

AUGUST 2023

HOW TO BE A “CHEAP HAWK” IN THE 2020s

LIMITING DEFENSE BUDGETS TO 1% ANNUAL REAL GROWTH

| Michael E. O’Hanlon

Executive summary

In June 2023, U.S. President Joe Biden, Speaker Kevin McCarthy, and the rest of Congress managed to reach a budget deal and evade an unprecedented government default on its financial obligations. But in that deal, U.S. defense spending remains a contentious matter. It was treated more gently than domestic “discretionary” spending (which is effectively frozen in nominal terms by the deal and will thus be eroded by inflation over the next two years—indeed, as of this writing, the possibility exists that it could be cut even more severely). Yet defense budgets could still suffer modest declines in real spending power of perhaps 1–2% a year, depending on the inflation rate and choices of Congress. At a time of considerable international peril, is this wise?

Clearly, any serious plan for fiscal prudence and good U.S. economic health needs to address the growth of entitlement spending, which accounts for nearly two-thirds of the almost \$7 trillion federal budget being proposed for 2024. There are ways to reform entitlements without cutting real dollar benefits for most beneficiaries per se — for example, by curbing rates of growth, using different adjustments for inflation, or asking more of higher-income earners in one way or another. But none of that will apparently happen anytime soon. Meanwhile, a large deficit and debt, as well as underfunded domestic investments in areas such as science, technology, education, and infrastructure, could weaken the U.S. economy and thus the economic foundations of U.S. security over the longer term. These considerations call for some degree of shared sacrifice across the whole government, including the Pentagon.¹

To balance these various realities, the most sensible path forward is to provide very modest real growth in the defense budget — about 1% a year above inflation for the next two years and perhaps beyond. For the current year, with inflation running up to 4%, that implies a 5% increase in nominal terms from 2023 to 2024. By contrast, the Biden budget request for 2024 implies zero

real growth or even a 1% real cut in base defense dollars (leaving supplementals for Ukraine and other potential needs out of the respective tallies for each year). In other words, the 2024 base budget would increase by about 3% relative to 2023, which could be slightly less than the inflation rate.

In broad terms, real growth of about 1% constitutes a compromise of sorts. It is less than what recent independent commissions and many scholars have advocated when calling for sustained increases of 3–5% a year above the rate of inflation.² It would also see defense spending decline slightly as a percent of GDP over time. But it is more than a nominal or real freeze, more than what is being proposed for domestic discretionary accounts, and more than what is in the Biden proposal for 2024. It also gives the Pentagon some room for new initiatives, provided that the Pentagon curtails its overall appetite while instituting additional reforms. Moreover, it signals to the world that America is not pulling back or shirking its sense of global duty.

Given the Congressional Budget Office’s (CBO) calculations that national defense budgets might need to grow 1% a year in real terms over the next decade to fund the Pentagon’s current plans, such a funding path should roughly suffice for what the Pentagon now proposes by way of force structure, pay, readiness, and modernization. However, perhaps not every aspect of those plans should be endorsed and, instead, new initiatives such as those proposed in this paper should be considered. The net effect of the proposed increases and new additional cuts that I identify here would be roughly zero. In other words, in budget terms, the increases and cuts would balance each other out. By tightening collective belts and making tough choices, the DOD could get by with 1% real growth and still have some money for new and worthy plans.

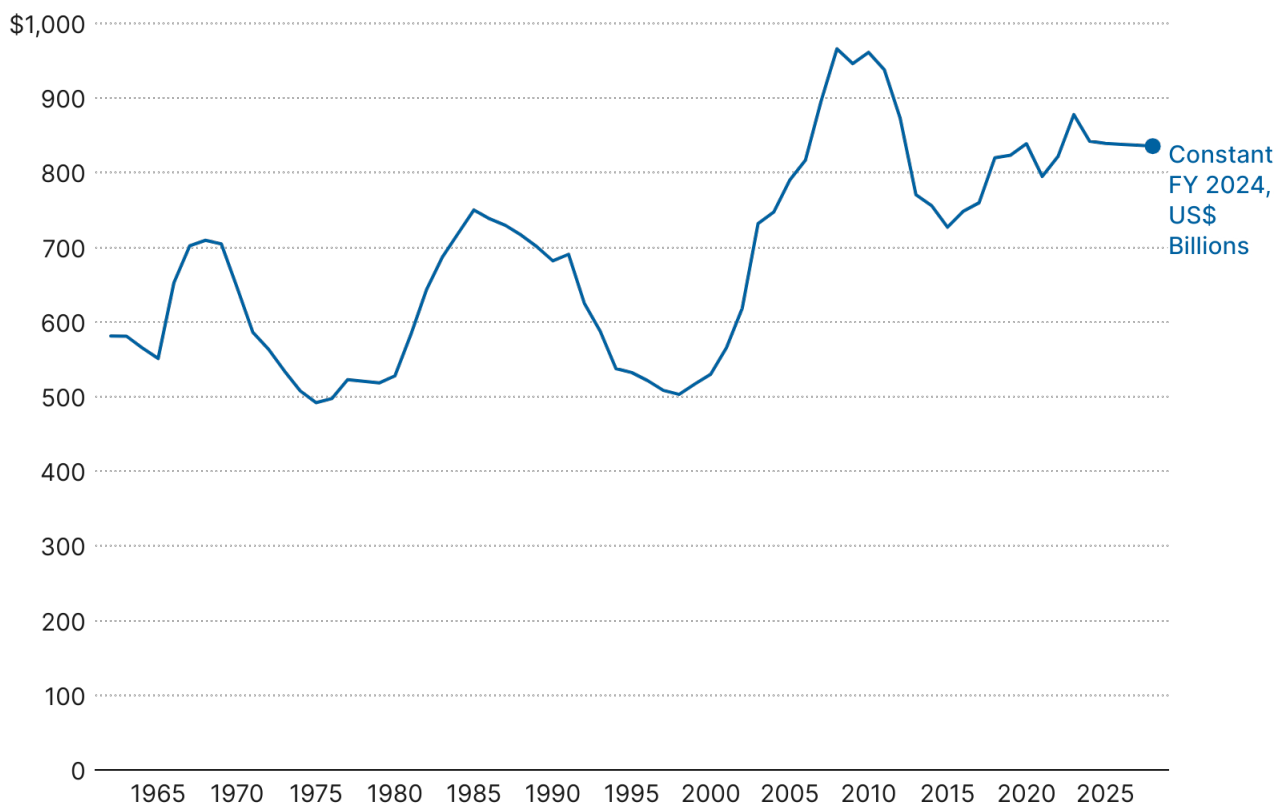
With this approach, the national defense budget would initially remain near its current level of 3.3% of the country’s gross domestic product

(GDP) — around half of the level it was during the Cold War. At just under \$900 billion each for the next two years, including Department of Energy nuclear weapons costs, it would continue to exceed even peak levels of Cold War spending in real or absolute dollar terms (that is, adjusted

for inflation). It would, however, remain about 10% less than peak levels during the George W. Bush and early Barack Obama presidencies. It would continue to be about three times China’s estimated spending and many times that of Russia’s.

