technological competition are ultimately not all that relevant to the matters at the core to their rivalry and to the instruments of national power most relevant to these issues. The US should therefore be wary of policies ostensibly demanded by economic and technological competition and may find its interests better served by limiting its rivalry with China to military competition driven by its core geopolitical interests.

Introduction

It is by now widely accepted in Washington that the United States’ principal geopolitical rival in the twenty-first century—China—will be a true economic peer, if not a superior. China’s industrial production already exceeds that of the United States, and its total annual output (at current exchange rates) is likely to surpass the United States’ before 2040.1 Though China is relatively poorer in per capita terms due to its still-significant developmental deficits and a population that is four times that of the United States,2 these inheritances arguably augur favorably for its future national power.

China’s increasing technological prowess is a similar cause célèbre among our national security elite. Though China’s scientific production and scaled application of technology across its economy still lag those of the United States,3 its advanced technology industrial policy and firms’ preeminence in high technology manufacturing portend its catching up, even if these gaps appear significant today.

These trajectories underlie the conventional wisdom that China’s expanding economy and improving technology constitute the primary sources of its strength, enabling it to pose a geopolitical challenge unlike that of past and other contemporary competitors. Nowhere is this more clearly articulated than in the writing of Chinese strategists themselves, who repeatedly aver the all-importance of the economy and technology in underwriting the geopolitical ambitions of the state and in propelling China’s national rejuvenation.4 And why not? This argument is as sound as it is banal: that the economy and technology buttress national power is so elemental that it verges on tautology.

Still, this linkage demands dissection. The dominant intuition at play here is that national power is a direct function of broad economic production and technological sophistication, in large part because these foundations resource and equip the state’s military, intelligence, and diplomatic endeavors. A nation’s economy and technology—including, in particular, its civilian economy—amount to its tax base, from which it can extract the resources and capabilities required to raise and furnish its armies, spies, and diplomats.5 Nations with more productive resource pools will simply be able to afford more as they advance their strategic objectives and will generate more hard and soft power as a result. This logic, when applied in the development of grand strategy and the threat posed by an increasingly menacing China, informs the sentiment that economic and technological matters motivate, are central to, and may in fact be decisive in the US-China rivalry.
This syllogistic reasoning finds a home across the political spectrum with Republicans and Democrats calling for economic decoupling, defensive industrial and innovation policy, and sundry domestic policy preferences as necessary for competition with China. Most notably, the Trump administration’s National Security Strategy and the Biden administration’s interim National Security Strategy both assert the critical importance of economic and technological competition with China, with the former harping on the importance of domestic manufacturing and the latter on innovation in the face of China’s menace. CIA Director Bill Burns, Senate Majority Leader Chuck Schumer, Senator Tom Cotton, Trump advisor Peter Navarro, and Twitter pundit Matthew Yglesias, among others, have all made variations of this argument as well, identifying economic and technological matters as the principal battleground and, in some cases, the precipitant of the US-China rivalry.

These arguments are sometimes persuasive but frequently suffer from overstatement, dependence on historical analogies, crude juxtaposition of production aggregates, and fallacious assignment of nationalities to global firms. Many also rely on excessive abstraction, collapsing trillions of commercial interactions into “economy” and billions of diverse tools, subcomponents, systems, techniques, and processes into “technology.” Within these arguments, economy and technology are then often reduced to inputs or underwriters of national power, and the means by which each affects the geopolitical balance of power between the United States and China are frequently implied rather than deliberately articulated.

In essence, I argue that the US-China rivalry results from competing geopolitical ambitions in the Indo-Pacific region and that the victor will be the state that achieves its preferred ends. While the proximate cause of this rivalry is a series of Chinese policy objectives that the United States views as contrary to its interests—for example, the absorption of Taiwan and the extraction of territorial concessions from the Philippines, India, Vietnam, and Japan—no less than regional hegemony is ultimately at stake. Such irredentist aims drive China to seek political-military superiority over the United States and its own neighbors, which is necessary not only for realization of these objectives but also for its national self-conception as the central power in Asia. The United States is similarly postured: it sees the existing territorial and political state of affairs in the Indo-Pacific as serving its interests—at least as compared to the alternative preferred by China—and it is comparably motivated to preserve its entitlement as an established superpower. Economic and technological matters are therefore not the primary motivation for, and are peripheral to, the main stakes in the US-China competition.

While both the United States and China use economic and technological instruments of various kinds to advance their core interests, these tools are ultimately of limited utility in a contest centering on China’s irredentism and quest for hierarchic primacy in the Indo-Pacific. These measures, when intended as enticements, are unlikely to be particularly effective or nefarious in achieving geopolitical ends, because states are unlikely to sacrifice core national interests for marginal enrichment. These tools suffer similar limitations when used coercively,
because their punitive effects are unlikely to motivate lasting geopolitical alignments or political subordination. As a result of this ill-applicability, economic and technological matters play a limited direct role in the US-China competition, as subsequent discussion will both elucidate and clarify.

Path dependence, each regime’s stability, prudent strategy, geopolitical alignment, and the balance of military forces in the Indo-Pacific are factors of greater salience, because each substantively informs or enables the United States’ and China’s ability to achieve and retain hegemony in the western Pacific. Economic and technological matters inform regime stability and geopolitical alignment, but their effect on the balance of military forces in the Indo-Pacific is of particular interest in this essay, given the ostensibly material foundations of military power. Massed high-technology weaponry is arguably the currency of modern warfare and is thus a major factor in the military equipoise. While the magnitude and technological quality of materiel are by no means dispositive in modern combat—forward posture, logistics, operational concepts, tactics, end strength, experience, discipline, and morale each inform the military balance, and gambit and strategic resolve can compensate for lesser forces—forces with more numerous and more advanced weapons are favored ceteris paribus in any given scenario.

Thus, the US and Chinese economies and their comprising technologies are not the precipitant for, the main stakes of, or the primary levers within the US-China rivalry, nor are they likely to supply persistent advantages, let alone victory, in their competition. Their robust economies and advanced technology provide ballast to each, ensuring their status as great powers, but neither is likely to deliver geopolitical triumph, even over a longer time horizon. As such, the economy and technology are best viewed as contextual elements that shape the political-military dimensions of, rather than the substance of, the US-China rivalry. The implications of this argument are many: inter alia, that policies aimed at achieving broad economic and technological advantage—even if they are optimally designed and implemented—are unlikely to translate into appreciable geopolitical advantage; that, given their limited impact on the geopolitical balance, civilian economic and technological matters need not be subject to competitive dynamics; and that the US and Chinese economies can sustain greater military production than the prevailing norm might suggest, albeit with potential consequences for other forms of production.

1. The Geopolitical Logic of the US-China Rivalry

In the middle of the last decade, the United States began the reorientation of its national security policy to address the geopolitical challenge posed by China. Under the Obama administration, this was implemented through an undernourished pivot to Asia and incipient Department of Defense initiatives intended to ensure high-end warfighting superiority. The Trump administration aggressively pursued...
this transformation by vocally identifying China as America’s greatest geopolitical threat and taking determined action in trade, defense, and diplomatic policy to frustrate Chinese priorities. With the continuation of these policies, the withdrawal from Afghanistan, and its recommitment to liberal internationalism, the Biden administration appears to be maintaining the course charted by its predecessors.

The precipitating causes of this adaptation were many. At the time and to a large extent today, Russia was an opportunistic aggressor that sought to: preserve its territorial integrity and control its partners in Central, Southeastern, and Eastern Europe; punish those tempted by Western alignment; and deter and penalize Western interference in their affairs. It realized these aims through aggression, subterfuge, and backing of aligned tyrants in Chechnya, Ukraine, Moldova, Georgia, the Baltics, the Balkans, Belarus, and Central Asia, in addition to sabotage of the Clinton campaign in 2016. These actions, while concerning, ultimately proved to be a tolerable menace for the United States, which had neither the will nor the answers to combat them effectively. The United States extensively leveraged sanctions and diplomatic measures to penalize malign Russian behavior but ultimately felt resigned to Russia’s stronger interests in its periphery and confident in its diagnosis of Russia as a declining power. The Obama and Trump administrations’ optimism surrounding mutual interests and partnership with Russia also limited the United States’ interest in undertaking aggressive containment strategies, subordinating it to China as the principal antagonist in American grand strategy.

In the Islamic world in the 2000s and early 2010s, American policy protected the nation’s more conservative interests but was feckless in advancing its more transformational ambitions. US military interventions in Afghanistan, Syria, and Iraq substantially attenuated Al Qaeda’s ability to conduct terror attacks in the United States and Europe, in part by refocusing the energy of jihadi terrorists toward regional political objectives and targets. They were similarly effective in diminishing state sponsorship of jihad, which further reduced terrorists’ opportunities to attack the United States and Europe, and in preventing war between Israel and the Muslim-majority countries of the region. The United States was unable, however, to: effect the democratic transformation of, or improve state capacity in, many Middle Eastern states; contain Iranian (or Turkish and Saudi) regional aggression; and resolve ongoing conflicts in Afghanistan, Yemen, Libya, and Syria. The American people and political elite were left frustrated by this admixture of success and failure, resulting in three successive administrations’ seeking to reduce America’s equity in the Middle East. Progress has been made on this count, although America retains substantial political, military, and diplomatic investments in the region.

The evolution of American politics since 2007—over and above how the American people and political elite processed its policy in the Middle East—was a further driver of America’s foreign policy reorientation toward China. The ponderous recovery of the American economy after the Great Recession ignited frenetic class-based politics and insecurities about America’s economic future. China, as a beneficiary of American trade policy and a budding economic power, accordingly received renewed scrutiny from the American public and political elite. In the face of austerity politics at home and failures of statecraft abroad, the reemerging logic and politics of restraint also prompted a reprioritization of American interests in the world, with the media and electorate rewarding rhetoric (though not necessarily policy) supporting pursuit of America’s rude self-interest in the international system. Meanwhile, domestic political dynamics surrounding Moscow’s, the Trump campaign’s, and the Trump administration’s electoral interference aggravated and polarized the politics surrounding Russia and Ukraine. Policy debates surrounding Israel, Iran, Western Europe, domestic

* The same is true for US bête noire North Korea and its provocations in northeast Asia.
spending, trade, corporate interests, and social issues also bore the marks of increasing politicization and polarization. This left China as the sole object of bipartisan distrust and a unique opportunity, given its economic weight and its assertive behavior, to tie US domestic economic and social priorities to its geopolitical endeavors.

Finally, China's own transformation, in its accelerating economic development, military strength, and pugilism in its near abroad, demanded this reorientation of American grand strategy. Since the US-China rapprochement in 1972, China's illiberalism, occasional hostility toward US partners and allies, and support for US adversaries in East and Southeast Asia had mechanically limited the alignment of US and Chinese interests and the amicability of their relationship. Though the US and Chinese economies first slowly and then rapidly integrated—their relationship reified with the awarding of permanent normal trade relations and China's accession to the World Trade Organization at the turn of the millennium—this deepening co-dependency coincided with numerous disputes involving US foreign policy, Taiwan, Tibet, democracy, environmental degradation, and trade practices. China occupied a liminal space in US strategic thinking through the 2000s: it was neither an adversary equal to the Soviet Union and Islamic terrorists, nor a robust ally of these enemies, nor a reliable partner in advancing the United States' interests du jour.

By many accounts, the Chinese Communist Party saw the 2007–2008 financial crisis and proceeding recession as the decisive manifestation of the West's decline. Although European banks undertook enormous risky lending and asset purchases that fed cross-Atlantic housing and construction bubbles and the global recession that followed, the Chinese political elite saw the crisis and recession as a particular indictment of the United States and ultimately an invitation for China's emergence in a multipolar world. Fueled by an enormous credit binge and fiscal response, China's blistering economic growth continued (while decelerating) after the global financial crisis. Industrial policies begun in 2006 with the initiation of modernizing megaprojects had evolved by 2010 into efforts to generate, in some cases from nothing, entire high-technology industries. This government-directed investment married with massive construction across China, expanded provision of healthcare, and continued export success to produce enormous growth in the first half of the 2010s. China's military modernization continued largely uninterrupted as well, yielding multitudes of the long-range missiles, aircraft carriers, cruisers, destroyers, submarines, amphibious vessels, satellites, and cyber and electronic warfare capabilities that characterize advanced militaries. The United States, meanwhile, was afflicted by a lumbering economic recovery and military readiness shortfalls, each abetted by austerity and the latter a partial result of arduous military campaigns in the Middle East. As a result, Beijing's confidence and Washington's fears about the power of a rising China, as compared to that of a diminished America, intensified throughout the early 2010s.

China's growth coincided with, and arguably underwrote, its turn to a more pugnacious foreign policy in the western Pacific and to a more energetic presence globally. Especially under Xi Jinping, China expanded its: contestation of territory claimed by Japan, Taiwan, the Philippines, Vietnam, and India; military buildup in the South China Sea; abrasive diplomacy; policing of expatriates; bristling at various foreign criticisms; confrontational trade policy with Japan, Australia, and the United States; hostage-taking; and intelligence operations around the globe. China's management of its internal affairs in the early 2010s was similarly assertive and reactionary. Washington was understandably allergic to what it understood as a triumphant illiberalism in China—albeit one that represented continuity with historical precedent—visible in its: sequestration and abuse of the Uyghurs, Tibetans, Falun Gong, and Chinese democracy movement; suppression of related independence movements; ruthless and often politically motivated anti-corruption campaigns; increased...
surveillance; control of private industry and civil society; and political reorganization, concentrating power within the highest echelons of the Chinese Communist Party.12

These changes collectively ushered in an era of competition between the United States and China, at least where their national security establishments were concerned. While Chinese strategists arguably understood the “reality” of US-China rivalry for decades, this competition is more novel to the American political establishment and certainly to the population generally. In these early days, little consensus exists on the raison d’etre and the appropriate scope of the US-China competition, including its central stakes, parameters, and planes of competition. The centrality of “competition” in political discourse appears to be more a reflection of a hawkish attitudinal shift toward China—“competition” is the least common denominator between those increasingly perturbed by China’s hostility and the new Cold Warriors—than it is the result of our developing and maturing a complete framework for understanding the multidimensional US-China relationship and rivalry.

This ambiguity is in part a function of the variety of American interests, allies, and adversaries in the Middle East, Europe, and Asia, as metabolized by disorderly domestic politics, that ultimately drove our collective declaration of competition. While the fundamentals surrounding the increasing threat posed by an aggressive China are undoubtedly a critical factor here, parallel evolutions in American politics, China’s internal political evolution and its economic policies, and the wider strategic environment have together facilitated the United States’ recognition of the emerging Chinese challenge. This evolution, however, has had the unfortunate consequence of obscuring the specific nature of China’s threat to the United States and obfuscating the competition’s raison d’etre.

Definition of this raison d’etre must begin and end with the motivations of, and the geopolitical realities facing, the United States and China. Anything else is strategic malpractice.

China’s national ambitions are, at this point, visible not only in public addresses and commentary from Chinese Communist Party leadership, affiliated intellectuals, and media but also in the actions of the Chinese state. The Chinese Communist Party seeks: enduring control of the Chinese state; internal unity and peace, to include the resolution of Taiwan’s sovereignty on its own terms; China’s continued economic and technological modernization, resulting in global economic and technological leadership and the elimination of poverty in its underdeveloped regions; environmental improvement; certain territorial concessions from Japan, the Philippines, Vietnam, and India, inter alia; and the dissolution of existing security architectures across the Indo-Pacific that it views as threatening and undermining its freedom of action.13 Each of these discrete objectives serves the broader purpose of increasing national prosperity and accelerating national rejuvenation, to include the correction of the afflictions visited on China in the twentieth century.14

These ambitions are seen within China as requiring regional, if not global, hegemony: China’s political and military predominance and the subordination of others in a refashioned political and military hierarchy.15 The Chinese leadership views, and has done so for decades, the existing political and security architecture in Asia as trammeling its pursuit of these aims. Most famously, for example, the USS Nimitz’s passage through the Taiwan Strait in 1996 demonstrated the limitations of Chinese resolve and ability to punish Taiwanese defiance. Likewise, absent a self-serving hierarchy and with US security commitments intact, China has so far failed to compel obedience from Japan and South Korea over a variety of international disputes in the twenty-first century.

Subversion of the current political and security architecture and instantiation of a new regional hierarchy and more accommodative institutions—in which the United States would no longer underwrite the autonomy of various Asian
states—would advance China’s pursuit of its own self-interest by enabling Beijing to either extract its neighbors’ consent or disregard their nonconcurrence. It would also revive China’s historical prerogative as the indispensable center of East Asia (the “Middle Kingdom”) and justify China’s socialist revitalization—ideological imperatives of considerable importance. This is not to imply that China is maniacally bent on regional or global domination or that Chinese hegemony will manifest itself in classical forms of imperialism. What Beijing certainly seeks is geopolitical primacy and the subordination of others, but it is not obvious to external eyes how these objectives are prioritized within China, how much risk to its domestic priorities the Chinese Communist Party will endure in pursuit of these objectives, or how violent its hunt for primacy will be.

China’s realization of hegemony would require dislocation of the United States, which has, since Japan’s surrender in 1945, been a prepotent force and security guarantor in East Asia, Southeast Asia, and Oceania. The United States has consciously cultivated a treaty-based security architecture to limit aggression aimed at Japan, the Philippines, Thailand, South Korea, Australia, and New Zealand and has extended implicit assurances to others in the region, most notably Taiwan. The latter, it is worth noting, is of considerable value to the United States both symbolically as a democratic dissident and strategically as an indicator to allies and partners of US resolve, as a critical territory in the defense of Japan, and as a geographic bollard prohibiting the free flow of Chinese naval forces into the Pacific. The United States has also cultivated robust defense and intelligence partnerships with these and other states across the western Pacific, enabling its maintenance of a robust military and intelligence presence and ensuring its influence in the affairs, posture, and use of friendly military forces in the region. These undertakings have long been underwritten by the deployment of its own military forces across the Indo-Pacific, from its bases in US territories such as Guam to those in allies such as South Korea and Australia.

The United States’ commitments in East Asia have been tested before: in Korea from 1950 to 1953 and in Vietnam from 1965 to 1973, Washington fought major wars to prevent communist metastasis and to defend friendly regimes. The United States also backed numerous anti-communist factions and regimes in conflicts across the region during the Cold War, providing political, financial, military, and paramilitary support to causes deemed worthy as bulwarks against communism. Since the collapse of international communism, the motivations for the United States’ posture, relations, and operations in East Asia have lost their anti-communist valence and gained a more generically liberal gloss, focusing instead on the preservation of national autonomy and the promotion of various liberal political and economic causes.

That evolution notwithstanding, American grand strategy in East Asia, Southeast Asia, and Oceania has remained generally consistent over this period—undoubtedly a product of the formation and institutionalization of a distinctly American foreign policy during and immediately following the Second World War. By maintaining American political-military hegemony and suppressing challengers across the region,* US strategy seeks to proliferate America’s allies and partners across the region; advance their security; minimize territorial changes by force, thereby limiting demands for American military intervention post hoc; promote liberal institutions and values; and materially enrich the United States.16

The most prominent contradiction in US and Chinese motivations and interests is thus the struggle over hegemony in the Indo-Pacific and the proximate policy issues that motivate and inform such struggle, for example: China’s desired reunification with a recalcitrant Taiwan, tacitly covered by the United States’ security umbrella; China’s claims to the Senkaku Islands, Paracel Islands, areas of the Himalayas

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* This is a descriptive exercise: I make no claims as to whether this strategy is sound, how it should balance its comprising imperatives, and whether it should persist in the face of increased Chinese contestation.
currently under Indian administration, maritime areas within the nine-dash line, and other territory under the control of US allies and partners; China’s intent to change the region’s geopolitical alignment at the United States’ expense and cashier US military forces from the region; and China’s effecting the political subordination of its neighbors in the resolution of these and other high-salience issues.

To the extent that China’s hegemonic aspirations extend beyond the Indo-Pacific, these ambitions further threaten the US claim to global hegemony and a number of policy interests that extend beyond East Asia, Southeast Asia, and Australasia—China’s support for anti-American despots in Latin America, for example. These ambitions are more important in what they augur than in the direct threat that they pose to the United States today because of the lesser salience of divergent US and Chinese interests in other regions of the world, China’s pursuit of regional hegemony as a prerequisite for global hegemony, and the United States’ greater global political connectivity and military presence.

At the core of the US-China rivalry, therefore, are incompatible policy interests and hierarchical interests in the western Pacific. This is the thematic and geographic locus of their rivalry. The competing aims—the US desire to preserve existing borders, security architectures, and hierarchies and the Chinese desire to subvert these status quo arrangements and replace the United States as the dominant power—have thrust both powers into oppositional roles despite their substantial economic and diplomatic connectivity.

These geopolitical concerns are not the only issues in the US-China relationship—China’s illiberal political system, decades of human rights abuses and trade abuses, ubiquitous espionage, environmental degradation, and diplomatic antagonism and the United States’ global opposition toward illiberal states, exercises in regime change, constant denouncing of Chinese management of internal and external affairs, and exploitation of its own competitive endowments in foreign policy, including its global surveillance capabilities and commercial advantages, certainly inform each other’s negative attitudes—but they do not constitute the raison d’etre of their competition. Only the struggle over hegemony and corollary geopolitical objectives matter on this count.

2. The Illogic of the US-China Rivalry

The Ideological Illogic

There are two major alternative explanations as to the central causes and stakes of the US-China rivalry that demand scrutiny. It is worth noting prior to the subsequent critique that both accounts contain elements of truth and that their proposed raisons d’etre motivate this competition by the very fact that their adherents are moved by their logic. Still, neither explanation of the central source or justification of the US-China rivalry is self-sufficient or correct as an analytical matter.

The first, espoused by scholars such as Aaron Friedberg, contends that substantial differences in ideology motivate the US-China competition. As such, their rivalry is fundamentally a contest of ideas between liberal democracy and market capitalism on the one hand and authoritarian politics and state-controlled markets on the other. The military, economic, and technological competitions are largely subordinate to this larger Manichean conflict, and nothing less than the fate of liberalism (or illiberalism) is at stake in this contest of systems. Each of these tenets relies in some sense on the ideological motivations of the United States and China. While accurately characterizing the role ideology plays in either the Chinese or American regime is challenging, especially given the opacity of the former, a number of apparent contradictions render the evidence for this thesis weak.

First, China has evinced largely opportunistic behavior in relations with countries of diverse political systems and values, including the United States, Germany, Turkey, Japan, North Korea,
South Korea, Russia, Venezuela, Colombia, Egypt, Vietnam, and Chad. Across this sample, it has maintained productive and antagonistic relationships with liberal democracies, illiberal democracies, and autocratic communists. China has but one formal ally, North Korea, with whom it shares some ideological DNA, but its relationship with the Hermit Kingdom is notoriously transactional and troubled. Its partnership with Russia is perhaps more illuminating: while the Chinese Communist Party and Putinism share strong illiberal tendencies, the China-Russia relationship is completely agnostic to each’s ideological preferences, in large part because the ideological patina of Putinism is so thin. Where Russia’s and China’s interests are aligned, their partnership yields cooperation; where they diverge, each behaves in accordance with its own preferences. Neither seeks to persuade or create common cause with the other, especially on ideological grounds where there is little to be had. The United States has demonstrated similar ideological flexibility and values-agnostic pragmatism in its cultivation of partners to balance China, working with communist regimes such as Vietnam and compromised democracies such as India to advance its geopolitical ends.

Second, China has not sought to effect regime change since Deng’s 1979 reforms on the basis of ideology, nor has it proactively attempted to spread its particular model of illiberal socialist governance. To the extent that it does evangelize, this largely takes the form of Chinese cultural, rather than governance or ideological, exports. Certainly, China has not in its recent history sought to effect communist revolutions abroad as Stalin and Mao had before, nor does it place particularly great weight on the evolution and metastasis of its ideology via worldwide Marxist Internationals. In general, the Chinese Communist Party appears more concerned with internal, rather than external, adherence to its model of democracy and socialism “with Chinese characteristics.”

While it has arguably sought to protect illiberal political regimes in international institutions, contesting Western notions of fair trade practices at the World Trade Organization and a free internet at the United Nations, its efforts here are often overstated: China has notably accorded with various applicable World Trade Organization decisions, and its sales of surveillance equipment to foreign countries are likely motivated primarily by political and commercial interests rather than by any particular affection for despotism in principle. In general, China’s support for autocratic regimes and its distaste for individual-centric values is as much self-serving as it is driven by an ideological desire to see its model adopted elsewhere, though the latter is advocated for in the writings of many Chinese intellectuals.

The United States, meanwhile, has pursued regime change on ideological grounds in the past, though, even in neoconservative circles, the idea of pursuing regime change to democratize China is rarely advocated as a conscious objective of US policy. Generally speaking, the United States is increasingly loath to make ideological competition the fulcrum of the contest over hegemony. Chastened by the failures of the Bush era, the Obama, Trump, and Biden administrations have pursued more restrained and self-interested approaches in foreign policy, even if the latter has championed liberal causes more vocally than its immediate predecessor. As such, neither the United States nor China act as vessels in a larger battle of world-historical ideologies, even if some communist ideology nominally motivates the Chinese Communist Party leadership.

Third, though ideology plays a substantial role in Chinese governance and the most powerful members of the Chinese Communist Party are in fact dedicated revolutionary socialists, its operationalization within China suggests substantial flexibility and even limited conviction. China has, for example, famously indulged the development of private industry to facilitate national growth and innovation, though such firms and markets are treated with increasing suspicion, and careerism and social etiquette motivate Chinese Communist Party membership across the populace as much as genuine
ideological convictions. In fact, the Chinese population is, generally speaking, not ideologically driven, though nationalism certainly prevails and informs geopolitical competition, in part because the Chinese Communist Party has deliberately tried to avoid the excesses of the Mao regime. Ideology functions in similarly contradictory and accommodative ways within the United States as well. While liberal democratic values putatively motivate US foreign and domestic policy, its self-interested interventions and non-interventions abroad, its mixed economy, the various undemocratic features of American government, and heterogeneous political constituencies across each are suggestive of the limitations of ideology in shaping US politics and policy.

And finally, this thesis’s prediction—that the fate of liberalism will be decided in such a contest of systems—is unlikely to bear out. Just as the persistence of autocracy, kleptocracy, and mixed-market economies rendered Whiggish predictions of liberalism’s ubiquitous triumph at the end of the twentieth century moot, liberalism is likely to endure even in the event of Chinese geopolitical success. American and European democracies, as imperfect and frail as they are, show no signs of being replaced wholesale by autocratic socialism, especially not one that is inspired by Chinese communism. To the extent that liberal democracy faces an uncertain future in the West, it is mostly threatened by the failures of its performance, the opportunism and radicalism of insider saboteurs, and its weakening in the face of changing socioeconomic or technological conditions: these are considerably more likely filips for its demise than China’s geopolitical rise.

The Economic and Technological Illogic

The second, perhaps less plausible, alternative to the geopolitical rationale for the US-China rivalry is their allegedly competing material interests. This often takes the form of the increasingly fashionable argument that China’s economic model and technology policy directly threaten the United States and undermine its prosperity, therefore necessitating competition. In a February 2021 report, Tom Cotton makes this case by characterizing Chinese economic and technological statecraft as prosecution of an “economic long war” whose outcome will ultimately decide the larger US-China competition. Other analysts make more subtle arguments with less martial rhetoric, asserting that China’s potential economic, technological, and political precedence would undermine the United States’ economic and technological production, wealth, and relations around the world and risk its exclusion from lucrative markets in Asia.

These arguments are the culmination of twenty years of highly contested and controversial economic and technological developments. At the turn of the millennium, financial markets roiled with the bursting of the dot-com bubble. Lost consumer confidence and the Federal Reserve’s repeated raising of interest rates yielded, by 2001, a downturn in consumer spending and ultimately a recession. This recession caused acute pain for America’s manufacturing industries, expediting regionally focused deindustrialization that had begun in the middle of the twentieth century. Economists David Autor, David Dorn, and Gordon Hanson argue that the China shock—the effect of permanent normalization of trade relations with China, its entry into the World Trade Organization, and the concomitant surge in Chinese imports to the United States—aggravated this decline, driving accelerated firm destruction in and offshoring of these industries. China’s deliberate undervaluing of the renminbi from 2003–2013 only exacerbated this tribulation, contributing to a loss of roughly 2.4 million jobs in the US between 1999 and 2011 due to increased Chinese competition.

By 2014, China’s cyberespionage aimed at pillaging trade secrets and intellectual property from US companies stood at the center of the US-China economic and technological relationship, so much so that it prompted novel and innovative diplomacy on the part of the US government. In 2015–2016, the yuan’s sudden depreciation and the dollar’s appreciation
amid a Federal Reserve hiking cycle provoked fears—amid a
global slowdown, a mini-recession in the US heartland, and
and a heated election cycle—of a return to aggressive export
promotion via currency devaluation. These anxieties were
exceeded only by those concerning China’s Made in China
2025 plan, an industrial policy schedule intended to drive
increases in the domestic content of Chinese-made goods
and to expand China’s market share in strategic industries.

Those years also saw a nascent reckoning with China’s One
Belt One Road initiative, rebranded as the Belt and Road
Initiative in 2016, and the formation of the Asian Infrastructure
Investment Bank. The United States would eventually respond
with its own parody of the former, attempting to offer an
alternative to Chinese infrastructure financing in the developing
world, although its programs were anemic in comparison.
Washington’s more substantive response to China’s
geoeconomics was the Trans-Pacific Partnership, a free trade
agreement intended to drive political and economic integration
across the Pacific Rim with the notable exception of China.
When the Trump administration unceremoniously withdrew
from the agreement in 2017, the agreement was refashioned
as the Comprehensive and Progressive Agreement for Trans-
Pacific Partnership.

By 2018–2019, the Trump administration had audaciously
applied tariffs on broad categories of Chinese goods in an
effort to protect domestic industries and improve US leverage
in follow-on efforts to defend US intellectual property and
business interests in China. These policies ultimately fell short
of both goals, with the resulting negotiations yielding only
hollow and modest commitments on a variety of uncorrelated
trade issues. Concurrently, niche elements of the national
security community trumpeted the economic precarity
afflicting the defense industrial base and undertook nascent
efforts to address these harms. These endeavors were
precipitated by Executive Order 13806 and a Department of
Defense report delivered pursuant to such directive, which
identified China’s economic development and the United
States’ deindustrialization as critical causes of this atrophy. In
response to concerns surrounding Chinese economic
statecraft, Congress also leapt into the fray and passed the
Foreign Investment Risk Review Modernization Act, thereby
reinforcing the executive branch’s authorities and processes
for assessing and halting, on national security grounds, foreign
direct investment.

Meanwhile, the specter of Huawei’s and, to a lesser extent,
ZTE’s global business success, concerns about their
functioning as adjuncts of the Chinese Communist Party,
and the dawdling deployment of 5G infrastructure in the US
moved many in the national security community to identify
telecommunications as the technological center of gravity in
the US-China competition. Draconian export controls were
developed and implemented to hobble Huawei and ZTE,
US participation in standards-setting bodies was reinforced
and given more unitary purpose, and a global diplomacy
campaign was undertaken to limit the metastasis of Huawei
and ZTE technology. By 2020, 5G had been displaced
by semiconductors as the technological concern du jour,
which prompted fevered development and implementation of
industrial policy in Congress and the Trump administration, as
the former authorized various semiconductor industrial policies
in the FY2021 NDAA and the White House negotiated deals
to elicit improved investment from Intel and Samsung and to
establish TSMC fabrication facilities in the United States.

The Chinese application TikTok also earned the wrath of
national security hawks in Washington, prompting a stillborn
sale to corporate giants Oracle and Walmart in response
to data privacy concerns. Analogous concerns about the
propriety of Chinese accounting practices drove the passage
of the Holding Foreign Companies Accountable Act in
December 2020, which reinforced requirements that foreign
companies listing on US stock exchanges be audited by
accredited accounting firms and subject to oversight from
the Public Company Accounting Oversight Board. This law, in combination with Chinese policies forbidding the release of certain business-specific details to foreign auditors, threatens to force the delisting of Chinese firms from US stock exchanges, thereby circumscribing, though by no means forbidding, their access to US capital.

The COVID-19 pandemic, recession, and subsequent inflation drove the zeitgeist further toward the reshoring of manufacturing, despite the questionable efficacy of many theorized policies, and prompted the generation of infinite takes about the US and Chinese public health responses to the pandemic and their implications for geopolitical competition. 2022 promises more garrulous discourse about, among other things, the global economic recovery, inbound and outbound investment, and China-motivated innovation-related legislation.

Despite all this frothing, these issues, hailed by Cotton as evidence of the long economic war, simply cannot amount to the primary cause or battleground of the US-China competition because most are either inconsequential or of merely modest importance at the national level. This is self-apparent, for example, in the case of the delisting of Chinese firms from US stock exchanges—Chinese firms have numerous alternatives to US public financing, and US investors have infinite investment alternatives to Chinese firms—but it is perhaps unintuitively the case across most policy areas and product spaces. While individual sectors of the economy may suffer from specific Chinese policies or gambits, America’s prosperity and material interests are rarely affected in general. This is a function of America’s size and its level of development, the proportion of its economic activity that is derived from internal production and consumption, and the ambivalent effects of most of the alleged harms inflicted by China on the US economy.

In the case of telecommunications technologies and semiconductor manufacturing, for example, multinational (but US-origin) firms such as Apple, Google, Verizon, AT&T, Microsoft, Qualcomm, Intel, Nvidia, Micron, AMD, and Broadcom have lost or stand to lose substantial market share to their Chinese competitors, which are advantaged by their government’s industrial policies, technology diplomacy, influence in standards-setting bodies, and favoritism in the Chinese domestic market. The consequences of these losses, however, are indeterminate. Among other things, these multinational companies frequently supply goods and services to their Chinese competitors across extremely complex supply chains, which is why many US technology companies actively opposed export controls intended to debilitate their Chinese counterparts during the Trump administration. They also provide differentiated products in national and international markets where goods and services—especially across countries—are not uniformly interchangeable and path dependence frequently prevails, thereby limiting the impact of Chinese competition. Such firms are also necessarily innovative and flexible, capable of adjusting their business strategies and even products in the face of markets and technology standards that favor Chinese goods and services.

Finally, Chinese industrial policies are of limited efficacy and do not guarantee the rise of competitive Chinese firms that will inevitably undercut US businesses: China’s difficulties in developing state-of-the-art semiconductor fabrication facilities and the relative health of the US semiconductor industry are testaments to this fact. Global commerce is still fundamentally defined by competitiveness, and China’s dirigisme can only do so much to improve its firms’ product quality and their costs of production. Each of these effects constrains the extent to which Chinese competition, including that supported by economic and technological statecraft, actually harms US businesses.

Moreover, where US technology national champions are substantially undermined by such competition, these harms are not obviously critical to the national interest or to the
average American. These companies are each worth billions of dollars and are highly profitable. Competition-induced reductions to profits may attenuate their hiring, the resources available for their investment, and their returns to stockholders, but—given their capital-intensive (rather than labor-intensive) production, oligarchic status, and ruthless tax evasion—the harms to the broad public from their inability to realize greater returns or profits are limited. These harms mostly accrue to the capitalist and managerial class of Americans. This does not by itself diminish their importance, but it does suggest that arguments that allege costs to “America’s material interests” obfuscate the particular harms of Chinese industrial and protectionist policies, which typically injure a particular social segment while having a modestly negative or even beneficial effect on the broader US population.

Finally, while these firms and their markets are enormous, their unrealized profits are unlikely to sum to hundreds of billions of dollars per annum: in an economy where production exceeds $21 trillion annually, they are thus of moderate consequence at a national level. As a result, while Chinese competition and its anti-competitive practices may be injurious within individual sectors, their costs in the aggregate, as contextualized within the larger US economy, suggest their unexceptional importance. This limited consequentiality is true across a host of related investment, trade, and intellectual property issues precisely because the US economy is relatively closed and so large. The United States’ bountiful resources, fecund agricultural sector, high domestic consumption, and distance from other major economies in Europe and Asia ensure that US imports amount to approximately 15 percent of GDP per annum and its exports contribute to less than 12 percent of its GDP; its capital flows are definitionally proportionate.30

Competition in, and policies specific to, international trade and investment therefore generally matter less to the United States than they do economies in Europe and East Asia. Similarly (and relatedly), because the US economy is so prodigious and diverse, the afflictions of any given sector—even a leading sector—are less damaging to the US economy as a whole than in other nations, where export-leading sectors comprise a greater proportion of their economies, employ substantial fractions of their populations, drive economy-wide investment, and provide foreign currency that finances economy-wide imports.

While some Chinese economic and technological statecraft legitimately constitutes counterproductive beggar-thy-neighbor policies that the United States does and should object to—currency manipulation and policies that suppress labor compensation below that which their productivity warrants, for example—much of China’s economic activity is simply benign and even represents healthy divergence from neoliberal orthodoxy. These deviations are not necessarily baleful: they represent various forms of global competition between firms, labor pools, technological establishments, and nations in operation.