FIGURE 1

DOD total obligational authority since 1962



Source: “National Defense Budget Estimates for FY 2024,” Washington, DC: Office of the Undersecretary of Defense, Comptroller/Chief Financial Officer, May 2023), Table 6-5, https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2024/FY24_Green_Book.pdf.

Notes: Figures from 2024 onward are projections. These figures do not include the nuclear weapons activities within the Department of Energy’s National Nuclear Security Administration (though funding for the administration is also considered to be part of the federal government’s “national defense” or “050” budget function. The request for 2024 for the administration totals almost \$24 billion.

To paraphrase former House speaker Newt Gingrich as he put it back in the 1990s, this paper argues that we should be “cheap hawks.” Cheap should be understood to mean limiting the rate of Pentagon budgetary growth, not actually cutting it, especially at this juncture when the world is significantly more dangerous than when Gingrich coined his memorable phrase.

Why cutting defense spending is unrealistic and unwise

Pentagon critics might wonder why the Department of Defense can't find enormous savings within its own complex, convoluted, and bureaucratic enterprise — cutting wasteful programs so as to fund real priorities?



























There is no doubt that, by any fair perspective, U.S. military spending is large. Indeed, it is now roughly triple that of China, according to most estimates of the country's military budget — after having been nearly 10 times as great at the turn of the 21st century.³ Note, however, that if China's budget is expressed in terms of purchasing power parity to reflect lower input costs (though in some cases lower quality, too), the U.S. advantage is admittedly less — just a bit more than 2:1.⁴ Furthermore, seemingly favorable ratios may not actually provide a comfortable U.S. advantage over China: defense budget

ratios do not predict outcomes in war very well, as evidenced by North Vietnam's defeat of the United States in 1975, or the Taliban's of the United States, NATO, and the Afghan government more recently. What is more, the U.S. goal is deterrence, not victory in what would surely be a devastating war. As such, a significant budgetary and technical advantage is highly desirable. Concerns over North Korea and Iran, operations against certain terrorist networks, and other global responsibilities place additional demands on the DOD.

Then there is the question of burdensharing. Do American allies do their fair share in support of the common defense? The answer is, on balance, not quite. But in response to recent demands, several U.S. allies have stepped up their defense spending (for example, South Korea devotes about 2.5% of GDP to its armed forces, Australia and the U.K. weigh in at 2%, and France and Poland spend about 2% as well).⁵ Alas, many other allies have not met their promises or accepted their fair share of responsibilities. However, there is a flip side of the coin: never in world history has a superpower had such a collection of powerful security partners. America's allies and close security partners together account for about a third of total world military spending — and provide the Western alliance system, including the United States, with more than two-thirds of all the world's collective military resources. It is also important to note that there is no substitute for the skill and scale of the U.S. military. The United States must continue to take a lead role in deterring China and Russia from coercion or aggression, even if allies do more.

TABLE 1

Global distribution of military spending, 2022

Region/country	Defense expenditure (US\$ billion)	Percent of global total	Defense expenditure % of GDP
 United States	\$766.6	38.74%	3.06%
NATO			
 Canada	\$24.6	1.24%	1.12%
 France	\$54.4	2.75%	1.96%
 Germany	\$53.4	2.7%	1.32%
 Italy	\$31.1	1.57%	1.56%
 Poland	\$13.4	0.68%	1.87%
 Turkey	\$6.2	0.31%	0.73%
 United Kingdom	\$70.0	3.54%	2.19%
Rest of NATO (excluding U.S.) ^a	\$86.2	4.36%	
Total NATO (excluding U.S.)	\$339.4	17.15%	
Total NATO	\$1106.0	55.9%	
Cumulative percentage of global total		55.9%	
Major non-NATO allies (MNNA)^b			
 Argentina	\$3.4	0.17%	0.54%
 Australia	\$33.8	1.71%	1.96%
 Bahrain	\$1.4	0.07%	3.22%
 Brazil	\$23.0	1.16%	1.21%
 Colombia	\$6.3	0.32%	1.85%
 Egypt	\$5.2	0.26%	1.39%
 Israel	\$19.4	0.98%	4.3%
 Japan	\$48.1	2.43%	1.12%
 Jordan	\$1.9	0.1%	4.75%
 Kuwait	\$9.2	0.46%	5%
 Morocco	\$6.4	0.32%	4.5%
 New Zealand	\$3.4	0.17%	1.38%
 Pakistan	\$9.8	0.49%	2.59%
 Philippines	\$5.5	0.28%	1.37%
 Qatar	\$8.4	0.43%	3.8%
 South Korea	\$43.0	2.17%	2.48%
 Thailand	\$6.2	0.31%	1.16%
 Tunisia	\$1.3	0.06%	2.95%

Total MNNA	\$235.5	11.9%	
Cumulative percentage of global total		67.8%	
Other U.S. strategic partners			
 Iraq	\$8.7	0.44%	3.16%
 Oman	\$6.4	0.33%	5.9%
 Saudi Arabia	\$45.6	2.3%	4.51%
 Taiwan	\$16.2	0.82%	1.95%
 United Arab Emirates	\$20.4	1.03%	4.04%
 Ukraine	\$3.5	0.18%	n.k.
Total other U.S. strategic partners	\$100.8	5.09%	
Cumulative percentage of global total		72.89%	
Other friends and neutrals			
 India	\$66.6	3.37%	1.92%
 Indonesia	\$9.1	0.46%	0.7%
Total other friends and neutrals	\$75.7	3.83%	
Cumulative percentage of global total		76.72%	
Rivals and adversaries			
 China	\$242.4	12.25%	1.2%
 Cuba	n.k.	n.k.	n.k.
 Iran	\$44.0	2.22%	2.23%
 North Korea	n.k.	n.k.	n.k.
 Russia	\$66.9	3.38%	3.13%
 Syria	n.k.	n.k.	n.k.
 Venezuela	n.k.	n.k.	n.k.
Total rivals and adversaries	\$353.3	17.85%	
Cumulative percentage of global total		94.57%	
Other nations			
Non-NATO Europe ^c	\$20.4	1.03%	
Other Russia and Eurasia ^d	\$6.6	0.33%	
Other Asia ^e	\$31.7	1.6%	
Other Middle East and North Africa ^f	\$9.2	0.46%	
Other Latin America and the Caribbean ^g	\$18.6	0.94%	
Other Sub-Saharan Africa ^h	\$21.0	1.06%	
Total other nations	\$107.4	5.43%	
Cumulative percentage of global total		100%	
Global Total	\$1978.6	100%	

Source: International Institute for Strategic Studies, *The Military Balance 2023*, “Table 18: International comparisons of defence expenditure and military personnel,” February 2023, 500-505.