Heretically, for example, intellectual property theft is an arguably benign strategy to accelerate economic development, practiced by developing and developed nations alike, including the United States in the eighteenth and nineteenth centuries.30 Its harms are felt by literal monopolists who do not realize their legal rents as a result of copyright infringement, bootlegging, and design theft. It is entirely unclear whether the costs to investment and marginal development from intellectual property theft substantially outweigh the benefits received by consumers, let alone, more tendentiously, the potential benefits to innovation and competition in the aggregate.31

Assessments that identify substantial costs to intellectual property theft—such as the update produced in 2017 by the Commission on the Theft of American Intellectual Property, which asserted annual costs to the US economy of $225–$600 billion, or the intelligence community’s estimated $400 billion worth of annual economic losses—typically rely on crude heuristics and extrapolations of self-serving corporate estimates.
of their losses, do not identify losses specific to Chinese policies and espionage, and fail to assess countervailing consumer gains or benefits to research and development. Estimates at the high end are particularly incredible as they are a function of, at least in the case of the Commission on the Theft of American Intellectual Property, drastic assumptions about displacement of US sales and percentage-based guesses of impacts to gross domestic product. These estimates, further, do not account for distributional impacts: to the extent that anyone accrues these fantastic losses and the resulting immiseration, it is almost certainly the would-be rentiers rather than the broader population.

That is not to suggest that intellectual property theft is universally innocuous or harmless: some intellectual property theft may have disincentive effects for investors and innovators, their diverted profits may have otherwise profited the broader US economy, and much of this appropriation is unjust in moral terms. Still, while its injury to the corporate class is certain, its deleterious impact in the aggregate on the American economy is almost certainly overstated. A more easily defensible case of Chinese economic statecraft that benefits the US economy is certain Chinese industrial policies. Parochial domestic industry complaints and ideological commitments at times forbid consideration of Chinese industrial policies as advantageous for America, but, to the extent that these policies have either limited effects on US competitors or substantially greater benefits for US consumers or producers, they are salutary. Where these policies directly yield—or otherwise advance the development of firms, production ecosystems, or technology and manufacturing techniques that support—innovation that benefits US producers and consumers (e.g., Huawei phones' wireless charging and triple camera, since adopted by Western phone producers), material or primary inputs for U.S. manufacturing (e.g., steel, machine tools, factory equipment), or cheap but valuable consumer goods (e.g., solar panels), they are beneficial to the US economy.

Underwriting this argument is a fundamentally pro-trade and pro-growth logic: that more research and development, competition, labor, production, imports, exports, finance, and entanglement across economies is profitable. This line of economic reasoning ultimately motivates a great deal of analysis that broadly identifies substantial benefits to US consumers and producers from interaction with the Chinese economy. Such calculus is of course contingent on whose political and material interests one privileges, but economic research such as that conducted by Caliendo, Dvorkin, and Parro and analysis such as that from the US Chamber of Commerce and Rhodium Group identify immense gains to US consumers and producers—in competition-induced productivity enhancements, export markets, and cheaper goods—from the US-Chinese economic relationship. Even Autor, Dorn, and Hanson remain generally bullish on free trade with China and see its negative effects as indicting an ineffective welfare state rather than the US-China economic relationship. Ultimately, then, for reasons familiar to Pauls Samuelson, Krugman, and Romer, the United States benefits a great deal from China’s economic and technological growth and from the interaction of their economies.

If Chinese economic and technological policy and the corporate competition it generates have a limited adverse impact on the US economy and if the broader US-China economic and technological relationship, even with suboptimal policy implementation, generally enriches the United States, economic and technological harms and competition cannot be the primary impetus for the larger US-China rivalry. These issues simply fail the consequentiality and negativity tests, because they do not imperil U.S. material interests in any significant way.

Further evidence of the triviality of Chinese economic statecraft in motivating the US-China rivalry are the United States’ relations with other nations whose economic statecraft cause it similar concern. India’s recalcitrance in reforming its agricultural
sector produces substantial distortions that pain Washington; European protectionism, wage repression, and subsidies of its national champions have long infuriated economists at USTR; and the development experience of the rest of East Asia, in South Korea's, Japan's, Taiwan's, and Hong Kong's corporatist favoritism, tax arbitrage, and labor and financial repression caused similar concerns in Washington in the twentieth century and persist in limited forms today. Yet, in response to these "unfair" practices, the United States has not established adversarial relationships with any of these countries and is in fact seeking to align with some of the worst culprits—Germany, India, Vietnam, Japan, and South Korea, whose economies have a lesser impact generally on the US economy, to be fair—in opposition to China: thus, proof by counterexample. Rightly or wrongly, the United States, it seems, does not privilege economic or technological concerns in its foreign policy.

Perhaps this should, or would, change if its material interests were more clearly jeopardized: if China's rise risked the deliberate exclusion of the United States from commerce across East Asia, Southeast Asia, and Australasia, as strategist Elbridge Colby and blogger Noah Smith fear. Each is anxious about the possibility that China will force emerging economies across the Indian Ocean and western Pacific into its economic orbit and away from that of the United States, implementing exclusionary trade deals, hard-wiring of supply chains, and other means to circumscribe their supply of goods and services to the United States while curbing their consumption of US goods and services.* Others, such as Information Technology and Innovation Foundation president Robert Atkinson, fear the realization of China's most ambitious mercantilist plans and its monopolization of global high-value production. In either case, US economic interests would appreciably suffer, and this potential affliction might provide just cause or motivation for the US-China rivalry in the future.

These possibilities, however, appear remote today, thus undercutting the case for their serving as the source of the US-China rivalry. China has limited, if any, available means to shape the global economy to exclude US companies. Just as the United States struggles to shape its and other countries' firms' behavior vis-à-vis China, it is essentially inconceivable that China will be able to entice, or potentially even coerce, others into limiting economic interaction with the United States at scale. Third parties will be disinclined to forgo opportunities that economic reasoning favors. The US economy is simply too productive, too central to global commerce, and too ravenous to be sidelined from growing demand and manufacturing networks in East Asia, Southeast Asia, and Australasia. Furthermore, trade deals, technology standards, and firm-to-firm contracts are unproductive means to economically marginalize the United States as they are flexible, impermanent, and ineffectively exclusionary: whatever preferential treatment they establish does not typically prohibit external economic relations, and it is not clear whether or how they could be made to do so. Short of war, economies and technologies are not so easily subjected to the logic of geopolitical competition, given their commercial constituents, the ubiquitous lodestar of profit, and the fundamentally prosocial logic of cooperation and exchange.**

* It is worth noting that Colby argues that the United States' comprehensive rivalry with China is motivated by US material interests in Asia but also argues for economic decoupling of the US and Chinese economies. It is not clear why US trade and investment relations elsewhere in Asia are so valuable as to justify the dissolution of the US-China economic relationship when the latter is not obviously less important to US material interests.

** It is sometimes suggested that maintenance of global military—and, in particular, naval—supremacy serves US interests by prohibiting interdiction of commercial shipping that involves the United States. While there may be some truth to this, China's harassment, interdiction, and piracy of US shipping in the Indo-Pacific—while perhaps more effective than economic statecraft—would be so challenging, escalatory, purposeless, and self-defeating that its realization at a scale sufficient to harm the United States economically is essentially inconceivable. A somewhat related argument—that the United States must defend Taiwan in order to protect its supply of semiconductors, without which the US and global economies would be irreparably harmed—is similarly extravagant. While TSMC semiconductors are indeed critical inputs for many computing systems, supply chain disruptions associated with TSMC would not precipitate economic collapse by any stretch, if only because competitors, including those within the United States, could pick up some of the production slack, albeit with substantial switching frictions and perhaps not at the very high end, where substitutes are scarce. In any case, war over Taiwan may very well see TSMC's fabrication facilities damaged and Taiwanese exports attenuated, so defending Taiwan specifically to protect these supply chains would be folly.
For analogous reasons, to be discussed further below, Chinese dominance of high-value economic activity is similarly far-fetched. The US scientific establishment and its firms are too advanced and enmeshed within the global economy to be decisively subordinated across the board to their Chinese equivalents, and the global economy is sufficiently large as to accommodate leading firms from the United States, China, and elsewhere. Moreover, even if Chinese firms were to achieve a substantial economic and technological advantage and increase global market share, in the process diminishing American wealth, this would not alone justify interstate rivalry. Chinese firms, enabled by state action, would have outcompeted their American counterparts, and the US government and firms would be moved to—through innovation, price competition, or statecraft—ensure their continued competitiveness.

This might occur entirely peacefully, through market processes and the government’s shaping of these processes, without giving rise to the kind of adversarial rivalry that appears to characterize the current US-China relationship. It would be the international economy in operation, which is decidedly different from interstate rivalry: hence why Japan’s impressive economic and technological prowess, for example, did not translate into deteriorating political relations in the 1980s. Depending on its contours, the very concept of economic and technological competition may then be inapposite for the US-China rivalry, especially as its cardinal plane. While the United States certainly has an interest in ensuring its entrepreneurs’, firms’, and universities’ continued scientific productivity and innovation, their pacing their Chinese counterparts isn’t a particularly sound objective, as this may be coincident to the nation’s general welfare and interests. This is especially the case where the success of various US entities is minimally affected by Chinese statecraft or competition, at least as compared to other policy variables or competition involving third parties. The United States and its foreign policy should thus concern itself less with the juxtaposition of US and Chinese scientific and commercial achievements and more with the policy environment that enables or impedes them.

Why then, if their material impact is limited, do Chinese economic and technological policy and competition earn such vitriol and command such attention as the alleged causes and central plane of the US-China rivalry? As a literal answer, most of this argument’s adherents are mistaken for a variety of reasons, including the argument’s ubiquity, endorsements, appeal in its reductionism, and (partial) persuasiveness. More diagnostically, much of the criticism of Chinese economic and technological statecraft appears to have a moral valence, as if any mercantilist deviation from neoliberal orthodoxy represents an affront to the international order and market system, despite every economy’s inconsistent adherence to and the consistent evolution of the nominal tenets of such system. Some condemnation appears to be linked to an ideological opposition to communism, an ideological vestige of the Cold War. A great deal also betrays its exponents’ parochial interests, opposition to foreign competition, and assumption of a certain American economic or technological birthright. At its worst, the latter reveals itself in alarmism about America’s diminishing relative advantages or position within certain fields or markets without much thought paid to the causes, symptoms, or consequences of this decline. Finally, both criticism of Chinese economic and technological policy and centering of the US-China rivalry on economic issues have a certain political convenience. Condemnation of China (and its partners in corporate America) as a threat to the well-being of the median American appears to be politically profitable for China’s critics, because political elites, media, and the electorate remunerate such criticism. For the same reason, it is also expedient for the anti-China cause itself, making it more palatable for parties whose dovish temperaments preclude their full recognition of the Chinese military threat and challenge to US hegemony.
3. What Matters in the US-China Rivalry?

If the US-China rivalry is born primarily from China's irredentism, intention to undermine the US-led security architecture in the western Pacific, and ambition to establish itself at the pinnacle of the regional political hierarchy and at the center of a reconstituted security architecture—and from the United States' determination to frustrate these aims—what really matters in such a contest? What factors, context, sources of strength, instruments of national power, and undertakings are relevant to this competition?

First and foremost is path dependence. While evolution is inevitable in international politics, the base state of the system and its overall architecture—territorial allotments, polarity, alliances, and partnerships—are the most critical predictors of the future state of affairs. These variables necessarily favor the United States, which, as the status quo power, benefits from the relative inertia of the system and requires a decisive challenge to be dislodged. Of course, China is intent on mounting such a challenge by disturbing the United States' alignment with Japan, Australia, Taiwan, and others, potentially annexing important contested territories, and displacing the United States as the regional hegemon, but the realization of this aim will require concerted effort, discipline, risk-taking, blood, and treasure, over and above that required from the United States to preserve the status quo. This disparity emerges from the difficulties associated with territorial conquest, breaking alliances, dissolving institutions, overturning entrenched behaviors, and changing minds, especially in the face of conservationist efforts from the status quo power.

In mounting this challenge, perhaps no factor is more decisive than regime continuity. While uber-realists argue, perhaps correctly, that the particular nature of the Chinese Communist Party is of limited relevance to the geopolitical challenge that China poses and that a democratic and capitalist successor would still threaten US hegemony in the western Pacific, the collapse of the Chinese Communist Party–led state would at least temporarily disadvantage China in the US-China rivalry. The same is true for the United States—its government's collapse would give rise to enormous strife that would hinder its efforts to frustrate China's hegemonic ambitions—as well as for its allies. Japan's political collapse, for example, would likely imperil long-standing agreements to host US forces on its islands and would reduce the efficacy of the Japanese armed forces, thereby consigning coalitional efforts to contain Chinese aggression to defeat. This is merely a hypothesis, of course, but the historical record provides ample evidence: the experiences of revolutionary France, the Russian Empire, twentieth-century China, and the Soviet Union neatly illustrate how the collapse of a regional power's regime erodes state capacity and thereby undermines its geopolitical position.

While the former was ultimately victorious in the Wars of the First and Second Coalitions against its irredentist neighbors, there is little doubt that the consistent political and social upheaval that afflicted revolutionary France from 1789-1799 encouraged undesired assaults from its European neighbors and regulated France's own ability to effect its larger ambitions of conquest. The French military ultimately proved victorious in these conflicts, and even enabled repeated annexations in northern Europe, because of its illiberal independence from the democratic excesses of revolutionary France and the relative continuity that it enjoyed. Still, it was only with Napoleon's ultimate accession that France was able to realize its greatest geopolitical ambitions, which of course ultimately resulted in its overextension and defeat in the Wars of the Sixth and Seventh Coalitions.

The demise of the tsar in 1917 thrust Russia into governmental chaos, which aggravated its losses to the Central Powers on the First World War's Eastern Front. Under the leadership of Alexander Kerensky, the Russian Provisional Government opted to continue its participation in the war and even
launched an ambitious offensive in the summer of 1917. Its defeat and accompanying heavy losses, discontent within the military with the liberal government, Ukraine’s bid for autonomy, and the government’s political and domestic policy failures ultimately precipitated the Bolsheviks’ October Revolution and the Russian Civil War. Lacking control of the country and content with divorcing themselves from the legacy of the tsar and liberals, the Bolsheviks sued for peace with Germany at substantial territorial cost. For years following, the Soviet Union would have limited capacity to effect its geopolitical aims, given the myriad political and economic crises arising from this disturbance.

After defeating regional warlords across and unifying much of China, the Kuomintang was plagued by an intermittent decades-long Communist insurgency, now labeled the Chinese Civil War. Its contested hold on power limited its ability to prosecute its preferred nationalist foreign policies and invited Japanese incursions in 1937. The Kuomintang’s eventual defeat by Mao’s communists in 1949 left the Chinese Communist Party to rule mainland China as a socialist regime, which in its early days faced similar difficulties in realizing its geopolitical ambitions. Though Mao’s gambits in Korea and North Korea’s collapse diminished its state capacity, which rendered it a clear subordinate to the Soviet Union and circumscribed its ability to affect its neighbors’ behavior in the first half of the Cold War.

The Communist Party’s deteriorating control over political, economic, and military affairs in the Soviet Union eventually precipitated political revolution and counterrevolution in Russia, the collapse of the Soviet Empire, and the dissolution of the Soviet orbit. The successor liberal regime, under President Yeltsin, found itself so bothered and constrained by economic collapse, its own political fortunes, and the threat of Russia’s political disintegration that Russia’s influence over newly independent or democratic states in Eastern Europe, Central Europe, and Central Asia attenuated substantially. Exhausted, itself drawn closer to the Western orbit, and fighting to suppress separatism in Chechnya, the newly independent Russia was a shadow of its Soviet predecessor, unwilling and unable to exert its power to shape its periphery. Only under Putin did Russia regain its confidence and capacity for geopolitics, though even modern Russia’s power pales in comparison to that enjoyed by the middle Soviet Union.

The lessons for the United States and China are clear: (1) political discontinuity is disruptive and undermines the execution of grand strategy, including by imperiling spheres of influence and regional hegemony; and (2) both the United States and China can be expected to exploit whatever discontinuity afflicts the other.* This is certainly not lost on the Chinese Communist Party, which aggressively ensures its continued rule and shows little indication of regime collapse as a result. The United States and its liberal allies, meanwhile, blessed by rotating two-party rule, have in a sense institutionalized discontinuity and defanged it through the cultivation of trans-party political cultures, nationalisms, and institutions. As compared to the infinitesimal possibility of regime collapse, the greater risk for these democracies is the attenuation of these political cultures, nationalisms, and institutions and their political parties’ dramatic reorientation away from efforts to contain Chinese aggression. In the case of the United States, this might manifest as a resurgent isolationism in which one (or both) of its political parties abjure the historic principles of American foreign policy and its hegemonic inheritances. In the Japanese case, this might reveal itself as renewed efforts to cashier US forces from the region or efforts to align with an irrepressible China.

* An alternative interpretation might suggest that political discontinuity occurs when regimes demonstrate themselves to be incapable of managing their domestic and international affairs. Such discontinuity therefore enables the long-term realization of geopolitical ambitions by giving rise to more powerful successor regimes. While plausible, this line of argument tends to understate the frictions associated with regime change and asserts a sort of Darwinian logic to historical matters, when such logic is frequently undermined by successor regimes’ own frailty and continued diminution.
Similarly important, and of course related, is prudent strategy. Misidentification of core interests, strategic overreach, imprudent leadership, and the failure to balance domestic demands and foreign obligations have historically sunk nations and empires by weighing them down with strategic albatrosses, draining strategic resources, producing military defeat, and even precipitating regime change at home. The relevant historical examples here are ubiquitous: the distension of Alexander’s ungovernable empire, the overexpansion of the Roman Empire and its eventual partition into the Western Roman Empire and Byzantium, Napoleon’s invasion of Russia and continued warring with trans-European coalitions, Hitler’s invasion of the Soviet Union and declaration of war on the United States, the inability and unwillingness of Europe to retain its global colonies across the twentieth century, and the Soviet Union’s invasion of Afghanistan.* In each case, strategic ill-discipline, irrational instincts to conquer, failure to ensure domestic health, assertion of imperial claims that could not be backed up, and the inability to think across multiple time horizons produced potentially avoidable geopolitical losses.

It is tempting to assume that China is more immediately subject to such catastrophic errors, given its position as the challenger to American hegemony, the rise of opposing coalitions in Asia, and America’s overcoming its own imperial errors in the Middle East. This is probably right. In seeking to assert its primacy, China will have to navigate a labyrinth of domestic and foreign policy challenges, suppressing domestic discontent and separatist groups, maintaining economic development, and expanding its political-military influence in the western Pacific. Overreach in any of these arenas, especially one that results in major military conflict, could doom these ambitions or catalyze more aggressive opposition. Even in the case of operational victory in a limited conflict with the United States, this success may prove Pyrrhic if such success hardens its neighbors’ resolve to curb China’s geopolitical power.**

Still, the United States is by no means immune to strategic imprudence, especially given its liberal commitments. It must simultaneously balance its own interests in: minimizing China’s irredentism and military coercion, especially as they apply to US partners and allies; constraining China’s absorption of various states into its political, economic, and military orbit; promoting republican principles and human rights; and preserving its own economic and financial interests in the region, which include substantial commercial ties within China that would undoubtedly be undermined by military action.

A sage approach to these occasionally competing interests would see the United States rely primarily on deterrence of Chinese military action, resorting to war only when necessary to frustrate unacceptable aggression. Dis-incenting and limiting Chinese aggression are more judicious objectives than military victory or regime change. It would see the United States resist China’s absorption of other non-allied states into its orbit only when its doing so is unbearably coercive or fundamentally threatens these states’ political, economic, and military relations with the United States. Finally, it would see the promotion of liberalism in the western Pacific, albeit limiting its conceit and adventurism in doing so. The United States would identify and prioritize the supporting elements of these core objectives and balance them across all time horizons as its interests demand. Endeavors to secure one objective in the short term may serve the United States poorly in the long term and vice versa: given the durability of the Chinese regime and the world-historic consequences of major overreach, US policymakers must be strategically pragmatic, cautious, and

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* By no means does this imply that strategic ineptitude was the only or even primary cause of these nations’ and empires’ collapses. Each suffered a number of governmental, political, cultural, economic, and military deficits that accelerated their demise, and external actors’ agency cannot be discounted either. Greater pragmatism and humility on the part of their leaders may have addressed these weaknesses and precluded conflict with external actors, but this is by no means assured.

** An unsavory alternative: major war may serve the strategic (though not the utilitarian) interests of China or the United States by respectively hastening China’s realization of hegemony and decisively subordinating third parties or containing and humiliating China.
Bayesian. They must seek to obtain persistent advantage rather than decisive victory, as the latter is so precarious as to be confidently optimized for.

Geopolitical alignments are another critical factor in China’s pursuit of hegemony in the Indo-Pacific and in the United States’ maintenance of the status quo. Depending on the party in question, allies and partners in the region may furnish access or military support, provide geographic advantages, and offer political and economic assistance to each country’s cause. Allies and partners therefore provide key material and nonmaterial contributions to their superpower patrons, with the United States once again enjoying more advantages than China on this count.

Perhaps more important than the particular contributions of allies and partners, however, are their signaling power for hegemony. For China to achieve hegemony, it must restructure the security architecture and political hierarchy that define the region’s geopolitics around itself: this will require disrupting the various US-dominated patron-client relationships that currently dot the region. Reordering alignments, then, is not simply a means to achieve hegemony but is also, in a sense, the measuring stick for hegemony itself.

Finally, the balance of military forces in the Indo-Pacific is critical in this contest as military forces are the ultimate instruments of coercion. Of all forms of statecraft, only military force enables the unilateral reassignment of territory and the decisive enforcement of hegemony; all others rely on enticement or negotiation to shape state behavior. Military force, by contrast, enables harassment, intimidation, and compulsion—the sticks that compel behavior when carrots prove unappetizing. Coercion is especially relevant where changes to territorial integrity, alliance affiliations, and the broader security architecture are concerned, because these elements affect the core interests of states. As a result, when political or economic entreaties, pressure, or unbacked threats are applied to achieve concessions on these issues, countries are unlikely to relent. This leaves the application of military force as the most effective means to extract obedience.

The example of Taiwan is illuminating. While China had once hoped that economic integration with the separatist island would drive political reunification, that dream has proved illusory. China’s increased bellicosity amid the generational shift in Taiwan has left the Taiwanese population and political elite increasingly committed to preserving de facto independence even as economic integration with China has increased. Without efficacious political or economic levers to reverse these changes, China is left with two options: acceptance or military coercion. While the former is unappetizing, the latter may very well provoke a military response from the United States, Japan, and Australia. If China were to take on such a risk, it would surely do so only under circumstances in which it feels confident of its victory—or else, irrespective of its chances of success, under circumstances in which its core interests (e.g., regime survival, Taiwan’s declaration of de jure independence) are jeopardized or its leaders’ nationalistic pique idiosyncratically prevails—hence why the military balance between China and Taiwan’s partners in the region is so crucial.

This balance, relying on an inclusive definition, consists of the differences in capability and the readiness of forces available for battle in the Indo-Pacific and how they translate into operational outcomes. It therefore encompasses US, Chinese, and relevant allies and partners’ forces, posture, technology, command and control, discipline, experience, logistics, operational concepts, and tactics. Depending on the scenario in question, it may include forces outside of the Indo-Pacific theater that would be moved into the area. It does not, however, encompass the raw differences in total military strength, where the United States is advantaged because of its global military presence, the diversity of its military capabilities, and the nominal number of its allies and partners. The bulk of
these forces is unlikely to be relevant to operational outcomes, simply because a great deal of them are ill-equipped for the scenarios in question, most conflict scenarios will be resolved prior to their involvement, a lack of political will precludes the escalation that demands their involvement or that their involvement might entail, and many allies and partners will decline to engage in many conflict scenarios.

This explains why analysts of the US-China military balance are more concerned with—especially in reference to a Taiwan invasion scenario, for example—factors other than total military strength, such as: total numbers of surface combatants; prepositioning of US forces west of the International Date Line; AirSea Battle and operational concepts that integrate distributed naval, ground-based, and air-launched anti-surface fires; Taiwan’s indigenous coastal defense capabilities and mining capabilities; the survivability of air bases in the western Pacific; China’s integrated air and missile defense capabilities; Japan’s long-range strike capabilities; the survivability of communications and position, navigation, and timing capabilities; electronic warfare and cyber capabilities; and stockpiles of precision-guided missiles. As these factors are disproportionately important in a US-China conflict, they matter most to the relevant military balance.

That said, the balance of forces is not always paramount. Where political will or risk appetite constrains one’s response to narrow or limited aggression—for example, in the case of military sabotage or gray zone activities or in the case of potential nuclear employment—military overmatch can be of limited utility in deterrence. Even in direct conflict scenarios, advantages in speed of action and risk-taking, or idiosyncratic factors such as weather, may decrease the value of military overmatch.

Markedly absent in the above analysis as to what factors are key in the US-China geopolitical competition are measures of economic or technological statecraft, such as trade agreements, government purchases, regulatory measures, foreign aid, import quotas and tariffs, sanctions, export controls, and influence in standards-setting bodies. While notable, these instruments are of limited consequence to matters of territorial acquisition and military hegemony. Gone are the days when territory was bought and sold between nations, and political frictions generally prevent economic solutions to geopolitical disputes; in other words, there is almost certainly no feasible Coasean resolution to the US-China rivalry. In general, economic and technological statecraft is unlikely to be particularly significant in contests surrounding political hierarchy and hegemony because economic and technological instruments are infrequently effectively weaponized to produce their desired geopolitical outcomes and typically have a greater impact on general welfare than political matters.

There exist enormous data on the inefficacy of sanctions, for example, which have failed to curb rogue behavior in the cases of China, North Korea, Iran, Russia, Venezuela, and a host of other states. Sanctions are applied to either particular persons or key economic sectors in an attempt to impose pain on national leadership; where they are more broadly applied, they intend to force leadership action to relieve the political pressure resulting from immiseration. Because they rely, however, on highly contingent mechanisms that are often absent or weak in these countries’ political economies, the pressure ultimately felt by leaders to address the sanctioners’ demands is often modest. Furthermore, because sanctions are acts of economic aggression, they frequently precipitate backlash against their initiators while intensifying their targets’ resolve. Moreover, sanctions are often not all that punitive because effective targeting is difficult, goods and services are substitutable, workarounds such as illicit trade and manipulating rules of origin are often available, and modern economies are sufficiently diverse and productive that constraining trade does not devastate welfare. The end result is that sanctions are not all that compelling a disincentive.
The same is true for export controls, which have, for example, successfully hobbled Huawei and ZTE but also stimulated the growth of an indigenous Chinese technology industry, thus limiting the overall impact on China’s malign behaviors. The inefficacy of these measures does not uniquely apply to the United States either: past Chinese attempts at imposing informal sanctions to punish South Korea’s hosting of US THAAD batteries and the rare earths export quotas imposed on Japan during the 2010 contest over the Senkaku Islands, for example, proved to be similarly feckless given their limited impact on the South Korean and Japanese economies.

Because such punitive measures are of limited efficacy both in general and when intended to advance specific geopolitical ends, they are therefore unlikely to directly support or defeat China’s irredentism and its pursuit of hegemony. The latter exist at the core of the US and Chinese self-professed national interests, and “negative” economic or technological incentives applied on the margin are consequently of limited import. “Positive” economic or technological inducements are no more likely to be effective or lasting in their impact on geopolitics either. Large economic agreements like the North American Free Trade Agreement have historically underwhelmed in the actual economic benefits that they deliver to most of their participating parties, for example. The limited impacts of these much-ballyhooed arrangements suggest that states would not define their national security policies and alignments based primarily on such statecraft of modest import. And in fact, economic and technological statecraft has a limited impact on states’ behavior in the international system, which appears in any case to be shaped less by commercial interests and more by ideological imperatives and other states’ behavior, ambitions, and capabilities. The very existence of the US-China rivalry is a testament to this fact.*

4. The Economic and Technological Forces Shaping Political and Factional Advantage

If economic and technological statecraft does not directly affect political hierarchy, security arrangements, and hegemony in the western Pacific, do the US and Chinese economies and the technologies developed by and available to their governments, firms, and academic establishments at least inform those critical factors that do? Unquestionably, although in perhaps unintuitive ways.

Political stability, for example, is to an extent a product of economic growth and prosperity. This is well-understood in China’s case, where Chinese and American commentators alike have identified the challenges facing the Chinese Communist Party in managing the transition of an economy affected by a shrinking labor force, the diminishing dividends of catch-up growth, underdeveloped rural areas, overinvestment in real estate, and persistent shortfalls in domestic demand. These structural challenges will require shrewd economic as well as political management, as the constituencies that suffer from stagnating growth and structural transition seek to ameliorate their position by registering their dissatisfaction and shaping political action, including by delaying required reforms. These malcontents threaten to undermine the regime’s authority by accentuating disunity, corruption, and popular opposition. Political stability concerns arising from structural economic issues are already visible in China, before the acute pain of transition has even been felt, in its abandonment of reforms aimed at rebalancing economic growth, myriad anti-corruption campaigns, subordination of its private technology sector, and censorship of speech and journalism protesting economic failures.

Still, there are many reasons to believe that these economic challenges will not ultimately threaten the Chinese Communist Party’s monopoly on power. For one, since China’s modern founding, the Party has been ruthless in its commitment

* This is not to discount economic statecraft’s importance in binding, refying, or serving as an indicator or vehicle of geopolitical alignment or to suggest that it is wholly irrelevant. Where commercial relations are of obvious political or material importance, they may guide foreign policy behavior, albeit in general less than relevant national security imperatives.
to its survival, suppressing incipient opposition wherever it appears. Its domination of Chinese politics should facilitate its management of parlous transitions, which, as Michael Pettis is fond of noting, are typically handled well only by very democratic (e.g., FDR’s United States) and autocratic (e.g., twentieth-century South Korea) regimes.42

Second, these structural challenges, while significant, do not condemn the Chinese economy to the sort of fundamental failure that would threaten the Party’s position. They pale in comparison, for example, to the problems that plagued the Soviet economy in the 1970s and 1980s, which perhaps served as the broader context for the regime’s ultimate collapse in the face of centrifugal regional forces and political revolution but did not immediately precipitate economic demise or the USSR’s dissolution. Many historians believe that the Soviet Communist Party, absent Gorbachev’s political indulgence, could have persisted on the strength of its political hegemony, potentially following a path of economic reform like that undertaken by China.43 Even absent a shift toward market socialism, it is conceivable that the Soviet Union could have limped along as a geopolitical competitor of the United States on the back of its military strength alone. The survival of the current Syrian, North Korean, Iranian, and Russian regimes and their continued geopolitical influence in the face of severe economic difficulties is further evidence to that point.

Third, post-Mao, the Chinese Communist Party has been generally responsive to the population’s economic needs and the challenges facing the economy. This record, in driving economic modernization and addressing other challenges such as air quality, for example, has reinforced its broad credibility and popularity. It is also reflective of the Party’s ability to manage neuralgic economic transitions. Stillborn initiatives under Xi Jinping to address inefficiencies in the Chinese tax code and improve domestic consumption represent counterexamples in which political concerns undermined reform efforts, though one could stretch to argue that these capitulations speak to the Party’s ability to navigate treacherous political waters.

As for the United States, class-conscious commentators on the political left and right blame various adversities associated with deindustrialization, rising inequality, and suboptimal macroeconomic management for the rising political polarization and illiberalism that are purported to imperil the American republic. While this kind of analysis suffers in its reductionism—both in its presumption of the centrality of economic concerns in US politics and its articulation of the crisis of American democracy—it is probably true that the Great Stagnation, regional economic dislocations, and concomitant increases in economic inequality have informed certain politics that have made regime collapse generally more conceivable, albeit not substantially more likely. That said, the United States remains an extremely wealthy democratic country with substantial state capacity and is therefore likely immune to the ravages of civil war or the collapse of its political order.44 Its first-world economic problems are unlikely to destroy its political system, however unsteady or unsatisfying the current equilibrium may appear at first blush.

Economics and technology are perhaps more relevant to geopolitical alignment, but even here their impact is circumscribed. Both the US and China enjoy substantial soft power derived from their imports from, exports to, external investment in, and technological development that benefits third-party nations in the western Pacific. However, this soft power and its corollary economic and technological statecraft are somewhat inapposite for shaping the factions that inform the political hierarchy and security architecture of the region, for many of the same reasons discussed above: principally, that states do not determine their geopolitical alignment based primarily on their economic or technological connectivity with potential hegemons and, secondly, that economic and technological statecraft has a limited impact on their economic wellbeing. Economic and technological connectivity has some
marginal effect in facilitating geopolitical alignment to be sure, but this connectivity is typically as much a product of such outcomes as it is their cause.

This is especially true in the Indo-Pacific, where many countries have vocally rejected the “choice between” the United States and China, because of their comfort with the current security architecture and flat political hierarchy supported by the United States and their positive economic relations with both great powers. Favorable trade agreements, technology-sharing policies, and foreign aid are therefore likely to be welcomed across the region, albeit with limited impact on specific security guarantees or alignment outcomes. The Trans-Pacific Partnership, for example, was supposed to have strengthened geopolitical alignment across its relevant member-states: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam, and the United States. Yet the China-led Regional Comprehensive Economic Partnership—which included many of the same countries, i.e., Australia, Brunei, Japan, Malaysia, New Zealand, Singapore, and Vietnam—was simultaneously negotiated, nominally with the same goal in mind. This reflects three realities: first, that trade agreements are of modest geopolitical consequence in cementing relevant strategic partnerships; second, that states in the Indo-Pacific treat security relationships as distinct from economic ones; and third, that most of these countries have no interest whatsoever in aligning themselves wholly with either the United States or China.

The same is largely true of the Belt and Road Initiative. As much a function of the need for China’s bloated domestic sectors to export capital, construction services, and material inputs as it is a geopolitical exercise, the Belt and Road Initiative has inevitably increased China’s footprint abroad, especially in Africa, the Middle East, and Central Asia. This has not, however, come at the cost of US geopolitical interests in these regions because Chinese investment, loans, and exports have neither expanded China’s security orbit in concerning ways—through, for example, instantiation of productive military partnerships aimed at limiting US freedom of action—nor diminished that of the United States. China’s establishment or pursuit of military bases in Djibouti, the UAE, and Equatorial Guinea, meanwhile, are linked to economic enticements and are arguably of some modest geopolitical consequence, but they do not portend the attenuation of US security relationships with these states, nor do they fundamentally affect the balance of military power in either Africa or the Middle East.*

Trade agreements and other inducements may evolutionarily engender political or security alignments, of course. Firm-and person-level economic relations inevitably shape domestic politics, media, and the broader zeitgeist, which organically inform diplomacy and national security matters. At the state level, trade arrangements, concerted investment policy, technology-sharing agreements, and foreign aid may produce trust and interpersonal relations that translate into greater intelligence, military, and national security policy alignment. Still, these processes are subtle, uncertain, and highly contingent, especially because these communities are somewhat divorced from one another; these mechanics are so inscrutable and difficult to shape, especially where the US and China both seek to precipitate them in their favor; and these geopolitical alignments, especially where they are downstream of goodwill vice-affiliated interests, are potentially ephemeral.

5. The Economic and Technological Logic of Military Advantage

The Sources of Military Advantage

Setting aside path dependence and prudent strategy, both of which are affected by economic and technological forces

* It is sometimes alleged that the United States should be concerned about the Belt and Road Initiative, because Chinese investment encourages corruption and Chinese claims to the Hambantota port and Entebbe Airport are suggestive of coercive debt-trap diplomacy. While the former may be accurate, this is true of a host of US economic activities in these regions as well, including its foreign aid programs; such is the cost of doing business in nations with underdeveloped institutions. The latter, meanwhile, is a misguided critique: domestic political actors doggedly pursued such credit from Chinese lenders that would almost certainly prefer the assured returns of repayment vice possession of their underlying assets. In any case, these concerns are of moral, rather than geopolitical, consequence.
but not mechanically shaped by them, the balance of military forces in the Indo-Pacific is then the competitive matrix in which the US and Chinese economies and their constituent technologies have the greatest impact. As noted prior, this equipoise comprises both materiel elements—the mass and capability of, for example, the aircraft, ships, tanks, armored ground platforms, artillery, missiles, intelligence, communications, and navigation satellites, and radar and electronic warfare systems available for combat—and non-materiel elements—e.g., number of troops, their readiness, their morale and discipline, their command and control, the operational concepts they employ and tradecraft they use in operational execution, their proximity to the locus of combat, logistical competence, and organizational alignment, inter alia. This military balance is not alone dispositive for military outcomes, given the importance of political determination, aggression, and fortuna.

Different combat scenarios variously reward these materiel, non-materiel, and political factors. This is particularly true in the case of military confrontation between the United States and China, in which total warfare is but one relevant scenario. Where Chinese military aggression manifests in sabotage, restricted strikes, coercive maneuvers, or even seizures of peripheral territories, the quantity and quality of available weaponry are unlikely to be the most relevant factors in frustrating these operations; the prepositioning of military capability, use of tailored forces to disrupt or retaliate against these operations, and defiance of the aggrieved population are each likely of greater consequence. The mass and capability of materiel may be more relevant in deterring such operations via the threat of escalation, but, even in all-out combat scenarios, forward posture in theater, operational concepts and tactics, stockpiles of critical military inputs like precision-guided munitions, and the willingness to escalate are more likely to be decisive factors—for deterrence and resolution of conflict—than total military strength. Total military strength becomes increasingly relevant as the conflict in question becomes increasingly total: as guided munitions, command and control capabilities, anti-access and area denial capabilities, and forward-deployed capabilities are expended or destroyed, mobilized forces, less sophisticated weapons, nuclear weapons, and the ability of each nation to reconstitute its military forces become increasingly important.