Notes:

^a Albania, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, Greece, Hungary, Iceland, Latvia, Lithuania, Luxembourg, North Macedonia, Montenegro, Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, and Spain.

^b The [Major Non-NATO Ally \(MNNA\)](#) status is a designation granted by the U.S. government, offering specific advantages in defense trade and security cooperation to foreign partners. It does not entail any security obligations to the designated country.

^c Austria, Bosnia-Herzegovina, Cyprus, Ireland, Malta, Serbia, Sweden, and Switzerland.

^d Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, and Uzbekistan.

^e Afghanistan, Bangladesh, Brunei, Cambodia, Fiji, Laos, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Papua New Guinea, Singapore, Sri Lanka, Timor-Leste, Tonga, and Vietnam.

^f Algeria, Lebanon, Libya, Mauritania, Palestinian Territories, and Yemen.

^g Antigua and Barbuda, Bahamas, Barbados, Belize, Bolivia, Chile, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, and Uruguay.

^h Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Congo, Côte d’Ivoire, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tanzania, Togo, Uganda, Zambia, and Zimbabwe.

Finally, Pentagon critics may contend that the DOD, a federal agency not even able to audit its own expenses, is extremely wasteful. Couldn’t it simply eliminate much or most of that waste and use the savings to fund real defense needs? Alas, while it is true that the DOD is inefficient, much of the waste is marbled into muscle, so to speak. Cutting it out quickly and carelessly could damage combat capabilities — and thus deterrence.

For example, the military health care enterprise is probably too large and expensive. But access to high-quality health care is a crucial military benefit that helps attract and retain a high-quality, all-volunteer force. And there is waste in the non-DOD health care system as well, of course — to make the observation that health care is inefficient does not solve the problem. Reform is hard, and slow, and inefficiencies are inevitable. Most proposals for health care reform would, once implemented, save at most a few hundred million dollars a year; these would be important savings, yet they would be modest relative to the overall size of the defense budget. And there are serious gaps in current military

health care (for example, in mental health, at a time when suicide rates in the military are high) that must be addressed.⁶

Moreover, given the uncertainties of strategy, Pentagon waste is often in the eye of the beholder. Sometimes, capabilities initially perceived as unnecessary can become vitally important (like adequate munitions inventories, as the Ukraine war has underscored, or good counterinsurgency and state-building capacity within the ranks of the Army and other services).

Bear in mind that, for the DOD, maintaining budget levels in constant real terms generally means losing ground. That is because most defense costs rise faster than inflation — especially those related to equipment modernization and maintenance. Military health care, like civilian health care, is another domain where cost growth is predictable. As noted before, the CBO estimates that the DOD will need at least 1% real growth annually over the next decade to maintain its current forces and implement its current plans. Indeed, relative to the last few decades, that

projection may if anything be optimistic. Actual cost growth has often been 1–2% a year in real terms (above and beyond the rate of inflation) for an average “basket of goods” in the Pentagon budget.⁷

Here are some more specific reasons why it will be hard to harvest big savings in the defense budget:

- Today’s active-duty force of 1.3 million is far smaller than the 2.2 million or so maintained during the latter Cold War years (and, by way of reference, smaller than China’s current military, which exceeds 2 million).⁸ And adequate forces are necessary for simultaneously maintaining deterrence around the world while having the capacity to fight and win a (single) major war if necessary. That standard of “fight one war while maintaining global deterrence” is the basic methodology by which DoD now rightly sizes its forces.
 - Military compensation remains strong compared with compensation for most jobs in the civilian economy (that is, when comparing individuals of similar age and with similar education and experience across different types of employment). But it should remain a top priority for the United States’ all-volunteer force (and, separate from the defense budget, the nation should continue to resource the Department of Veterans Affairs very generously). While the force remains excellent, it is showing signs of serious strain, particularly in the realm of recruiting. Strains were evident in recruiting in 2022 for several services due to the impacts of COVID-19 and other factors, some of them cultural or societal in origin. For the Army in particular, recruiting efforts fell short by about 25 percent or almost 20,000 soldiers.⁹ Ideas to improve recruiting and retention are needed,¹⁰ but keeping compensation strong, if not stronger in some targeted ways, will be essential. Military personnel often work more than a 40-hour week, do not benefit from overtime pay, and have jobs that do not closely align with many of those in the
- private sector. When deployed, they face huge additional challenges, especially if they have young children or special needs children or if they are single parents. So compensation comparisons between military and nonmilitary cohorts should be taken with a grain of salt.
 - Military readiness — the ability of individual military units to perform current missions promptly and efficiently, as distinct from longer-term military modernization — is important. In a dangerous world, it is unwise to shortchange training or equipment maintenance. And things are hardly perfect on the readiness front at present. For example, the mission-capable rate for the F-35A Air Force aircraft stood at 56% in early 2023, below the goal of 70% or better, and the number of positions filled for the Navy’s surface fleet relative to established standards declined from 93% around 2017 to 86% by the end of 2020.¹¹ Such problems are generally fixable and do not imply a wholesale problem across the force. And, overall, readiness is in reasonably good shape, as the commandant of the U.S. Marine Corps recently argued in a May 2023 public discussion at Brookings.¹² But the persistence of ongoing challenges does suggest that net savings in readiness spending will prove elusive.¹³
 - Congress should indeed authorize another round of the Base Realignment and Closure (BRAC) process, since it has now been almost two decades since the last one (the five modern BRAC decisions were made in 1988, 1991, 1993, 1995, and 2005). The nation still possesses about 20% more military base structure than its current force posture is estimated to require. But the savings associated with BRAC would not show up for a decade and would typically total some \$2 billion to \$3 billion a year per “round” of base closures once they do.¹⁴ While these savings are worth pursuing, the BRAC process would inevitably add to costs in the short run, and hardly solve the Pentagon’s overall fiscal needs even in the longer term.

- Some weapons modernization projects can and should be questioned, but spending to maintain America's technological edge is clearly crucial for deterring China and Russia—as former Pentagon official Jim Miller and I argued in a 2019 article that contended quality is a more important goal than quantity in current U.S. defense planning. Much of military modernization essentially involves the process of invention, and invention is a difficult, nonlinear, unpredictable process. Unexpected cost growth is hard to avoid, at least for cutting-edge systems, and successive generations of technology are generally bound to cost more than previous generations. There is also no single type of weapons contract (fixed price, cost-plus-incentive, cost-plus-percent) that works across all different types of technologies.¹⁵ Fortunately, there is some reason to hope that the DOD is generally getting better at buying new technology affordably. Initial signs are promising, for example, with the new B-21 stealth bomber.¹⁶ The Joint Strike Fighter, after a tortured development and early production saga, has wound up a more affordable and effective aircraft as well.¹⁷
- There are still unmet needs in areas such as shipping, aerial refueling, other logistics support, long-range unmanned aircraft (especially those that would fly off aircraft carriers), and munitions stockpiles that require fairly urgent attention. Fortunately, there are some positive trends in securing cyber systems (Ukraine's resilience, with American help, to Russian attacks is a case in point) and in diversifying satellite networks.¹⁸ But more needs to be done to reduce Achilles' heels in the U.S. military.