China’s military advantages in the Indo-Pacific appear to be largely predicated on its physical proximity to its targets of interest and on the United States’ comparative distance. This disparity allows China to mass forces within its borders in preparation for offensive action while using anti-access, area-denial architectures—such as surface-to-air missile and missile defense systems; ground-based mobile anti-ship ballistic and cruise missiles; enabling space and command, control, and communications systems; layered ground- and air-based electronic warfare capabilities; anti-submarine sensor networks; and counter-space and counter-command, control, and communications capabilities—offensively to hold US and allied forces at risk during such action. The United States, meanwhile, maintains a forward presence in the region, but the bulk of its forces remain deployed within the homeland or elsewhere in the world. Those forces that are or can be deployed forward are vulnerable to these Chinese architectures, which were specifically designed and procured to hold at risk the key nodes, platforms, and kill chains that support US warfighting concepts and plans. China’s advantages are thus less derived from a general military superiority or its more capable systems but rather its geographic inheritances, semi-optimized force structure, and concentration of forces.

The US response to this discomfiting military posture should not necessarily focus on the generation of more and better weaponry across the board, especially if such forces are going to be based in the United States, Europe, or the Middle East. It would be better served by more directly addressing the causes of China’s military advantage through adjustments.
to its: forward posture; basing access; operational concepts and tactics, privileging those that challenge Chinese targeting and tracking capabilities; ability to operate in degraded command, control, and communications environments; and capacity to target Chinese command, control, and communications architectures. These would be more effective means of ensuring a favorable military balance in the Indo-Pacific.

Nevertheless, both generally and in this specific case, the aggregation and quality of each side’s weaponry are substantial components of the military balance. Though the above argument suggests that the mass and capability of relevant weapons are not necessarily pivotal in any given scenario and that the United States need not prioritize larger and more capable forces to address the Chinese military challenge, the side with the larger quantity and better quality of high-technology weapons is undoubtedly advantaged ceteris paribus. Given that the design and production at scale of such weaponry demand substantial resourcing, skilled labor, and technological inputs, the capacities of the US and Chinese economies—their ability to furnish and channel such resourcing, labor, and technology—inevitably inform their generation of key materiel. Arguably no other countries on Earth could generate the advanced weaponry that these superpowers maintain: a direct consequence of the superior government purchasing power, wealth, labor forces, materials, production processes, manufacturing capacity, and technologies that comprise their enormous economies.

The economic and technological endowments of the United States and China thus shape, enable, and constrain the development of their militaries and therefore affect their ability to achieve military overmatch in the Indo-Pacific in a general sense. This limited proposition underlies the common intuition that economic and technological advantages, including those relevant to the production of civilian goods and services, will be pivotal in the US-China competition: the state with the larger, more technologically advanced economy will derive military advantage from its endowments through the greater resources made available for purchasing defense goods, the greater capacity of its defense industrial base, and the availability of superior technology for its weapon systems. These intuitions, and the arguments they precipitate, are often motivated by historical accounts of America’s military contests with the Nazis and Soviets, ostensibly won on the back of its industry and technology.

However, while the United States did enjoy substantial economic and technological advantages over these twentieth-century rivals, it is not clear that either World War II or the Cold War conclusively demonstrates the decisiveness of economic and technological endowments in military competition. More to the point, the operative logic here is not so easily extendable to the US-China contest. In this geopolitical rivalry, neither country’s economic and technological endowments are likely to translate into a significant military edge, because each’s economic and technological production is not unequal by orders of magnitude and the mechanics by which these endowments inform the production and maintenance of their high-technology weaponry ensure the modesty and impermanence of any derived advantage.

The latter reality is anchored in the fact that military procurement is not a residual produced by the largesse of the civilian sector but is in fact a constituent market within the broader economy. Demand in this market, and thus the scale of military production, is politically determined, with these choices informed to an extent by public finances, the economy’s overall productive capacity, and the demands of civilian well-being. Though these macroeconomic factors strictly limit the ability of smaller powers to develop and maintain world-class militaries, they are decidedly less binding in the case of the United States and China, where favorable macroeconomic conditions permit most conceivable forms
of military expansion. More relevant, in fact, are supply-side microeconomic constraints. Military expansion may be temporally constrained by real capacity or resource bottlenecks—whether in materials, labor, or logistics—but these can be relieved through conscious investment or industrial policies.

Advantages in production mix and defense industrial base capacity, exemplified by China’s larger shipbuilding industry, for instance, are therefore impermanent and can be matched through the other’s dirigisme. Such state intervention may produce distortions, including sector-specific misinvestment, inflation, shortages, labor scarcity, or changes to the structure of the larger economy that reduce productivity or impoverish consumers. However, for both the United States and China, these distortions are unlikely to be so consequential or costly as to amount to binding microeconomic constraints, because both economies are large, diverse, well-endowed, and globally connected. As such, both the US and Chinese economies can accommodate far greater military production without approaching binding macroeconomic or sector-specific limits or suffering acutely harmful distortions. While their theoretical capacities for military production and the magnitude of their relevant distortions may be unequal, advantages arising from these differences are unlikely to manifest with substantially inframarginal military production (production below the maximum permitted by a given economy).

Decisive military advantage born from general technological advantage is likely to elude the US and China as well, notwithstanding the former’s technological superiority. Both countries, despite America’s ostensible deindustrialization and China’s relative poverty, have productive science and technology establishments and firms that excel in highly advanced research, development, and manufacturing. The resulting innovation in technology and manufacturing inevitably facilitates advances in the design and production of defense goods, yielding improvements in military platforms, munitions, sensors, and communications. Various frictions, however, inhibit the translation of overall technological advantage into military advantage, not the least of which are the relative narrowness of the technologies most relevant to modern warfighting and the difficulties faced by military establishments in incorporating leading technologies into the systems that they procure.

These arguments, accordingly, reject the common claim that economic and technological endowments, including those relevant to civilian economic and technological production, will be decisive in the US-China competition because of their relationship to military advantage. Within the US national security community, this intuition manifests itself in concerns about how China’s increasing gross domestic product and advancing high technology sectors will expand its ability to design, engineer, manufacture, and procure more advanced weaponry than the United States, with the result that the military balance in the western Pacific will increasingly favor China and bequeath to it some form of primacy.*

While this intuition does not preclude consideration of their defense industrial bases within these economic and technological endowments, it particularly privileges civilian production and technological development, because the development and production of civilian goods, services, and technology resource states’ procurement of, enable industrial capacity relevant to, and generate technological inputs for advanced weaponry.

**Historical Precedents**

This view emerges in large part from historical narratives about the role of the economy and technology in military competition, which have long held that public financing,
general productive capacity, and scientific excellence played a major part in the defeat of past geopolitical rivals during the Second World War and the Cold War. In the case of Nazi Germany, the Third Reich’s economy was roughly 42 percent of the size of the US economy heading into World War II and, straining at maximum capacity in 1942, was still roughly 90 percent of the size of the US economy, whose wartime production would peak two years later.47 By that time, America’s industrial might had been forcefully reoriented away from production of commercial goods toward military manufacturing. In undertaking this transition, America became the arsenal of democracy, producing the airplanes, tanks, trucks, ships, small arms, and munitions that defeated Nazism and Imperial Japan. While the Axis powers enjoyed certain operational advantages—e.g., from their innovations in tank warfare, submarine warfare, and tactical air combat—America’s macroeconomic management and productive capacity enabled industrialized warfare that its adversaries could only hope to match.

As individual platforms, many of America’s tanks and fighters were technologically inferior to their Axis counterparts. These advantages, however, proved to be of limited utility to the Axis Powers due to industrial and fuel constraints that restricted their production and use. Perhaps more to the point, despite many disadvantaged systems, the United States military benefited enormously from the nation’s general technological superiority. It was the United States’ scientific establishment and technology firms—larger, more numerous, and more advanced than Nazi Germany’s and Imperial Japan’s academies and chemical, construction, and vehicle manufacturing firms—that produced its vast quantities of advanced weaponry, including the most devastating weapons ever used.

In the case of the USSR, the Soviet economy during the Cold War was dwarfed by that of the United States, standing at its peak in 1975 at 44 percent of US strength according to Angus Maddison’s estimates. *48 As a result, the Soviet Union suffered a persistent industrial and agricultural capacity deficit compared to the United States. Convergence of total production, consistently predicted in Cambridge, ultimately never occurred.49 On the technological front, the Soviet Union enjoyed the fruits of repeated industrialization drives and a mathematics, physics, and chemistry research elite, but it never achieved technological parity with the United States, as indicated in the ultimate outcome of the space race.

This economic and technological superiority is alleged to have enabled the United States’ military advantage vis-à-vis the Soviet Union, ultimately deterring land war in Europe and bankrupting the USSR via costly arms races. Whenever the Soviet Union demonstrated any kind of material military lead—in number of tanks that could flow through the Fulda Gap, space launches, or the nuclear arms race, for example—America’s economic power and scientific prowess enabled rapid correction of these disparities through, for example, innovations such as: AirLand Battle and its constituent command, control, and communications and long-range strike systems; the industrialization of satellite production, control, and launch; and the massive production of nuclear warheads and delivery systems. America’s riches even permitted ill-considered military adventures across the Third World: while America’s Vietnam disaster was enormously expensive, it was perhaps not fundamentally taxing in the same way that the Soviet intervention in Afghanistan was. America’s economic and technological superiority is even alleged to have expedited the decline of the Soviet Union, whose outsized military spending prohibited

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* Geopolitical assessments of gross domestic product might also consider economic production across factions. The immense productivity of the United States, British Empire, Soviet Union, and France as compared to Nazi Germany, Japan, and Italy—or the North Atlantic Treaty Organization as compared to the Soviet Union and its communist allies—evidence the natural correlation between economic production and favorable military outcomes. That the United States cannot rely on most of its allies and partners in Western Europe and East Asia in any given conflict scenario with China and that the combined output of its most dependable coalition—which in addition to perhaps Australia, Japan, and Taiwan—does not so decisively dwarf Chinese economic production are thus apparently disconcerting.
more productive investment, thereby accelerating economic and ultimately political decline.

These are extremely stylized histories, of course, that are necessarily reductionist in their characterization of how economic and technological endowments shaped military power and thus geopolitical fortunes. If Nazi Germany was doomed to defeat by the United States because of the latter’s economic and technological superiority, how did the Third Reich achieve enormous military victories through 1942 over countries whose combined and, in some cases, individual economies surpassed its own in scale, productivity, and quality? The historical record reveals the criticality of Nazi Germany’s rearmament at the expense of civilian production, ruthless sequencing strategies, innovations in maneuver warfare, advanced (though not necessarily uniquely so) weaponry, and concentrated application of force—as well as the Allies’ ineffective political institutions, failures of collective action, geographic misalignment, inapposite force structure, risk aversion, and various materiel shortcomings—in these early victories over, and even in its later lengthy resistance against, the Allies.

While the outcome of the war was certain as long as the Soviets, British, and United States remained involved, that Nazi Germany conquered or subordinated most of Europe while imperiling two major empires is testament to the contingency of how economic and technological endowments translate into materiel advantage and military victory. This translation does not inherently occur without political, technocratic, and technical processes’ ensuring the production of materiel suited for conflict, including at the expense of civilian production. These processes failed the Allies in the lead-up to the war, as their greater collective economic and technological endowments did not generate sufficient and appropriate weaponry to compensate for fatal deficits in collective action, military strategy, and force development, at least until 1942. These failures suggest that economic or technological determinism does not so easily explain either Nazi Germany’s victories or its ultimate defeat.

The Soviet and post-Soviet experience is perhaps even more ambiguous as to the decisiveness of economic and technological endowments in military competition: whereas war demanded utilization of the Allies’ advantages in industrial capacity and technological innovation in the 1940s, the Cold War saw some of these Western advantages under-realized by comparison. By 1975, a decade of malinvestment, missed opportunities for structural reform, and productivity shortfalls downstream of Soviet planning and an unforgiving policy environment had essentially doomed the Soviet economy to decay. In the 1980s, this malinvestment, felt particularly acutely in an energy sector of diminishing productivity, falling oil prices’ increasingly negative effect on the Soviet Union’s balance of payments, and declining consumption attenuated Soviet state capacity and led in part to increased discord, political evolution, and centrifugal separatism. The US economy, by contrast, despite the double-dip recession of the early 1980s, grew consistently across the end of the decade; already substantially larger than that of the Soviet Union, its issues were ultimately managed through macroeconomic and financial adjustment—they were not so innately structural as to threaten regime collapse or limit foreign policy choices.

Across this entire period, however, the Soviet Union remained a robust geopolitical competitor of the United States, posing a military threat that never truly diminished. There is no doubt that, by the mid-1980s, economic ossification had limited the Soviet leadership’s confidence about the preservation of the Soviet empire in the face of by-then routine challenges on its periphery; perhaps it also drove the Soviet Union toward limiting its nuclear ambitions and prevented its military from achieving the technological feats that the United States accomplished in space and precision strike warfare. It did not, however, weaken the Soviet Union as a fierce military competitor: its threat to Western Europe throughout the 1980s...
was attenuated more by political transformation than by decline in military capability. The USSR retained, thanks to its huge inventory of strategic and nonstrategic nuclear weapons, tanks, artillery, motorized and mechanized infantry, and attack aircraft, some degree of military overmatch even in the dying days of its empire, and some of the military platforms produced in this period, e.g., the Blackjack and Akula, were in many ways superior to their American counterparts at the time.

The Russian military, despite the tribulations of shock therapy, the loss of the Soviet periphery, and the imbalances of the Putin economy, would eventually develop the space-based targeting and precision strike capabilities that the United States achieved in the 1980s. Today, the Russian military maintains an impressive nuclear arsenal as well as proficient capabilities in long-range strike, artillery, tank and antitank, counterair, cyber and electronic, and subsurface warfare. It threatens conventional overmatch in areas of Eastern Europe in much the same way that China does in the Indo-Pacific, albeit to an admittedly lesser degree. While Russia’s recent military tribulations in Ukraine—especially where its difficulties are downstream of poor planning, deviation from doctrine, misbegotten political objectives, self-circumscribed combat power and rules of engagement—suggest its military’s weakness, analysts should be careful not to minimize the capability of the total Russian military, especially in a scenario that doesn’t require conquering large swaths of territory.

The Russian military is not a global military power and is unlikely to be one in the near future, it retains and more critically uses military power to accomplish its geopolitical aims—all this despite being a petrostate with a stagnant economy constrained by Western sanctions. Russia’s modern military prowess and geopolitical power has, or should have, taught us that the connection between economic growth and military power is more tenuous than has been suggested by diminutives like “gas stations with nukes,” “rogue but not peer,” or “near-term threat.” Russia will a substantially capable military in the future, and, while it cannot match US or Chinese military spending, its prioritization of military spending, focused force design, risk acceptance, and aggression ensure that it is by no means overmatched in theaters of mutual interest.

Obviously, these caveats do not inherently falsify the intuition that superior economic and technological endowments will deliver military advantage in the US-China competition. They do, however, suggest that the translation of economic and technological endowments into military advantage is substantially more precarious than this lore suggests. A complete refutation requires explanation as to why this is the case: in particular, given their endowments’ effects on public finances, defense industrial base capacity, and technologies applicable to weapon systems, why are the US and Chinese economic and technological endowments—today or tomorrow—unlikely to furnish either a significant or lasting materiel advantage?

The Impact of Macroeconomic Endowments on Military Advantage

This rebuttal must begin with an account of how the development, manufacture, procurement, and maintenance of advanced weaponry used by the US and Chinese militaries—and the financing of each—actually operate within their broader economies and technology ecosystems. The first distinction to be made is just that: the production of military equipment is not enabled by or separate from the greater, civilian economy—it is a subset of productive activities and commercial interactions within a boundaryless economy. This may appear to be a pedantic detail, but it is critical to appreciate.

The economy is a metonym for trillions of productive activities and commercial interactions. It is less a coherent organism within a society than a particular sociological lens, that of production and commercial exchange, through which we view all human relations. The mining of iron, smelting of
steel, production of fuel, manufacture of explosives, design, engineering, and integration of guidance systems, engineering and production of the chassis, wings, and engine, and amalgamation of each in the manufacture of a Tomahawk cruise missile, for example, consist of millions, if not billions, of “economic” interactions across tens, if not hundreds, of industries. Namely, the design and fabrication of just this missile, across each link of its supply chain, require: hiring and paying of labor; raising capital and investing; procuring material inputs, technological inputs, and manufacturing equipment; executing production processes; complying with relevant laws and regulations; managing long-tailed logistics; submitting proposals; negotiating and consummating contracts; and of course providing and receiving remuneration.

The government’s financing and consumption of this missile are similarly networked. Following appropriations from Congress, funds are allocated in general accounts for each agency to use for specific purposes. These are further allocated to activity-specific accounts within the Department of Defense, including those relevant to the procurement and sustainment of this missile, managed directly by comptrollers and contracting officers, and dispensed via Wide Area Workflow pursuant to contractor invoices. These funds are generated in the higher accounts by and with oversight from the Treasury, which manages the federal government’s accounts along with its management of the government’s larger balance sheet with the Federal Reserve. On the financing side, the Treasury collects taxes, realizes seigniorage through the generation of US dollars, and issues bonds, bills, and notes to make up the difference between its revenue and its expenditure.

The production and consumption of military equipment are then inherently economic functions, distinct from other productive and consumptive market activities only in the sense that they involve a monopsonist government customer and that purchases are funded via politically determined appropriations and the generation of federal funds (vice private firms’ raising of capital or recycling of profits).* This is not to suggest that government-dominated markets do not exhibit unique characteristics in market structure, competition, and pricing equilibria: it is merely a recognition that the government is in fact a consumer in most markets and that its consumption functions as a part of aggregate demand—not as a separate force otherwise enabled by productive market activity.

When conceived of in this way, it is clear that the broader economy and technological ecosystem do not independently resource, nourish, or provide for military acquisition, precisely because they are in part comprised of such acquisitive activities. Among the most immediate consequences of assessing military expenditure in this way—as demand within the economy—is that only under extreme conditions is military production mechanically limited by macroeconomic constraints. This is perhaps the most profound misconception that afflicts the debate over military spending, in which binding constraints associated with the federal deficit, the national debt, and the ability of the economy to service such debt—as captured in proportions of proposed expenditure to gross domestic product—are used to justify limiting government expenditure. These constraints putatively limit the policy space for military and domestic priorities, thrusting them into rivalry: doves cite displaced domestic investment priorities as reason for cutting military spending, while hawks occasionally argue for cutting domestic priorities and focusing government expenditure on providing for the national defense.