Given that the DOD's size, structure, and modernization agenda are all generally right in broad brush — indeed, even lean by historical standards — finding economies at the Pentagon will become a game of small ball. Still, a few hundred million here and a couple billion there do add up. As former Pentagon comptroller Bob Hale once said about defense reforms, “Keep

trying, but be realistic.”¹⁹ Those sober, if not quite Churchillian, words should be an axiom when trying to tighten belts at the DOD. Yet they should also remind us to keep expectations in check about just how much reforms can really save.

The broad context: American grand strategy

Before delving into defense specifics, some context is important. U.S. military policy needs to be understood in light of the broader national or “grand” strategy it is trying to support — the overarching concept by which the country seeks to protect itself and promote what it defines to be its core interests. Broadly speaking, Biden's grand strategy follows naturally from the strategies of a long lineage of previous post-World War II presidents. For example, his 2022 National Defense Strategy (NDS) closely resembles that of former President Donald Trump's, despite their drastically different worldviews and political priorities. (Trump himself challenged much of that post-World War II tradition, but many of those who worked for him, including Secretary of Defense Jim Mattis, did not.)

America's grand strategy begins with the premise that a strong United States remains crucial to global stability. In other words, at least as I would argue it, the United States remains the best hope for backstopping a generally stable global order, provided that its resoluteness in doing so be leavened by an element of restraint as well as strategic empathy for others.²⁰

A grand strategy focused on upholding a rules-based international order, ensuring free access to the global commons for trade and travel, and protecting the security of key allies as well as the United States itself has proven successful.²¹ And this is despite the country's many mistakes and tragedies, as well as its near-misses.²² Those

who favor a “come home, America” approach to foreign policy fail to recognize the three most consequential data points since 1900 about matters of war and peace: the outbreak of World War I, the outbreak of World War II, and the nonoutbreak of World War III. The first two wars happened when the United States was not engaged in the security affairs of key partners in Eurasia and when it was also not militarily prepared; the latter war has not, to date, occurred, and it hardly seems a coincidence that strong American armed forces with permanent stationing of units in Northeast Asia and Europe have persisted throughout the era.²³ It is true that other factors — the spread of democracy, nuclear deterrence, economic interdependence, and memories of the world wars — have also contributed to great-power peace since 1945. But credible American security guarantees, within a system of alliances that represents a large fraction of world GDP and military power, have probably played a major role as well. It would be unwise to experiment and see if the other contributing factors can sustain peace on their own.

Yet continuing this grand strategy does not mean going on intellectual autopilot, as the strategy certainly does not answer every important question in global security affairs. In the past, it did not prevent the outbreak of major (and very difficult) wars for the United States — from Korea and Vietnam to Iraq and Afghanistan.²⁴ And today, it does not specifically dictate how to stabilize Ukraine or Taiwan, disarm nuclear-capable North Korea while keeping Iran nonnuclear, or keep international terrorism at bay. Implementing the strategy requires considerable thought and good judgment, which the United States has not always displayed. It requires both resoluteness and restraint; since 1945, the United States has sometimes lacked the former but has more frequently lacked the latter.

The specific context: Defense policy under Biden

The Biden administration’s record of implementing a grand strategy of “resolute restraint” to date is mixed. There have been mistakes, to include the botched withdrawal from Afghanistan and overly hostile rhetoric toward China. There have been successes: specific policy initiatives toward China that have bolstered American power and deterrence, and a generally commendable approach toward supporting Ukraine in its struggle against Russia without bringing America directly into the fight. The Biden administration has championed the CHIPS and Science Act, used the Committee on Foreign Investment in the United States to limit Chinese acquisitions of U.S. high-technology assets, and dispersed and hardened U.S. military assets in the Pacific — which all strengthen American national security and improve net deterrence. Notably, without formally abandoning the U.S. policy of “strategic ambiguity” on the Taiwan question, Biden has said several times that he would likely send American combat forces to help Taiwan defend itself in the event of a Chinese attack. These words risk emboldening pro-independence forces in Taiwan and provoking China. But they also may somewhat bolster deterrence of a Chinese attack without requiring the United States to formally abandon its policy of strategic ambiguity — better understood, perhaps, as a policy of dual deterrence of both Taipei and Beijing.²⁵ Staying the course, the United States should refrain from committing clearly to the military defense of Taiwan, while at the same time showing a resolve to defend Taiwan in a war that Taiwan does not provoke.²⁶

TABLE 2.1

DOD total obligational authority (discretionary and mandatory) by military department

(Current US\$ billions, rounded to the nearest hundred million dollars)

Military department	FY 2023 enacted	FY 2024
Army	191.0	185.3
Navy	244.7	255.8
Air Force	249.7	259.2
DOD-wide	167.6	141.8
Total	853.1	842.2

Source: "National Defense Budget Estimates for FY 2024," (Washington, DC: Office of the Undersecretary of Defense, Comptroller/Chief Financial Officer, May 2023), Table 6-6, https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2024/FY24_Green_Book.pdf.

Note: Supplemental funding is included.

TABLE 2.2

DOD total obligational authority (discretionary and mandatory) by appropriation title

(Current US\$ billions, rounded to the nearest hundred million dollars)

Appropriation title	FY 2023 enacted	FY 2024
Military personnel	172.4	178.9
Operation and maintenance	352.1	329.9
Procurement	167.6	170.0
Research, development, testing, and evaluation	140.1	145.0
Military construction	16.7	14.7
Family housing	2.4	1.9
Revolving and management funds	1.7	1.7
Total	853.1	842.2

Source: "National Defense Budget Estimates for FY 2024," (Washington, DC: Office of the Undersecretary of Defense, Comptroller/Chief Financial Officer, May 2023), Table 6-6, https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2024/FY24_Green_Book.pdf.

Note: Supplemental funding is included.

At the conceptual level of defense policy, perhaps the most remarkable feature of the Biden administration's approach, under Secretary of Defense Lloyd Austin, is its similarity to the approach undertaken by the Trump administration under secretaries Mattis and Mark Esper. The 2018 NDS made China and Russia a priority for defense planning, and the 2022 NDS did as well, though with a somewhat greater relative emphasis on China. Like the 2018 NDS, the current one seeks capabilities that will allow the nation to fight and win a single all-out war against either China or Russia, while maintaining deterrence in Korea and the Persian Gulf and sustaining operations simultaneously against global terrorist networks — and, of course, protecting the United States itself. Also, likewise, the 2022 NDS does not seek a two-war capability, whereby American and allied combat forces would hypothetically have enough size and firepower to win two distinctive and big wars at once. Both strategies reduced the relative emphasis on the Middle East, without pretending that the region could somehow simply be ignored, and both also sustained high levels of American forward presence on land and at sea in the broader European as well as western Pacific theaters.²⁷

U.S. military force posture has changed only modestly over the last decade. Indeed, it has changed relatively little since the defense draw-down of the early post-Cold War years. The proportional allocation of overall military spending across the major services has changed very little as well. In terms of active-duty soldiers, the Army is about 6% smaller than it was in 2000 before the wars in Iraq and Afghanistan led to temporary increases. The Marine Corps is at roughly its 2000 size. Although discussion continues around the idea of pursuing a 500-ship Navy with dozens of unmanned vessels, and although the Air Force still harbors hopes of a larger force structure itself, those services have changed only modestly in aggregate size. In terms of personnel, the Navy has declined by roughly 7%, and the Department of the Air Force has declined by roughly 6% this century. (Meanwhile, within the overall Department of the Air Force, 9,000 uniformed personnel have shifted from the Air Force proper to the new Space Force.)²⁸

The budget for research, development, testing, and evaluation reached \$140 billion in 2023, a historic high. The budget has reached this scale largely because systems that have been at the conceptual or laboratory level for years are now reaching the advanced prototyping and field testing phases (with low-level production soon to follow in most cases). These systems include the B-21 bomber; various hypersonic missile systems (one for each major service, with expected fielding in 2023, 2025, and 2027); a new nuclear triad that in addition to the bomber force will include Columbia-class submarines and next-generation intercontinental ballistic missiles (ICBMs) (dubbed the ground-based strategic deterrent, or GBSD) with combined expected investment costs of \$1.5 trillion, expressed in 2024 dollars, over the 2017–2046 period; new fleets of smaller satellites for the Space Force; and various cyber initiatives that involve advanced artificial intelligence capabilities.²⁹ There are also programs to develop sensors and interceptors effective against hypersonic weapons; the United States currently lacks such capabilities except to a very limited extent.³⁰ The procurement budget is now almost \$170 billion and, according to plans, will grow about \$10 billion in real terms in coming years as more of these modern systems migrate into production.³¹

Notably, former Commandant of the Marine Corps General David Berger shook the defense establishment with several big changes within his service. His goals were to make the Marines more expeditionary; less dependent on centralized command, control, communications, and intelligence support as well as large bases; more lethal in the realm of long-range missile strikes; and more focused on China. To pursue these objectives, he eliminated tanks and traditional heavy artillery from the Marine Corps, changed specialties for weapons operators within individual fighting units, advocated smaller amphibious ships to move Marines around the world (with less net emphasis on amphibious assault), and diversified the footprint of Marines in the Asia-Pacific region in particular — while equipping new “littoral combat regiments” with anti-ship

missiles. These ideas came together conceptually in the Marine Corps Expeditionary Advanced Base Operations concept (the Air Force has developed a related Agile Combat Employment concept).³² Berger's goals also included helping joint-force commanders better monitor China and thereby, one hopes, deter it from various "gray zone" micro-aggressions as well as possible larger attacks in places like Taiwan.³³

Regarding noteworthy new ideas and initiatives, the Army is looking to replace many helicopters with tilt-rotor aircraft like the Marine Corps Osprey. The Air Force is accelerating what it calls sixth-generation fighter technology and envisions teaming manned and unmanned aircraft as it does so.³⁴ It is also, along with the Navy, belatedly requesting more money for stocks of advanced munitions that have been inadequate for any large-scale great-power contingency.

Several changes are being made to overseas basing as well, although the big picture is not changing much. The two epicenters of overseas U.S. military capability will remain Northeast Asia and Europe, along with a smaller though still considerable presence in the broader Middle East. The U.S. military has in effect increased its overall footprint in Europe by about 20,000 troops or 25% since the start of 2022. At its June 2022 Madrid summit, the North Atlantic Treaty Organization (NATO) decided to establish a continuous brigade-strength presence in each of the Baltic states, with the United States for the first time committing to an ongoing presence as part of the effort (previously, its focus was on expanding capabilities in Poland). The allies are showing some hesitancy to fulfill their pledges, but the overall trend indicates that NATO is "moving eastward." In the coming years, the total U.S. troop presence on the European continent will probably remain at its new level of about 100,000 troops — up from 80,000 a few years ago, but far less than the 300,000 uniformed personnel during the Cold War.³⁵

Elsewhere around the globe, other more modest changes are taking place. For example, America's rotational presence of Marines in Darwin, Australia, now involves about 2,500 personnel at a time.³⁶ About 5,000 Marines are relocating from Okinawa, Japan, to the U.S. territory of Guam. Expanded U.S. cooperation with the Philippines under President Ferdinand Marcos Jr. has led to more U.S. access (but not substantial permanent basing) at five Filipino military facilities. However, it seems too soon to vouch for the operational significance of this collaboration, especially in times of a potential crisis or war.³⁷ The United States is also building a new radar installation on Palau, between the Philippines and Guam.³⁸ It has also recently gained access to ports and airfields in Papua New Guinea.³⁹

Nuclear weapons policy has become a bit convoluted under President Biden. The administration simultaneously seeks to strengthen extended deterrence, modernize U.S. nuclear forces comprehensively, figure out a way to deter two nuclear superpowers at once — and reduce the role of nuclear weapons in overall U.S. defense policy. The 2022 National Security Strategy includes the following paragraph:⁴⁰

Nuclear deterrence remains a top priority for the Nation and foundational to integrated deterrence. A safe, secure, and effective nuclear force undergirds our defense priorities by deterring strategic attacks, assuring allies and partners, and allowing us to achieve our objectives if deterrence fails. Our competitors and potential adversaries are investing heavily in new nuclear weapons. By the 2030s, the United States for the first time will need to deter two major nuclear powers, each of whom will field modern and diverse global and regional nuclear forces. To ensure our nuclear deterrent remains responsive to the threats we face, we are modernizing the nuclear Triad, nuclear command, control, and communications, and our nuclear weapons infrastructure, as well as strengthening our extended deterrence commitments to our Allies. We remain equally committed to reducing the

risks of nuclear war. This includes taking further steps to reduce the role of nuclear weapons in our strategy and pursuing realistic goals for mutual, verifiable arms control, which contribute to our deterrence strategy and strengthen the global non-proliferation regime.