In reality, however, political constraints, rather than economic ones, limit government expenditure on military and nonmilitary priorities. This is not to imply that macroeconomic factors are

* This argument, incidentally, is not unique to the acquisition of materiel. It also applies to the raising of forces, for example: the recruitment, management, training, and retention of enlisted and officer personnel are activities that exist within a larger labor market. The development, and even deployment and employment, of forces are all “economic activities” that are less enabled by the larger economy than they are constituents within it.
irrelevant to military expenditure. They are not, but they shape funding allotments largely through political processes in which policymakers balance imperatives related to: national security requirements, the public finances and the government's fiscal reputation; the sources of funding for military expenditure and their effect on the economy; and the economy's production mix and its consequences for social well-being. Only in extreme circumstances—typically during wartime, when military output asymptotically approaches total economic capacity, government credibility faces existential stresses, and government financing becomes increasingly heterodox—do factors relevant to public finances and total productive capacity reveal themselves as strict constraints on military expenditure and production.

Recent Portuguese governments, for example, have opted not to reclaim their country's historical legacy of naval supremacy through the development of a five-hundred-ship navy because doing so would require: enormous credit, which would jeopardize fiscal assistance from the European Union and for which there is unlikely to be enthusiastic international supply; financial repression, which would immiserate domestic savers; debt monetization or greater currency issuance, which would induce inflation and incur sanctions from European ordoliberals; and substantial redirection of public and private finances, labor, and material resources toward naval construction, which would diminish Portuguese production of goods and services for which there is ready demand, thereby impoverishing its citizenry. These consequences—as well as censure and countervailing policy from the European Union, International Monetary Fund, and European Central Bank—function as effective constraints on Portugal's ability to generate and sustain a world-class navy.

Decisionmakers in the United States and China, however, enjoy substantially more macroeconomic latitude than their Portuguese counterparts because of their countries’ greater wealth, their economies’ enormous productive potential, their governments’ colossal borrowing capacity, and favorable macroeconomic conditions. These endowments permit their generation and sustainment of substantially larger, more capable, more expensive, and more input-intensive militaries than countries with smaller economies without suffering significantly elevated interest rates, inflation, trade-offs in civilian production, ruinous taxation, and financial repression. To what end, though? Exponential military expansion would inevitably incur such problems, thereby forcing policymakers to resort to draconian measures, and thus ultimately exhaust itself. These consequences are, however, unlikely to manifest under nearly all conceivable permutations of military expansion for both the United States and China.

Expansion is unlikely to run up against economy-wide capacity constraints, for example, because each’s current military expenditure accounts for a modest fraction of its total output, well below historic peaks and precedents. The FY2021 Defense Appropriations Act provided $136.5 billion for US Department of Defense procurement, which equates to roughly 0.6 percent of US total output in 2022, with total military spending amounting to roughly 3 percent of gross domestic product. China’s published defense figures are unreliable, but Jacqui Deal estimates that it will spend roughly $120 billion, with purchasing power parity and other adjustments, on military procurement in 2022, which equates to roughly 0.4 percent of China’s total output in 2022 with purchasing power parity adjustments, with total military spending, depending on the figure chosen, amounting to 1–2.5 percent of gross domestic product. Historical experience suggests that both economies could accommodate, in terms of total productive capacities occupied by military production, doubling or tripling of procurement (or military expenditure) without experiencing macroeconomic capacity constraints. That is to say, each economy has sufficient capital, labor, technology, and material inputs to double or triple military procurement (or production) without approaching a binding asymptote across any of these factors, e.g., exhausting the labor supply.
In comparison to exceeding economy-wide production, a deterioration in borrowing reputation, tighter financing conditions, increasing interest payments, and broad-based inflation are more likely risks. These are the macroeconomic hazards most frequently associated with greater military procurement, but their practical significance is ultimately quite modest, largely because US, Chinese, and global macroeconomic conditions are currently highly accommodative of greater public expenditure and public borrowing. There are many reasons why this is the case today and why such favorable conditions are likely to persist in the future.

Larry Summers, Paul Krugman, Olivier Blanchard, Brad DeLong, and other economists argue persuasively that the West is tormented by persistent shortfalls in aggregate demand and therefore low growth.54 This can be attributed to a variety of causes, including society-wide aging, increased inequality, savings gluts abroad that reduce export demand, retarded technological change and productivity growth, changes in consumption patterns, persistently weak labor markets born from technological change, consistent financial distress, trade imbalances, poor macroeconomic policy, and neoliberal policies that have increased foreign competition and reduced government investment and labor power. Whatever the proximate reason, these deficiencies encourage deflation, induce higher levels of unemployment, and mechanically decrease interest rates economy-wide by generating an output gap and a surplus of savings over investment. Each of these in turn creates policy space for increased government expenditure, including deficit-financed expenditure, such that the government stimulates the demand for labor, meets its inflation target, avoids hysteresis, and exploits low rates of interest on its debt.

While these arguments were first developed as a refashioning of traditional Keynesian arguments for stimulative government spending during the Great Recession,* they remain broadly applicable over the medium run today, our current bout of inflation notwithstanding. This explains why Summers, among the most strident critics of the Biden administration’s demand-focused stimulus, is a champion of deficit-financed infrastructure development, investments in the social welfare programs, and spending to ensure military superiority. These long-term investments are allocated over extended time horizons and through channels that only indirectly affect private consumer demand.** They thus have a limited inflationary effect; in fact, to the extent that such investments increase capacity and productivity, an effect most relevant to infrastructure development, they are likely to be deflationary in the long run.

While Summers and other deficit-shy Keynesians have raised concerns about the irresponsibility of deliberately

* Even some neoclassical economists such as Tyler Cowen and Karl Smith, historically suspicious of government interventions in markets, have become increasingly indulgent of government deficits as a potential means to rebalance aggregate demand, address productivity shortfalls, and ameliorate structural defects in the modern macroeconomy for many of the same reasons that motivate their more Keynesian counterparts.

** While America’s military expansions during the Korean and Vietnam Wars contributed to substantial inflation in the 1950s and 1970s, military spending was substantially elevated (in gross domestic product terms) as compared to what is proposed today, and other factors that contributed to each inflation—limited capacity in consumer production, World War II-era production mix, greater unionization, cost-of-living clauses in contracts, oil supply shocks, the new Great Society programs, a non-credible Treasury Department and Federal Reserve, and demographic spikes—are absent today.
expanding the deficit and delaying reforms to the funding of social insurance programs, they have generally avoided prophesying about a looming debt crisis, especially one downstream of increases to discretionary spending, which are ultimately dwarfed by permanent imbalances in funding for nondiscretionary redistribution programs. In general, the possibility of a debt-induced financial crisis is increasingly viewed as fanciful, especially as market interest in government debt appears so high and interest rates on government debt, which are more a function of the Federal Reserve’s policy rate, are so low. Furthermore, such crises are historically as much a result of political instability and institutional crisis as they are of economic profligacy, and America’s institutional credibility, at least on this very narrow count, remains largely intact.

Though some elements of these secular stagnation arguments are inapplicable to China, others are incredibly relevant: in particular, those surrounding demographic change and inequality. Malthusian policies, increasing access to contraception, low levels of immigration, and development-induced cultural change have attenuated birth rates substantially over the past few decades, with the result that China’s overall and working age populations are now decreasing. This evolving demographic profile mechanically depresses consumption and increases saving society-wide by diminishing incentives for investment, decreasing production and thus income, and driving household incomes toward retirement savings. China’s statist, mercantilist, and investment-driven economic model has aggravated this depressed consumption by directing resources away from households and toward export industries, corporate investment, and the state sector. This functions to channel resources toward military production and away from private consumption.

The secular stagnation hypothesis is, however, but one structural macroeconomic explanation as to why the United States and China can undertake greater public borrowing for and expend more resources on military procurement. Some post-Keynesian economists, like Thomas Piketty, Richard Koo, and J. W. Mason, are even more adventurous in their arguments for greater borrowing and public expenditure, averring that, because governments can raise taxes, issue long-term debt, and even monetize or cap the interest that they pay on such debt, they have unique advantages over corporations and households, which face more binding constraints as to their debt-carrying capacity. As a result, they variously argue, governments can spend aggressively to pursue domestic priorities and can in general be a net borrower from the public. Deficit-financing this spending is not only feasible but economically optimal, especially if the economy’s growth rate is greater than the rate of interest paid on the debt, in which case debt servicing costs are by definition capped as a percentage of economic production. This condition is met for both the United States and China. A corollary to this “r < g” argument is that their extremely modern economies are so large, diverse, and productive that they can easily accommodate further government expenditure, whether by furnishing more tax revenue or simply by producing more in response to increased government demand.

The functional finance and modern monetary theorists go even further, arguing that the principal constraints on government spending are the productive capacity of the economy and inflation. (This logic is to some extent reflected in standard New Keynesian models as well.) Traditional conceptions of the government’s budget constraints, they aver, are misguided, as governments can finance their spending, debt, and interest payments through further issuance, growth, inflation, or—more radically—currency issuance, central bank monetization of debt, and financial repression, where doing so poses minimal risk of spiraling price increases. This inflation risk can be managed by taxation or interest rate policy and is in any case modest because of generally weak demand, supply gluts, and globalized supply chains, an argument echoed by a number
of classically trained and heterodox economists unsatisfied with traditional monetarist or expectations-based theories of inflation. Some advocates of functional finance and modern monetary theory even allege that the United States’—in the Federal Reserve’s fiscal dominance—and China’s—in its heterodox financing of economic stimulus, infrastructure, industrial policies, its still meager social safety net, and military modernization—macroeconomic management are already reflective of these principles. As descriptions of reality, these are somewhat tenuous arguments, but their reasoning and critiques accurately suggest the greater spending potential of each country.

Financial economists Gary Gorton and Ricardo Caballero, meanwhile, make a related argument that, while capitalism’s inexorable advance has multiplied the total supply of savings and capitalized assets, the world faces an acute shortfall in assets deemed “safe,” such as advanced economy government debt. The ubiquitous shortfall of these safe assets as compared to demand, which is informed by investment preferences, regulations, and these assets’ use in global financial transactions, depresses the rate of interest paid on such debt, inviting more issuance to meet market demand and to ensure financial stability. This argument is linked to that of the Triffin dilemma, which asserts in reduced form that the global reserve currency is that which nations most want to hold, meaning that the prices of the dollar and related Treasury assets are higher (and yields are lower) than they otherwise would be, ultimately leading to a trade deficit.

An expanding body of empirical and theory-based research corroborates the “safe asset shortage” hypothesis and further identifies that, contra traditional public finance models and narrow microeconomic models, the size of a government’s deficit or debt burden is not the most substantial driver of the price of its debt. According to this research, central banks’ policy decisions, broader demand for such debt, inflation expectations, demographics, the exchange rate, and institutional maturity are the more powerful determinants. This is extremely visible in the current market for government debt. As of December 2021, the yield on a ten-year Treasury is 1.52 percent. With inflation adjustments based on the ten-year Treasury Inflation Protected Security, its real yield is −1.00 percent. In effect, investors will pay the US government to issue debt, a market signal encouraging the state to borrow. The yield on a ten-year government bond in China is slightly higher at 2.8 percent, with positive real yields based on China’s official consumer price index. Government borrowing is therefore perhaps less of a free lunch in China, though China’s high growth rates suggest that deficit-financed investments are still almost unfailingly profitable.

Of course, current yields are imperfect predictors of future yields, inflation-protected securities aren’t particularly effective predictors of future inflation, and substantial demand for government debt is no guarantee of continued demand or of a government’s solvency. As Rudi Dornbusch said, “The crisis takes a much longer time coming than you think, and then it happens much faster than you would have thought.” Still, central banks’ roles in regulating interest rates, the structural factors identified above, the lack of a clear and anticipatable precipitant for a debt crisis, the United States’ centrality in global finance and history of seeing investment inflows during periods of financial dislocation, China’s heavily controlled capital markets, and historical experience of government debt crises—often precipitated by political collapses or sudden stops in capital markets—suggest that neither the United States nor China is likely to be subject to a crisis in government debt.

The results of these concatenated arguments are that the United States and Chinese public finances can accommodate more deficit-financed expenditure and that macroeconomic conditions may even invite more debt generation and public expenditure, especially in economies operating below capacity. The repercussions that have historically constrained
the amount that the government could reasonably deficit-finance and spend—namely, higher government interest payments on its own debt, increased interest rates that discourage private sector investment, government spending’s crowding out of private investment, inflation born from fears of the government’s inability to repay its debt, and the inability of the economy to generally support government borrowing—appear to be less relevant today than they ever purportedly were, the United States’ current broad-based inflation notwithstanding.

These favorable conditions are not guaranteed to persist forever, of course, though they are likely to continue over the medium run or for as long as the current fiscal regime remains intact. Prognostication beyond that is folly; analysts can only rely on the contemporary indicators available to them and their best guesses as to the trajectory of long-term structural features. Those drivers identified above, e.g., the depressing effect of demographic change on interest rates, are fundamental to the hydraulics of the global economy and show little sign of caprice or imminent evaporation. To compellingly argue otherwise, one cannot simply gesture at the potential impermanence of these accommodative structure features: she must also demonstrate the precipitant of and mechanism by which they are likely to change. Absent that, there is little reason to think that the secular stagnation argument and its associated corollaries and cognates have limited explanatory power in the long run.

With the mal-effects of additional government spending minimized, the economic trade-offs between government spending on defense and non-defense goods, the allegorical guns and butter, recede. Both the US and Chinese governments can undertake substantial military expansions without worrying about the accompanying debt, requiring budget cuts elsewhere, or concerning themselves with deficits. The more relevant consideration for government spending is whether it is pro-social and productive. Where government spending yields bridges to nowhere, inflationary or import-heavy consumer spending, and ineffective military platforms that redirect physical and financial resources away from more productive causes, it is deleterious because of these opportunity costs. Where it builds wealth, enables more economic activity, or effectively provides for public goods, it is necessarily salutary.*

Historian Adam Tooze makes this argument persuasively in accounting the costs of twenty years of the global war on terrorism. In his estimation, the costs of such a war were not the $5.5 trillion that could have otherwise been spent on infrastructure, education, or the construction of a Nordic-style welfare state. As the United States could have afforded to do both, the case for military spending’s crowding out these domestic priorities, as outlined in Joe Stiglitz’s and Linda Bilmes’s Three Trillion Dollar War, is relatively weak. The real costs, in Tooze’s estimation, were the literal lives lost, the political and social losses downstream of the construction of a wartime state organized around antiterrorism, and the political prioritization of America’s modern crusades over the economic interests of its own people.

Tooze offers elsewhere that defense hawks will see the substantial fiscal space available to the United States government as an opportunity for right-wing Keynesianism. As they should: if geopolitical rivalry is to be prioritized, the fiscal possibilities available to the governments of the United States and China, underwritten by economic realities, can be leveraged to expand their military capabilities. That both the United States and China can afford to spend substantially more on their militaries—potentially in the trillions of US dollars, with or without cutting domestic spending—suggests, however, that these macroeconomic indulgences are unlikely to supply to either a clear military advantage.

* The classic heuristic here is whether the fiscal multiplier of such spending is greater than 1, though this is a limited test for defining the worthiness of government spending.
Without substantial countervailing costs or trade-offs, one’s increased military spending can be matched by the other.

This reasoning is, of course, not universally extensible: either the United States or China likely has greater theoretical capacity to procure military equipment—whether born from its superior total capacity, its productivity, the health of its public finances, its ability to borrow in international markets, its capacity to handle inflation pressures, or its institutional reputation—because, at some level, it has more purchasing power and is less vulnerable to the macroeconomic consequences that function as constraints on military mega-expansion. It is not immediately obvious which state enjoys such a hypothetical advantage. By most credible estimates, neither economy is or is expected to be—say, for example, by 2050—larger than the other by 50 percent.65 Such narrow margins in total production are unlikely to reflect a decisive advantage in macroeconomic capacity that can be directed toward production of military goods, especially given variations in the composition of US and Chinese production. Furthermore, gross domestic product is not necessarily reflective of the actual variables of significance: total wealth, productive capacity, likely inflation pressures, government borrowing capacity, or the effect of expanded military expenditure on civilian production.

In any case, as long as military production remains at a level below that where the most problematic consequences appear, the US and Chinese macroeconomic circumstances will permit, rather than constrain, such production. Where this is the case and political constraints limit military production more than monetary, financial, or economy-wide productive constraints, neither nation’s economy offers a unique advantage that can be exploited to gain a decisive military edge in the Indo-Pacific.

The Impact of Microeconomic Endowments on Military Advantage

But what of their microeconomic endowments—the defense industrial bases and their constituent firms, labor forces, capital equipment, and material and technological inputs? Do these more unequally advance or constrain defense production, thereby affording to either the United States or China a pivotal military advantage?

Keynes famously made the argument in 1942—when he asserted in a wartime address on BBC that “anything we can actually do, we can afford”—that the availability of material, technological, and labor inputs, rather than money and finance, is the binding constraint on production and consumption.66 While he was discussing the prospect of post-war reconstruction in England, Keynes’s reasoning can be soundly applied to the production of military equipment. Money and finance facilitate the coordination of inputs and outputs within the economy but are ultimately independently generated by public and private actors. To the extent that they limit production, they do so by undercutting the combination of these material, labor, and technological inputs and limiting the realization of the full productive capacity of society. The real constraints on production of weaponry are the material, labor, and technological inputs, organized and fabricated via firms and production processes, that actually generate advanced weaponry.

These constraints are microeconomic rather than macroeconomic in nature, because, in nearly all scenarios short of war, military demand is not so substantial as to require reorientation of the entire productive capacity of the economy to support military production. Demand may, however, increase substantially as the United States and China seek to...
achieve a decisive edge in the military balance in the Indo-Pacific. In which case, the finite capacity of the select firms, factories, shipyards, supply chains, mines, and transportation systems that comprise or support their defense industrial bases may constrain meeting of such demand, especially on a weapon-specific basis.

The predictable results of this increased procurement would be inflation, shortages, and labor scarcity across different weapon system supply chains, though the substantial capacity, diversity, and global connectivity of the US and Chinese economies would inevitably mitigate these maladies to some extent in the short run, enabling utilization of available labor and capacity, redirection of labor and capacity in other industries, and foreign sourcing of relevant inputs while limiting the extent to which defense-specific bottlenecks produce general inflation or affect other production processes in the economy. The extended timelines of military planning and procurement processes would also limit the effect of substantially increased military spending in producing inflation, shortages, and labor scarcity, especially economy-wide. Perhaps most importantly, the microeconomic constraints generating these maladies would not necessarily be binding in the medium run. Investment, whether driven by market-driven price adjustment or industrial policies, could address relevant supply bottlenecks and expand the defense industrial base’s overall productive capacity, thereby enabling the equilibrium of supply and demand.