For the moment, the Biden administration seems content to keep U.S. nuclear force posture about where it is, while modernizing key systems and keeping a watchful eye on both China and Russia.⁴¹ A modest and useful step forward may be to revive the nuclear arms reduction treaty, New START, with Russia once the Ukraine war is over. Whether that is possible or not, the administration could try to persuade Beijing (as well as Paris and London) to join New START's mechanisms and processes for data exchange, transparency in planning, and monitoring/verification.⁴²

On balance, the United States' defense posture, force structure, readiness, and capabilities appear reasonably strong. But there are some deficiencies, which will be discussed in a subsequent section that considers ways in which defense resources may need to increase for certain national security needs (even if savings can also be found in other existing plans and programs). Moreover, there are limitations on what American combat forces can likely achieve in major operations. For example, counterinsurgency and state-building efforts can verge on the impossible, or at least extremely costly, as evidenced by those carried out in Iraq and Afghanistan. Also, U.S. nuclear forces are not capable of effective preemption against China or Russia. While missile defenses have improved in recent years, they are far from adequate to guarantee that the country (or U.S. allies) can be confidently protected against possible missile attacks by China, Russia, and North Korea. Further, as I have argued elsewhere (in a Brookings paper in 2022), the United States cannot necessarily break an attempted Chinese blockade of Taiwan (though neither can China be confident that its blockade would work, so conventional deterrence may still be effective).⁴³

Finally, as good as U.S. defense technology may be, it cannot guarantee victory for a smaller country like Ukraine, despite receiving a great deal of it. Alas, it remains a dangerous world, including for the United States and its major allies.

But from a broader perspective, the U.S. security position in the world benefits from several key advantages. The country's military budget remains large, as does the budget of its allies in aggregate. Nuclear and conventional deterrence combine to make interstate conflict less likely in today's world than during past centuries. The U.S. combat record around the world this century, while mediocre in achieving preferred outcomes in Afghanistan and Iraq, did lead to the rapid overthrow of previous Taliban governments and Saddam Hussein and to the effective protection of the American homeland in the "war on terror." American military forces and their forward stationing or deployment in key regions of the world, along with the sometimes inadequate but still impressive contributions of U.S. friends and allies, help ensure that main security partners are generally safe. And ongoing U.S. military innovation efforts, while always having room for improvement, probably appear quite impressive from the perspective of Beijing, Moscow, Pyongyang, and Teheran.

Within this defense framework, the following proposals could enhance American defense spending efforts — by both saving costs, and in some cases, increasing them.

The best ways to cut defense costs

By adopting the attitude of a "cheap hawk," defense policymakers can improve America's defense capabilities without large increases in spending. They can be selective in pursuing innovations, emphasizing those that improve U.S. military resilience and survivability, and they can reduce inefficiency at the Department

of Defense. This section provides several ideas on how to find those inefficiencies and savings, while the following section discusses necessary increases in other types of defense spending.

Three of the ideas come from the CBO's recent list of 10 possible ways to reduce the defense budget.⁴⁴ The three include replacing some military positions with civilians, canceling the nuclear-armed long-range standoff weapon, and canceling (or at least deferring) the Army's future vertical lift helicopter replacement programs. These proposals should be considered seriously.

I do not support CBO's other seven ideas, at least not at this time. For example, two of the CBO's ideas would modestly reduce military compensation, but military recruiting is currently not going well *and* there is not yet a broader U.S. effort to make shared sacrifices in pursuit of healthier fiscal policy. Military personnel should not, for example, have to accept reductions in their cost-of-living adjustments in their paychecks at a time when no such changes are being proposed for social security recipients. A third CBO option would abandon future aircraft carrier construction, but it seems far too soon to abandon the carrier. A fourth option would delay the B-21 bomber, but that stealthy, long-range system is important in an era when America may not be able to count on the survivability of forward military bases. A fifth would retire the venerable B-1, but again, bombers are central to deterring China given their longer range and thus lesser dependence on forward military bases. A sixth would unilaterally cut the size of America's nuclear forces; however, at a time when Russia is sometimes making nuclear threats over the Ukraine war and China is planning to increase the size of its arsenal by as much as 1,000 warheads over the next dozen years, the timing seems wrong for this idea.⁴⁵ And finally, a seventh would eliminate the world's best air superiority fighter, the F-22, at a time when that plane could be crucial for deterring war against China in particular, given the importance of controlling the skies in any future fight.

By comparison, the following nine ideas — which the U.S. administration and Congress should seriously consider — could make good sense:

1. Retire most ships and planes the Pentagon wants to divest

In its budget request for 2024, as in past years, the Pentagon has proposed retiring a number of existing weapons platforms. Specifically, the Biden administration has asked Congress to divest eight ships and more than 300 aircraft of various types. It based its decisions largely on determinations that it had excess capacity or that there were maintenance difficulties as well as related practical challenges to operating the platforms. Ranking Member of the House Armed Services Committee Adam Smith and others have seconded the Pentagon's thinking.⁴⁶ Because the proposal is part of the administration's official plan, carrying it out would not save additional money relative to what is already being estimated. But the difficulty of making these changes in the past means that the idea merits some discussion here.

To be fair, the fact that the Pentagon "doesn't even want" a given weapon does not immediately prove that the weapon is worthless. The Pentagon can sometimes be wrong. Administrations make judgment calls all the time about defense priorities — and their judgments are nearly as apt to be incorrect, or at least debatable, as those judgments of the Congress. To be sure, senators and representatives do not have the staff or capacity for certain types of detailed analysis that the military services and Office of the Secretary of Defense do. In addition, they may have parochial interests if weapons are being developed, built, based, or maintained within their jurisdictions. But many judgment calls about which weapons to keep and which to retire or cancel hinge on broad strategic assessments that Congressional staff and members or senators are in fact often just as capable of rendering as officials within the Department of Defense. Bear in mind that sometimes, staff and also senior leaders move from the legislative to the

executive branch or the reverse, underscoring that defense expertise can be just as strong (or just as flawed) within the Congress as within the Pentagon.

In addition, while parochial interests can sometimes supersede sound strategic analysis, they can also make a given senator or member more apt to champion a cause that the Pentagon may have wrongly underappreciated. If parochial interests are the only reason a senator or congressman favors a certain system, bad things are likely to result. But if parochial interests are just a contributing consideration, they may not be harmful. For example, former Senator John McCain of Arizona and former Senator Kelly Ayotte of New Hampshire took a particular interest in the A-10 Warthog aircraft (partly because of where it was based) at a time when the Air Force and the Department of Defense wanted to retire it. They forced the Department of Defense to retain it, and many troops on the ground in Afghanistan and Iraq were grateful, given the kind of low-altitude support that the A-10 could provide. That is but one example.⁴⁷

That said, in this case, most of the Pentagon's proposals to retire ships and airplanes are correct. At this strategic juncture, the DOD should prioritize quality over quantity.⁴⁸ Specifically, it should emphasize command and control systems, cyber capabilities, satellite constellations, alternatives to weapons systems requiring fixed (and thus vulnerable) forward bases, and air and missile defenses. It should also emphasize munitions stockpiles, spare parts, logistics lines, and other components of the "soft underbelly" of U.S. defense capabilities. Weapons systems that are particularly inefficient or expensive can therefore be viewed as lower priorities, just as the Pentagon has correctly concluded.