An illustrative example of such microeconomic constraints is the US government’s procurement of submarines. If the Department of Defense fully realized the immense military value provided by its undersea superiority and therefore sought to expand procurement of Virginia-class submarines, the submarine industrial base would face immense difficulties in meeting substantially distended demand on short timelines. The relevant constraints here are myriad: the number of integrators, currently limited to General Dynamics Electric Boat and Newport News Shipbuilding; the number and physical capacity of their shipyards; the number of sufficiently trained supervisors, engineers, logisticians, welders, and shipwrights at these shipyards; the physical capacity and labor of firms that develop key subcomponents like naval reactors and propulsors; and the production and acquisition of specialized materials used across the submarine.

With sufficient resourcing, the government and its leading firms could expand capacity across each of these areas by: inviting new firms into the ecosystem; expanding the size of existing shipyards; establishing new or acquiring other shipyards; displacing non-submarine production at existing shipyards; raising wages; expanding hiring and training programs; and expanding sourcing, development, engineering, and fabrication activities for key subcomponents and materials across the supply chain. While certain regulatory frictions, labor market frictions, and the physics of the business world would inevitably constrain expansion of production in the short run, over a ten-to-fifteen-year time period, the relevant microeconomic constraints might be relaxed.

This investment, of course, would not be costless. While its fiscal costs would, as has been demonstrated, likely be tolerable, the distortions that the deliberate redirection of resources might yield could prove injurious to the economy. Overinvestment in defense-specific capacity, changes to the structure of the economy, and redirection of fixed quantities of production inputs could reduce the net productivity of the economy, reduce capacity in sectors that support consumer goods and services, and inform the development of analogous bottlenecks in other sectors. The experience of the Nazi economy in the 1930s and 1940s, as documented authoritatively in Tooze’s *The Wages of Destruction*, reveals the potential perils of massive investment in productive capacity for weaponry.

While the Third Reich managed to creatively finance its spending in the face of its increasing reputation for fiscal
irresponsibility and its balance-of-payments constraints—including through the issuance of off-balance-sheet bond equivalents and the harvesting of resources through confiscation, taxation, financial repression, and forced charity drives—it faced arguably more substantial difficulties in reorienting the real productive inputs of the economy toward military goods. This required tyrannical economic management and ultimately immiserated the German people enormously by redirecting material inputs like wood, oil, rubber, and steel toward military end-items, attenuating production of a host of commercial goods, and forcing rationing across the economy. The Nazi economy was a war economy nearly from the outset of the regime, and the dislocation of consumer-centric production and consumption were the real economic casualties of this character.

The United States economy, it should be noted, did not suffer such severe dislocations from 1942–1945, as its wartime economy took hold. In fact, according to J. W. Mason’s and Andrew Bossie’s research, the extremely low unemployment produced by massive government investment and spending arguably improved the economic well-being of most Americans. While rationing was necessary to ensure that the needs of military production were serviced, civilian consumption actually increased every year of the war except 1942. This consumption shifted away from durables like cars, whose factories were producing engines and chassis for military purposes, and toward services and nondurables. Still, the postwar collapse in military procurement resulted in substantial dislocations as production rebalanced toward consumer goods: a great deal of investment, necessary for the defeat of Axis tyranny, was revealed to have been largely inappropriate for peacetime.

Increases in military procurement across the US and Chinese economies short of war are unlikely to precipitate evolutions or distortions of this sort or scale. Even during conflict, depending on its specific locus and timeline, comparable dislocations are generally implausible, because both economies are much larger, more heterogenous, better capitalized, and more open to foreign trade than their World War II analogues. That is not to suggest, however, that each will accommodate increased government demand for advanced weaponry without great difficulty or cost. There is likely to be a great deal of variation across weapon system supply chains, with the scaling of capacity and production processes for some materiel engendering substantially greater costs and economic distortions than the expanded manufacture of other equipment. The productive and real input constraints that limit such expansion, absent or even with investment, are potential sources of microeconomic advantage for both superpowers. To the extent that the set of constraints that one faces is less constrictive than that faced by the other, the advantaged nation can exploit such latitude to expand its military production at greater speed and at lesser cost, thereby deriving an edge in the materiel balance.

Each country’s industrial base and its constituent firms, labor forces, capital equipment, and material and technological inputs confer different advantages along these lines. The United States’ aerospace industrial base—including that specific to military air and space systems—is more mature and capacious than its Chinese counterpart, and China’s shipbuilding capacity—including for many types of warships—exceeds that of the United States, for example. These permit the United States to generate more advanced fighters, bombers, and intelligence, surveillance, and reconnaissance aircraft and space systems than China can, and they permit China to expand its navy faster than the United States can, thereby affording to each an advantageous starting position for the production of select weapon systems.

They also reflect each state’s larger industrial advantages. Since the apogee of its industrial power in the 1950s, US manufacturing of automobiles, machine tools, furniture,
household appliances, and many other categories of commercial goods has suffered relative decline. Its monopoly in the production of integrated circuits, computers, phones, and other information technology has similarly diminished since the 1970s. Though the United States retains substantial production in these goods, technology-intensive production processes, foreign competition, a more forgiving policy environment, and the operations of the financial industry have driven its production mix and labor force toward intellectual property generation and services. Still, as the world's most advanced economy, the United States and its constituent firms excel in technology- and automation-intensive design, engineering, and manufacturing, especially of complex systems like aircraft and satellites, where other countries and their comprising companies lack the high-end labor force, the scientific expertise and know-how, the wealth and investment capacity, and the demand to effectively compete. Such advantages would facilitate expansion of the military aerospace industrial base by permitting aerospace, aerospace-adjacent, and other high-technology firms, workforces, and even manufacturing capabilities to reorient their plans and operations in response to greater government demand. While constraints on material, labor, and resources would affect these firms at some margin of expansion, US advantages in current allotments, available workforce, mature production processes, and excess capacity would enable the industry's initial growth, thereby encouraging new firms to enter the aerospace industrial base and existing firms to expand capacity and take up new military product lines.

Concurrent with the United States' regional deindustrialization was China's enormous and rapid urbanization, investment, and industrialization, which has resulted in the development of enormous manufacturing mega-complexes, the maturation of its firms and their production processes, and the cultivation of a highly capable industrial workforce since the 1980s. Chinese firms excel in production at scale, enabled by its: capital megaprojects; willingness and ability to direct resources to capacity expansion; large quantities of low- and high-skilled workers, engineers, and managers; direct state support; indulgence of environmental degradation; suppression of labor interests and pay; occasional anti-competitive behavior; and illiberal pragmatism. China's shipbuilding industry has thus rapidly enlarged over the past thirty years, exploiting the nation's general faculties for medium-technology design, engineering, and large-scale production as well as the specific advantages derived from its rapid construction of shipyards, abundant naval engineering workforce, and overproduction of steel. These advantages support China's current expansion of its navy and can be expected to do the same for future builds: while some of its civilian shipbuilding infrastructure, workforce, and manufacturing equipment are inapposite for military production, a great deal clearly could be exploited for naval production, limiting the extent to which supply constraints would hamper the realization of increased military demand, at least when compared to the United States.

Productive endowments beyond each state's industrial bases suggest other notable advantages. China, for example, appears to have more scientists, engineers, programmers, and mathematicians in its larger labor force, likely enabling on the margin some expansion of its defense industrial base, though it is not obvious how consequential this disparity really is. The United States, meanwhile, has more diverse natural resources generally, is less dependent on energy imports, and is less reliant on imported materials and minerals, providing to it some insurance in case foreign supplies are cut off. While China has notoriously invested a great deal in petroleum production and mineral processing, shortages in the raw materials themselves could hamper its defense production, especially in wartime. The same is of course true of the United States' comparative deficits in rare earth metals refining capacity—as well as other dirty or low-margin functions across the economy—which could hamper military production in a contingency, though such deficits can be corrected more easily than material shortfalls. Production of advanced inputs like semiconductors...
would be more difficult to scale in a contingency, given the capital intensity, need for educated labor, and complexity of their fabrication, though both economies are well endowed with manufacturing capacity below the leading edge.

Ultimately, however, each of these apparent advantages can be addressed through concerted policy and greater investment. China can pour more resources into its aerospace industrial base, expanding the factories and workforces used to generate relevant equipment and increasing procurement of foreign-sourced components, thereby incenting investments in capacity abroad. The United States can increase its population of engineers through larger or more effective upskilling programs, its capacity to refine rare earth metals through industrial policies, and its shipyards through reforms to environmental regulation and construction processes.

The critical lesson here is that economies can be subordinated to geopolitical requirements, and what we conceive of as economic constraints are typically not all that inflexible or permanent. Where such policies and investment are costly—to the government’s balance sheet, nonmilitary firms, or consumers and through inflation, suboptimal investment, dislocated production, or other distortions—they may still be worthwhile in terms of their benefits to the military balance in the Indo-Pacific. But this is a political, rather than an economic or a technocratic, determination. While some constraints are indeed rigid—as Keynes noted, the availability of material and labor inputs may limit production of military systems, and the productive potential of the economy limits total military production and the government’s purchasing power—the margin at which these reveal themselves is such that they are essentially irrelevant during peacetime. Expanded military procurement is therefore eminently feasible in the cases of both the United States and China, because both countries have the fiscal capacity and production mix to support it and can alleviate persistent bottlenecks through investment.

Advantages may still ultimately emerge from each nation’s ability to absorb increased government demand and investment. To the extent that such demand and investment generate useless productive capacity, decrease the overall productivity of the economy by increasing production of low-margin goods, diminish productivity elsewhere in the economy by commanding or redirecting inputs, and generally impoverish the population in each economy, each economy’s—or political system’s—capacity to mitigate these afflictions could be a substantial advantage. The rough parity of the two economies across several dimensions, including total size, structure, and positions within the global economy, however, suggest comparable capacities and roughly commensurate pressures within their productive systems, limiting the extent to which either maintains a clear advantage on this count.

China’s political system, it should be said, likely offers some advantages in addressing these pressures, affording to it speed of action and tyranny of response, though China suffers political constraints, state capacity limitations, and imperfections in its governance as well. These advantages, however, may not be realized, depending on the character of a potential US-China conflict. In a short, limited, conventional war, prepositioned forces and materiel and theater are likely to be decisive; in a war with limited or ubiquitous nuclear employment, each military’s growth potential is of similarly constrained importance. In both of these scenarios, industrial base capacity matters to the extent that it produces usable forces (likely in advance of conflict) that are deployed on relevant timelines to the western Pacific. However, in an extended, total war with China—a contingency about which few appear to willingly contemplate—the size, potential, and resiliency of each country’s industrial base may prove pivotal.

The Impact of Technological Endowments on Military Advantage

Most of the above analysis—concerning the ability of the US and Chinese governments to procure, and their economies
to produce, military equipment at sufficient scale to decisively affect the military balance in the Indo-Pacific—is specific to military mass. This is because quantitative advantages are of principal importance in warfighting, a reality that the American defense establishment, enamored of technology, occasionally loses sight of.\textsuperscript{70} Still, technological advantages in platforms, sensors, munitions, and communications systems are key contributors to the military balance in the Indo-Pacific, where performance advantages across such weaponry enable more effective detection, identification, tracking, targeting, and destruction of adversary systems.

How does each country’s technological maturity then affect the development and maintenance of its military? Much as military production is a subset of overall economic activity, military-relevant technology is a subset of overall technology. Technological development across various disciplines and sectors informs military end-items, both directly through the development of subcomponents, end-items, and processes with clear military value and more indirectly through the refinement of scientific understanding and improvement of manufacturing technologies and techniques, for example. Advanced economies are therefore more capable of producing technologically advanced militaries, as the scientific accomplishments and industrial processes of the former enable the development of the latter. It is no coincidence, then, that the militaries of the United States, China, Israel, Russia, South Korea, and Britain, among the most technologically advanced countries on Earth, are among its most capable.*

The translation of technological prowess into military strength occurs via a number of mechanisms. First and most obvious is the direct production of military platforms, sensors, munitions, and communications systems. The defense agencies, universities, and industrial bases of technologically advanced nations are themselves highly sophisticated, capable of developing and producing leading-edge weaponry. They benefit from institutional advantages in academia, labor force quality, and position within the broader technological ecosystem, which ensure their own technological superiority and enable their development of exceptional weapons.

Second, labs, firms, and individual scientists in advanced economies routinely refine our basic scientific understanding and engineering knowledge, enabling development of technologies that benefit from our increased comprehension of physics, chemistry, biology, mathematics, computer science, and engineering. An obvious example here is historical increases in military engine efficiency, which have proceeded in each generation from our greater appreciation of chemical combustion, thermal efficiency, and engine design.

Third and analogously, improvements to manufacturing technologies and techniques—whether more precise machine tools, more automated or roboticized manufacturing processes, or entirely novel fabrication methods like additive manufacturing—inevitably translate into improved military production even if these technologies and techniques are born from civilian manufacturing. These improvements are both qualitative, allowing for more precise engineering, processing, and assembly, and quantitative, allowing for such at greater scale.

Fourth, where technological maturity yields civilian or commercial innovation, that innovation can at times be harnessed for defense applications. This is the focus of the Chinese Communist Party’s much-ballyhooed Military-Civil Fusion policy, under which commercial firms and technologies are to support military development and production processes, as well as various initiatives undertaken by the Department of Defense and Intelligence Community to bridge the divides
between the commercial and national security worlds. These include the Defense Innovation Unit, the National Security Agency’s Commercial Solutions for Classified program, and the Defense Advanced Research Agency’s Electronics Resurgence Initiative.

Fifth, mature technology ecosystems, comprising leading universities, national laboratories, and corporations, continuously develop a technologically capable workforce of scientists, engineers, and even managers and laborers. This population flows across civilian and defense sectors, generating spillovers via the application of knowledge developed in non-defense environments to the development and production of military equipment.

And finally, advanced technology ecosystems consistently generate new firms that support or comprise the defense industry, encourage the diminution or exit of less productive firms across the defense industry, and even institute new sectors and product markets that drive defense procurement programs, processes, and policies. A classic example of this is the impact of the American software industry on the Department of Defense’s acquisition activities since the mid-1990s. As software has eaten the world, it has: forced evolution in the defense industrial base, impelling firm entry and exit, especially at its lower tiers; changed how weapon systems are developed by traditional and nontraditional firms; and even changed how the Department procures such systems.

Across each of these areas, the United States retains key advantages as the global engine of scientific growth and technological innovation. The United States has the preeminent research university system in the world and is the preferred destination of talented scientists, engineers, managers, and laborers around the globe; it originates leading firms across industries as diverse as semiconductor design, aeronautics, pharmaceuticals, finance, and consumer-centric software; it generates entire new economies like those built around automobiles, commercial flight, the internet, machine learning, semiconductors, software applications, and space launch; its sheer size encourages the consistent interaction of people and ideas that produces innovation; its tastemaker consumers, competitive markets, and perhaps even the economic precarity implicit in such dynamic markets constitute the most productive form of Schumpeterian capitalism; its government and financial system fund substantial innovative research; and its highly technologized manufacturing ecosystem continuously provides critical advances in manufacturing systems, techniques, and processes while producing synergies with the science, technology, and engineering communities.

China, meanwhile, is increasingly technologically advanced in its own right thanks in large part to its large population of talented scientists and engineers, its nurturing of high-technology industries via prodigious industrial policies, its relatively recent industrialization and capitalization, its manufacturing excellence, and a set of innovative technology firms that have achieved technological parity with their foreign peers. While US firms and products are generally more technologically sophisticated than their Chinese counterparts, they are not typically multiple generations of technology ahead and, certainly in some areas, lag their Chinese competitors.

The combination of these features renders China’s technological endowments inferior to those of the United States, although its firms, universities, and government agencies are increasingly capable of out-innovating and outcompeting their American rivals. In a world with infinite product markets, ubiquitous technology transfer, and constant technology iteration, the United States’ technological advantage is broad but perhaps not as substantive or persistent as in previous generations.

The result of this general albeit narrow technological edge, one might think, would be a performance advantage in the
military systems deployed in the Indo-Pacific. Indeed, the United States generally enjoys such an advantage across its fighters, bombers, satellites, submarines, missiles, surface combatants, armored vehicles, communications systems, and offensive cyber and cybersecurity technologies. It may lag across certain capability areas, perhaps most frighteningly integrated air and missile defense, electronic warfare, and long-range conventional strike, though this is more a reflection of deprioritized investment in these areas rather than inherent deficits in scientific or technological understanding.

Nevertheless, these shortfalls speak to limitations in the translation of general technological advantage into military power and advantage, especially in theater-specific contingencies. Where China deliberately resources the technological development, prototyping, and transition of military-relevant technologies, it can generate capabilities that can defeat their US opposites or that are superior to their US analogues, even in the face of the general US advantage. When such capabilities are potentially decisive for relevant contingencies, i.e., systems comprising anti-access and area-denial architectures that threaten US naval and air supremacy in the Indo-Pacific, these narrow technological advantages have an outsized impact on the overall military balance. The United States’ general technological advantage is therefore no guarantee of its military advantage in the Indo-Pacific despite shaping the capability of its advanced weaponry. Its general advantage is in fact unlikely to deliver this localized military superiority because various frictions constrain the ability to apply superior technology in the generation of a more sophisticated military force, let alone guarantee operational success in combat.

The most prosaic friction is the distinction between civilian or commercially available technologies and those designed for military use. US firms’ general superiority in the former—or Chinese firms’ increasing proficiency and market share in civilian technologies such as payments software and telecommunications equipment—has little bearing on military matters, simply because these technologies are of minimal applicability or importance in combat. Even within general technology areas of interest to commercial and military markets, civilian innovation, its production processes and ecosystems, and its applications are frequently divorced from their military counterparts. I am second to none in my affection for Twitter, for example, but it is more likely than not that whatever innovation in machine learning it has accomplished is of zero consequence for critical military technologies. Content and advertising optimization are fundamentally different functions than detection and classification of adversary systems in intelligence, surveillance, and reconnaissance data, and Twitter’s innovation is likely specific to machine learning methods and processes germane to its own data, systems, use cases, and applications. Its technical innovations therefore do not necessarily supply it or the United States generally with an advantage in developing military applications in artificial intelligence.

Even where such technologies are weapon system subcomponents or have dual-use functions, their essential contributions to the military balance tend to be relatively modest as compared to the mass and quality of purely military technologies: the side with cruise missiles of greater range is more likely to be advantaged than that whose smaller integrated circuits enable greater and faster processing. The types of innovation that matter in military contests—those specific to range, lethality, maneuver, concealment, and targeting—are simply different from those that generally matter in commercial innovation. This is not necessarily a critique of efforts within the US and Chinese military and intelligence establishments to increase their appreciation of commercial innovation. It is more an argument for recognizing the inherent limitations of such activities. In the US case, the Department of Defense or intelligence community may very well benefit from Palantir’s or Anduril’s entry into the defense industrial base, Microsoft’s
and Amazon’s contributions to Project Maven, SpaceX’s megaconstellations, and US telecommunications companies’ experimentation with 5G cellular technology in smart logistics applications, but these companies will not be building the nuclear submarines, cruise missiles, national technical means, or exploits and implants in the near future.