The following ships and aircraft are proposed for divestment:

U.S. Navy:⁴⁹

- 2 littoral combat ships

- 3 dock landing ships
- 3 guided missile cruisers

Air Force:⁵⁰

- 42 A-10s
- 3 A-29s
- 1 B-1B
- 2 C-130Hs
- 2 E-3 AWACS
- 3 E-8 JSTARS
- 4 EC-130Js
- 57 F-15C/Ds
- 32 F-22s
- 37 HH-60Gs
- 24 KC-10s
- 48 MQ-9s
- 1 RQ-4s
- 52 T-1As

This is a significant litany of systems, and it is to the credit of the Air Force and Navy in particular that they have identified weapons they can do without in the interest of saving money and preparing to maintain next-generation systems. A typical surface combatant costs the U.S. military \$150 million to \$200 million annually in operations and support costs; a typical squadron of aircraft (12 planes most often) costs \$300 million to \$600 million a year to operate and maintain. Thus, the operating costs of all the systems listed above total \$500 million for the ships and more than \$6 billion for the aircraft. However, these costs include associated personnel, and it is not clear that the military is proposing to reduce its active-duty strength as the above systems are retired — thus, savings may be more fairly estimated in the range of \$3 billion to \$5 billion a year. But that is still clearly a considerable amount.⁵¹

The proposed retirement of the F-22s is questionable, given their potential utility in a high-end fight against China, but the aircraft are proving difficult to maintain. And at this juncture, there are now enough F-35 aircraft available to the U.S. military (on the order of 500) that combat stealth aircraft are not lacking (acknowledging the differences between the two types of airframes).⁵² I lean against retiring any of the F-22s but it is a close call. The retirement of amphibious ships could also prove problematic, given that the nation has fewer than the number considered a bare minimum by General Berger. But that said, because a large-scale amphibious assault is unlikely, this retirement is probably one that the nation can risk.⁵³

Estimated net savings per year relative to existing plans: **\$0**

Estimated savings relative to today: **\$3 billion to \$5 billion a year**

2. Rethink naval presence — and cap the size of the Navy

The U.S. Navy remains a remarkable and extremely capable institution. But there are some flaws in its thinking about how to size and shape the future fleet.

The Navy is intent on maintaining its presence in key overseas theaters on a nearly continuous basis. However, the logic behind such thinking is highly debatable. To say this goes against Navy canon — but continuous maritime presence generally should not be an end in itself.

Historically, the evidence that any one platform or capability produces consistently better outcomes for American interests in times of peace or crisis is not compelling. Land-based capabilities demonstrate commitment to the defense of an ally, as tripwires of sorts, but ships convey their influence in a less direct way. Moreover, in time of war, there is opportunity for reinforcement.⁵⁴ The Navy, with its emphasis on continuity, overemphasizes the traditional pres-

ence mission in its force planning. There may be a strong case to retain some degree of high-end ongoing presence in the fraught western Pacific, but in other theaters, flexibility can generally be one of the watchwords, especially in regard to large surface combatants, amphibious ships, and aircraft carriers.

The way the Navy operates ships can also be questioned. The notion that ships must always be crewed uniquely, with one group of individuals staying with a given ship over a multiyear period, should be reassessed. In some cases, especially for ships with crews measured in the dozens or low hundreds of sailors like cruisers and destroyers, the Navy can utilize “crew swaps” while ships remain forward-deployed at sea. In fact, this approach is already employed with ballistic-missile submarines and minesweepers — and the Coast Guard is also considering it for forward-stationed ships.⁵⁵ The approach can be facilitated by keeping a small nucleus of sailors aboard during the transition from one crew to the next to deal with any idiosyncrasies of a given ship. This approach wastes less time in ship transit, allowing a smaller fleet to maintain a given level of presence without exhausting people or equipment (provided that good use is made of allied shipyards for routine maintenance—as it should be, to a larger extent than is now the case).

Technologically, the Navy also has alternatives that have not yet been adequately explored or considered. It could consider teaming unmanned systems with traditional, crewed ships, which would lessen demands on manned ships in the future. For example, instead of a group of four manned destroyers operating together, two manned ships together with two to four unmanned vessels wielding capabilities like mine-clearance technology and missiles could form a battle group. But the Navy has been slow to innovate like this.⁵⁶ It is struggling even to build unmanned undersea vehicles for the relatively simple purpose of laying mines.⁵⁷ Fortunately, the Navy is having better luck, and showing greater sense of purpose, with shorter-range unmanned

systems making up Task Force 59 in the Persian Gulf.⁵⁸ There may also be opportunities to replace ships with land-based assets in some cases, particularly in the broader Middle East. These can reduce the need for a carrier presence near the Gulf.⁵⁹

To date, the Navy has proposed increases in its traditional force structure, as well as increases in its robotics fleet. This makes for a very expensive planned fleet. For instance, in 2022, the Navy had about 292 ships: 11 aircraft carriers, 14 ballistic missile submarines and another 54 attack and related subs, 88 large surface combatants and 32 small ones, 9 large amphibious ships (essentially also small aircraft carriers) and another 22 midsize amphibious ships, as well as 29 large combat logistics ships and 32 large supply ships (plus many smaller or less advanced ships that do not contribute to the official count). According to plans, by 2045, the Navy's integrated future force would total 390 ships of these same types (though some different classes, like the very expensive Ohio-Class ballistic missile submarine): 12 aircraft carriers, 12 ballistic missile submarines and another 66 attack and related subs, 96 large surface combatants as well as 56 smaller ones, 10 large-deck amphibious ships as well as 41 smaller ones (including perhaps a new variant smaller than today's), 45 combat logistics ships, and 52 supply ships. Most of that plan for growth in traditional ships is unconvincing, based as it is principally on the patterns of typical usage of the fleet in the mid-2010s and not a clear vision of future global security or warfare.

The Navy is on stronger ground in its vision for larger robotic vessels. By 2045, it plans to deploy 27 large unmanned surface vessels and 18 unmanned underwater vessels. That would make for a grand total of 435 ships.⁶⁰ If instead the Navy did not increase its manned ships above 300 or so (allowing for a larger number of midsize amphibious vessels, but scaling back carrier battle groups somewhat, as argued further below), it would wind up with about 340 to 350 ships of all types including large robotic vessels. That is a sounder, more forward-looking goal.

Getting significantly bigger should not be the Navy's preoccupation at this juncture in geopolitics. Notably, the U.S. Navy, while modestly smaller than China's People's Liberation Army Navy (PLAN) in ship count, continues to exceed the PLAN by a 2:1 advantage in aggregate fleet tonnage. That advantage has been narrowing over the last decade, but it remains substantial.⁶¹ In other words, the United States builds fewer but bigger ships, on average. Certainly, ship tonnage does not itself represent the ultimate naval capability any more than ship count does. Metrics like missile tubes, defense capabilities, anti-submarine warfare capabilities, and survivable and well-integrated C4ISR – the acronym for Command, Control, Communications, Computers (C4), Intelligence, Surveillance, and Reconnaissance (ISR) – must be brought into any true net assessment. But it is worth remembering that if the Navy complains about its fleet being too small, that is in large part a direct result of the Navy choosing to buy large ships. It is also now a result of reduced shipyard capacity, an issue addressed in part in the 2023 AUKUS submarine deal among Australia, the United Kingdom, and the United States (for which the Navy and the Biden administration should be commended).