The upshot of this argument is that the degree to which civilian, commercially available, or even dual-use technologies increasingly command the attention of US and Chinese strategists is perhaps undeserved. This regard, emerging from China’s increasing scientific productivity and its firms’ share in various global technology market segments, is simply not justified by the oblique connection between, for example, pharmaceutical science, semiconductor design tools, and the locus of the US-China competition—the political and military balance of power in the Indo-Pacific. This is especially the case where this attention centers on improving US firms’ market share at the expense of their Chinese counterparts, as opposed to augmenting their research, development, and productivity generally. While the latter may have some downstream effect on US military efficacy, optimizing for the former is almost certainly a waste of effort and resources, absent compelling logics germane to the development of technology or industrial ecosystems.*

One potential exception is information technology and, to a lesser extent, commercial space technology, where the ubiquity of US and Chinese information and space technology offer uniquely direct opportunities to each for intelligence, counter-espionage, and military operationalization of deployed commercial technology. To the extent, for example, that Huawei’s and Semiconductor Manufacturing International Corporation’s business success offers Chinese intelligence services greater signals intelligence access to high-priority US targets, that US cybersecurity companies’ global presence increases their awareness of Chinese cyber actors’ operating infrastructure, or that Chinese commercial satellites provide operational utility to the Chinese military, their deployment and market share may affect the US-China military balance. These effects, however, are ultimately muted, given these technologies’ limited ability to meet certain intelligence and military requirements—especially those relevant to highly protected assets or those that can only be met via sophisticated technical means—and the consequences of discovered military-intelligence-commercial partner cooperation: hence why intelligence and military services conduct operations using government-owned and -operated technology and infrastructure.

A second friction is the military acquisition and force planning systems’ ineffective metabolization of advanced technologies, which limits the extent to which technological advances in military platforms, munitions, sensors, and communications ultimately improve the systems employed by military forces. In mature military technologies, performance gains downstream of technological improvement are often incremental and may arrive at the cost of efficient manufacture, productive capacity, and difficulties in institutionalization. More novel military technologies may be more disruptive, but their transition into existing force structures and weapon systems at scales relevant to military outcomes demands substantial adaptation, investment, and time. This is all the more true for commercial or civilian technologies, which are frequently of peripheral importance to military capabilities to begin with, especially in their applied forms.

Where technology is more relevant, conservative bureaucracies in government and industry, suboptimal

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* These logics are all too often not very compelling. Synergies between design and manufacturing in semiconductors, for example, ostensibly motivate arguments for reshoring high-end semiconductor manufacturing. These synergies, however, operate via particular mechanisms that may not manifest were the United States to simply subsidize Intel’s, TSMC’s, and Samsung’s construction of fabrication facilities across the United States without deliberate cultivation of such synergies. More deliberate decomposition of the relevant feedback loops and geographic concentration of fabrication facilities, producer-consumer matching, cultivation of learning-by-doing, encouraging of manufacturing science and technology, and development of engineering expertise are probably necessary. These synergies are also likely more apparent where these industries develop organically, meaning that the United States might struggle to appreciate them if it were to simply onshore manufacturing of leading-edge semiconductors and leave it at that.
budgeting and procurement processes, and inflexible, unwitting, or unready capability design and development circumscribe their application. These are not immutable laws of nature, of course. Innovation across government and industry could translate more substantially into military advantage for both the United States and China, but the relevant constraints are neither entirely artificial nor purely a function of faulty institutional design or incentives. The planning and acquisition cycles for major capabilities, for example, are sufficiently long as to enable robust engineering, production at scale, and extended platform lifecycles that enable their operation in the field; these elongated timelines, however, encourage technological obsolescence on the margin.

Similarly, the design allowances and security requirements of military platforms inhibit the adoption of relevant leading-edge technologies. The field-programmable gate arrays used in the F-35, for example, are notably not leading-edge microelectronics, as: the platform’s function and relevant subcomponents do not demand adoption of leading edge microelectronics; the platform is sufficiently large as to accommodate the size, weight, and power limitations of previous generation microelectronics; and the Department of Defense’s security requirements discourage, or at least used to discourage, the use of commercially fabricated microelectronics in national security systems. In short, technological advances manifest in military capabilities via complex bureaucratic and technical processes that are not so simply streamlined.

The third noteworthy friction is the difficulties that militaries face in operationalizing new technologies via novel operational concepts, tradecraft, and tactics, thus limiting their ultimate impact on the military balance. France’s tanks were generally superior to their German counterparts at the outset of World War II, for example, but they were poorly integrated with each other, other armored platforms, artillery, and infantry. Furthermore, the French military used its tanks largely as auxiliary support for infantry rather than as purposeful instruments to pierce enemy defenses. The Wehrmacht, on the other hand, organized its tanks, mechanized infantry, artillery, and assault guns into combined armed formations, trained these units—enabled by consistent radio communications—to operate synergistically in their maneuvers, and employed these formations in daring blitzkrieg operations that repeatedly bypassed or enveloped adversary forces.

In the modern era, operational concepts, tradecraft, and tactics are no less important as prerequisites for the effective operationalization of advanced weaponry. Technological solutions alone—whether more resilient satellites, hardened communications links, long-range fires, or drones—are unlikely to alone blunt the threat of China’s systems destruction warfare. These must be accompanied by novel methods for maneuver, diversion, interference, distribution, concentration, and interception. If the United States fails to concertedly innovate and calibrate its operational concepts and tactics—and posture—to best utilize the weapon systems at its disposal, its technological advantage will have only a modest effect on operational outcomes.

6. Conclusion

In this essay, I have argued that economic and technological affairs are subsidiary to political-military matters within the US-China rivalry and that neither the United States nor China is likely to accrue robust advantages across these political-military matters from their economic and technological endowments.

In its conclusion, I will briefly meditate on three questions: How might this argument be mistaken? If it is accurate, why is the national security community so enthralled by the notion of economic and technological competition? And what are the policy implications of such an argument, if correct?

Potential Errors

The most likely shortcoming of this essay is its myopia and lack of imagination. On a long enough horizon, economic and
technological endowments could prove to be impactful in the US-China competition. If, for example, by 2030, the US and Chinese economies were of equal size but thereafter economic growth in China were to slow to 2 percent annually and the US economy were to grow at 3 percent year-over-year, within four decades, the US economy would be 47 percent larger than the Chinese economy. Within six decades, the US economy would be 80 percent larger than the Chinese economy. This is the magic of compounding and long-run growth. It is entirely conceivable that growth differentials of this magnitude on a long enough timeline would reflect (but not necessarily provide) decisive advantages and disadvantages in a manner not anticipated by this essay.

As gross domestic product represents the market value of the goods and services produced within an economy in any given year, it is representative of neither the resources available for military expenditure nor an economy’s capacity to generate military power. It is, however, a signal of the economy’s general size and ability to accommodate additional government taxation, spending, and investment. To the extent that such a difference is reflective of a nation’s unskilled labor, natural resources, or production in finance, agriculture, or other civilian goods with limited potential for reorientation toward military production, it is of modest geopolitical consequence; to the extent that it reflects additional capacities to finance and enlarge the military, this disparity may endow to the power with the larger economy a substantial geopolitical advantage.

Similarly, if either economy achieves substantial industrial advantages approaching near-monopolies in the manufacturing of complex goods or if either dominates in the realm of revolutionary technologies—such as artificial intelligence or brain-enhancing biotechnology—these developments would substantially affect national power and, by implication, the military balance in the Indo-Pacific. This essay does not anticipate such step-function changes, and its analysis could be weakened by their realization. This potential limitation is worth noting given the Chinese Communist Party’s explicit intention to break out of its middle-income status by monopolizing certain industries and achieving lofty technological objectives. As it corresponds to the stated goals of the regime, this possibility deserves to be taken seriously.

Still, even if such enduring disparities were to emerge in the long run, much of this essay’s analysis would remain relevant. If military expenditure and procurement in each country remains relatively low in historic terms, for example, one’s greater economic production is unlikely to bear geopolitical fruit, as the smaller economy would still be able to expand production substantially before approaching relevant economic constraints. Similarly, one’s technological dominance can be countered by the other’s improvements to and innovation in force structure, force deployment, and force employment. In any case, it’s not clear that any action that the US or Chinese government can take is likely to dramatically improve its odds at achieving such a decisive productive or technological advantage in the long run: the factors that shape these trajectories are more fundamental than those that today’s economic and technology policy debates and instruments focus on. These deficiencies—and the highly contingent nature of each subargument within this paper—limit my confidence in the argument detailed herein. In the online rationalist community, authors frequently append an “epistemic status” to their blog posts: a description or percentage indicating their confidence in their arguments. My epistemic status here is 30 percent.

Accounting for the Conventional Wisdom
Part of the answer to the second question has been alluded to throughout this essay: the national security community appears to be entranced by certain narratives surrounding the US defeat of Nazism and communism as well as a materialist conception of geopolitics. To call the latter Marxian is clearly inaccurate, as it bears minimal resemblance to the existing Marxist school of international relations, which alleges that class struggle drives geopolitical alignment and international conflict.
It does, however, reflect a conception of national power that is grounded in the underlying productive forces, technologies, and relations of production, thereby at least mimicking the logic of historical materialism and technological determinism.

Consequently, economic and technological endowments are perceived in inherently competitive terms that cloud our collective judgment as to the realities of, and interests at stake in, the US-China competition. This competition does not ultimately center on matters as abstract as aggregate production, scientific progress, technological leadership, or even a composite global balance of power. Rather, it is the necessary outgrowth of divergent interests in the larger Indo-Pacific, China's increasing ability and intent to reshape the region's international affairs to satisfy its ambitions, and the logic of competitive geopolitics. Arguments that contend otherwise—that an all-important global balance of power, defined by, among other things, gross domestic product, market share in high technology industries, and institutional leadership, motivates the competition—untether the rivalry from its corporeal stakes: borders on the map, the political alignments of key states, and the coercion and subordination of third parties in the Indo-Pacific.

In doing so, they reduce the rivalry to an accounting exercise that focuses on ensuring that US production and technology are greater than China's rather than on protecting its interests. To be clear, such a global balance of power does matter to the extent that it informs the United States' ability to ensure its interests: in the case of the US-China rivalry, these interests are geopolitical in nature, so the variables that matter most are the status quo hierarchy, political continuity, strategic prudence, geopolitical alignment, and military power. Collapsing the U.S.-China rivalry to an economic and technological rat race by focusing our attention on factors such as the gross domestic product, market share in high technology industries, academic research productivity, and patent generation is thus an analytical mistake.

Another explanation as to why the concept of economic and technological competition is so fashionable in the national security community is the instinct to totalize. U.S. foreign policy faces immense difficulties in managing relations with other states across different planes and policy issues with nuance. Informed by activist politics and media, the geopolitical challenge posed by China has for some evolved into a larger Manichean rivalry that demands aggressive decoupling, consistent diplomatic bristling, and aggressive military posturing. For others, economic and technological competition offers a release valve for anti-China sentiment. It presents the compelling possibility of undercutting a rising and illiberal geopolitical threat without risking military investment and confrontation. The American polity should be wary of indulging such impulses, the first of which drives it toward a more aggressive posture than might otherwise be justified and the second of which encourages misinterpretation of the risks posed by China's increasing power and minimization of the hard power at the core of the geopolitical rivalry.

Policy Implications

Finally, there is the question of the policy consequences of this analysis. The first set of implications—emerging from the diagnosis of the geopolitical rather than material interests at the heart of the US-China competition and the linkages between economic and technological endowments and military power—surround the US treatment of China in national security policy.

If the rivalry centers on the earned inheritance of the United States as a regional security guarantor and on China's ambition to dethrone it as the regional hegemon, rather than on economic or technological matters and each country's material interests, Washington may be well served by narrowing the US-China competition to political-military matters. This would result in a concentrated effort to maintain its alliances and pursuit of military advantage in the Indo-Pacific but permit cooperative relations in other areas, for
example, economic and technological exchange. It might also, given the comparative insignificance of economic and technological statecraft, minimize US efforts to shape the political hierarchy through trade agreements, investment vehicles, technology-sharing, punitive measures, and other similar tools. Because such instruments are unlikely to be geopolitically productive, the US would prioritize other efforts (e.g., efforts to ensure conventional military overmatch and to consolidate strategic alliances) to preserve its hegemony.

More radically and perhaps too clever by half, given that the actual economic and technological stakes at the heart of the rivalry are modest and America’s material interests are arguably advanced rather than diminished by cooperation with China, the United States may find that rivalry excessively aggravates the risks of military confrontation and the disintegration of the US-China economic relationship and that US policy should be more respectful of and deferential to China’s accumulating power, even at the risk of changes to the current political hierarchy and security architecture in the Indo-Pacific. Such reordering may marginally diminish US economic interests, but subordination of economic and technological matters to geopolitical requirements, the immolation of the US-China economic relationship, and potential war would almost certainly be more harmful to those material interests. To be clear, this would represent a deliberate subordination of America’s geopolitical interests, as traditionally understood, to its material interests—the result of the potential disconnect between the two.

Likewise counterintuitively, if military power is at least somewhat coincidental to gross domestic product and China’s rise poses a limited threat to US material interests, it is not immediately obvious that US national security policy should completely subordinate its other global interests to constraining Chinese aggression. The United States’ interests in the Indo-Pacific are enormous, because it has many allies in the region, the region’s economic dynamism advances U.S. prosperity, and China’s economic and technological endowments enable it to pose a threat to U.S. hegemony and military supremacy unlike that of other rivals. Still, China’s rise does not fundamentally imperil Americans’ material well-being, and the United States has substantial geopolitical and liberal interests in: deterring Russian, Iranian, and North Korean aggression; limiting terrorist activity in the Middle East; and preventing genocides in Africa. Further, some of these threats, despite arising from weaker economic and technological powers, pose substantial challenges to the US military due to their advantages in geographic proximity, posture, and risk-taking. Arguments for the hyper-prioritization of America’s military power in the Indo-Pacific based on the United States’ material interests in Asia thus sometimes overextend themselves. The region’s and China’s gross domestic products do not by themselves justify the United States’ singular attention, although eroding conventional deterrence in the Indo-Pacific certainly demands concentration of defense resources in the region.

The second set of implications centers on US strategy for maintaining a favorable military balance in the Indo-Pacific.

Given the limited avenues by which economic and technological advantages translate into military advantage, one could infer from the argument in this paper that policies and programs that increase US growth, productivity, and technological leadership are of modest importance in the US-China competition. This is generally correct: these policies and programs should not be rationalized on geopolitical grounds, but they are clearly warranted on general welfare grounds. Thus the following policies and programs remain salutary:

- increasing immigration (especially high-skilled immigration);
- increasing the birth rate by improving incentives related to parenthood and constraining abortion;
- improving primary and secondary education via use of Direct Instruction techniques and consistent testing;
• improving public health through implementation of sin taxes and semi-coercive anti-obesity/anti-disease interventions;
• eliminating various inefficiencies in the healthcare system, including by
  - dis-incenting gratuitous healthcare expenditure;
  - expanding the public provision of health insurance;
  - deregulating the healthcare labor market via expansion of the stock of doctors and expansion of healthcare services that can be provided by non-physicians; and
  - selectively deregulating the drug approval process and de-monopolizing drug markets;
• increasing public investment and addressing acute infrastructure deficits;
• reducing harmful process-centric environmental regulations;
• attenuating persistent regional underdevelopment, homelessness, and poverty;
• increasing and reforming science and technology funding;
• increasing state capacity;
• removing constraints on urbanization;
• implementing productivity enhancements across the tax code and in commercial bottlenecks (e.g., ports); and
• instantiating more automatic and effective monetary and fiscal policy instruments.

Some of these policies and programs may, depending on their scale and the quality of their implementation, eventually affect the competitive military balance between the United States and China. Depending on its scale and composition, increasing immigration—and perhaps, per Chang-Tai Hsieh’s and Enrico Moretti’s analysis, decreasing barriers to urbanization—is arguably the most promising candidate for generating appreciable and productive growth, though there is obviously a shortage of consensus surrounding the efficacy of any of these proposals. This is doubly true with respect to policies intended to support technological development, where economics has struggled to identify the true value and virtues of various industrial policies, institutional designs, and market structures. Narrower industrial policies of uncertain efficacy should thus be scrutinized heavily, as these typically fail the relevant efficacy and consequentiality tests. Manufacturing subsidies and export controls are, for example, policies that are generally discouraged by this analysis, though the former may be appropriate where they enhance the United States’ command of the remunerative parts of value chains and the latter may be justified where they are likely to directly undermine Chinese military production without substantial harms to US export markets.

More relevant, then, are policies that are immediately pertinent to the US military and its industrial base. This argument maintains that economic and technological endowments are of limited consequence to the military balance in the Indo-Pacific, because: (1) factors like forward posture, operational concepts, and the efficacy of a few pivotal systems are more likely to be decisive than overall force structure and materiel capability; and (2) neither state’s economic and technological endowments are likely to provide a permanent and meaningful advantage in overall force structure and materiel capability.

The necessary consequence of the first is that the US, and in particular the Department of Defense, should:
• expend substantial effort and resources to ensure its positioning of forces in combat-relevant positions, including within the first island chain;
• develop innovative force employment strategies and kill chains;
appropriately calibrate its political and military risk calculus; and

- focus its attention on strengthening critical capabilities for contingencies in the Indo-Pacific, including munitions, command, control, and communications systems and counter-command, control, and communications capabilities.

Such efforts will positively shape the military balance, likely more than marginal augmentation of force structure and technology would.

The necessary consequence of the logic embedded in the second is that the United States can afford to substantially expand its military expenditure and procurement. The economic factors that limit production—e.g., inflation, production mix, availability of welders, and National Environmental Policy Act regulatory processes—are ultimately political choices; there are few, if any, permanent economic constraints that necessarily limit military expansion and expenditure.

The United States can therefore match China’s accelerating military expenditure and procurement, although doing so may require deliberate efforts to address its relative deficits in production mix, regulatory environment, and labor force and may precipitate economic distortions like inflation and inefficient changes to market structure.

This subordination of the economy to geopolitical requirements may not be, strictly speaking, necessary given that the US military can potentially ensure a favorable military balance by addressing shortfalls in posture and key weapon systems, without expanding its procurement across the board and without increasing military spending and instead harvesting savings from decreased personnel and sustainment expenses and from more aggressive divestment of capabilities optimized for land warfare. Still, improved force structure, enabled by increased procurement and industrial base expansion, may ensure the continued military competitiveness of the United States in the Indo-Pacific. The main challenge for Washington will be maintaining the political commitment and ideological flexibility to execute such a strategy.
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The views expressed here are those of the author and do not reflect the official policy or position of the Department of Defense or the US Government.

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