On the issue of shipyard capacity, note that any savings generated by scaling back the Navy's aspirations for growth in the fleet may be partly consumed, in the near term, by the need to upgrade U.S. shipbuilding capacity. The AUKUS arrangement will provide some financing for such purposes, but only from the Australian government and presumably only for submarines. If the United States has recognized a need to restore shipyard capacity (through construction and repair), it seems strange to apply a remedy only to one shipbuilding sector (however important submarines may be) and to depend entirely on a foreign government to finance the effort. Thus, the United States should explore the option of a one-time investment of up to several billion dollars to essentially repair or restore its shipyards. In the meantime, the Navy may want to find ways to outsource some ship maintenance to allied shipyards, especially in Japan and South Korea, while it builds up indigenous capacities.⁶²

Estimated annual savings relative to existing plans: **Roughly \$0**

Estimated annual savings relative to Navy aspirations: **\$5 billion**

3. Streamline hypersonic missile programs

The United States' hypersonic missiles have had a roller-coaster history of funding and attention. But, today, three separate missile systems are currently in various stages of development. The Army's system is close to being finished, while the Navy and Air Force systems are expected later this decade.⁶³

Each system requires its own expensive development program. In the 2024 budget, the Pentagon is requesting \$11 billion for hypersonic and long-range subsonic missiles. Within that latter category, the Marines are already deploying anti-ship missiles with their new littoral combat regiments.⁶⁴

Capping the high-performance missile budget at \$10 billion — still a great deal of money — seems more prudent. And perhaps the best way to save that \$1 billion relative to preexisting plans would be to cancel one of the three hypersonic missiles. It is not clear that three systems are needed in the coming years. Yes, missiles need to be usable from ships, aircraft, or land-based launchers, but adapting one missile to operate from more than one type of location should be a solvable task.

Hypersonic weapons may be useful against certain target sets, particularly those that are well defended and integral to a nation's air defenses. But it is entirely possible to exaggerate their general relevance for ground-attack operations. They are expensive options for attacking most targets. Moreover, the way that all three military services have gotten into the act suggests that bureaucratic politics are driving programming almost as much as strategic need. The Pentagon should rein in its appetite somewhat for this new capability.

Estimated annual savings: **\$1 billion**

4. Expand the use of performance-based logistics

The DOD could increase its use of performance-based logistics (PBL) to make repairs and maintenance more predictable and efficient and keep equipment more frequently mission-capable.

I highlighted the advantages of PBL in 2014, when it was already employed in 5–10% of all Pentagon maintenance contracts, showing it can work.⁶⁵

As I explained then, traditionally, the DOD pays contractors to repair equipment on a transactional basis (in other words, a fee for service). That works fine in one sense, but does not create incentives to do maintenance more efficiently. Also, with such an approach, key equipment is frequently in the shop awaiting repairs.

That is in contrast to a PBL contract. The latter pays a contractor for outcomes: successful flight-hours, steaming days, or miles driven of a plane, ship, or vehicle, respectively. It encourages the contractor to figure out the most clever way to bundle maintenance activities into a single visit to the shop, so that many things can be done at the same time. Ideally, this concept also leads contractors to do more detailed studies on which parts tend to break most often, so that they can perhaps be reengineered or otherwise made more durable — keeping the plane or vehicle or ship in operation a higher percent of the time. Savings from this approach typically reach 5–20%.

There are potential downsides and limitations, of course. PBL may not work well for brand new systems using new technology, since no dependable baseline exists for knowing likely maintenance costs. It may not be worth the effort for systems about to be retired, since it takes time to set up PBL and make it efficient. There also could

be cases where a PBL system set up to maximize peacetime efficiency may fail to anticipate wear, tear, and damage to equipment in a combat environment and thus not acquire adequate quantities of spare parts or sufficient capacity to make more parts.

But, on balance, for most major weapons systems (those that collectively account for about half of DoD investment spending and a comparable percentage of maintenance spending), PBL may be an option. That means, conservatively, that annual maintenance programs currently costing at least \$10 billion a year in operations and support costs could likely be addressed through the PBL approach.⁶⁶ Given typical savings from PBL contracts, additional annual recurring savings could be in the range of \$1 billion.⁶⁷

Estimated annual savings: **\$1 billion**

5. Cancel the building of a plutonium pit production site at Savannah River

Most U.S. nuclear warheads have a plutonium “pit,” or hollow shell, at their core. It is the central element of a nuclear weapon because it is the pit that begins the real nuclear explosion. When compressed, the pit causes a chain reaction that produces a nuclear yield (and then also creates sufficient temperature and pressure for hydrogen fuel to fuse in the “secondary” of a thermonuclear weapon).

The United States currently has no large-scale production capacity to build pits. Facilities once used to manufacture pits at Rocky Flats, Colorado, were shuttered due to atrocious environmental conditions, as well as the lack of need for new pits once the United States stopped trying to build new types of warheads and shrank its Cold War arsenal by more than 80%. This has not been problematic so far, as the pits have lifetimes estimated at 100 years or more.

But the United States plans to develop the production capacity to make 80 new pits a year. About 30 would be made by expanding capability at Los Alamos Laboratories in New Mexico, and the other 50 would be built at a new facility at Savannah River in South Carolina (on existing Department of Energy, or DOE, property).⁶⁸

One could argue that this many pits is overkill, however, and that a new facility at Savannah River is not needed. Since warhead pits last at least 100 years or more, and since the United States only has about 2,000 warheads in its active inventory (plus another 2,000 in reserve), the expanded capacity at Los Alamos could be sufficient even if no further reductions in nuclear weapons arsenals prove possible in the coming decades. While it would admittedly leave the United States less well positioned to expand or modernize its arsenal in the future, it would be a tolerable risk given the sheer destructive power of the existing nuclear arsenal of the United States.⁶⁹

Not moving forward with the Savannah River facility could save an estimated \$1 billion per year. And this number is conservative, as DOE construction costs at Savannah River and elsewhere have a history of growing considerably relative to initial projections.

Another policy change worth researching relates to the nuclear design teams in the weapons labs of the National Nuclear Security Administration. Historically, the United States has had full-fledged nuclear design capabilities at Los Alamos in New Mexico and Lawrence Livermore National Laboratory in California. This made sense early in the nuclear age, when the bomb was less well understood and nuclear competition with the Soviet Union was intense. But at this more technologically mature point in great-power nuclear competition — and with all the United States now understands about the bomb — keeping fully independent and comprehensively equipped design operations (including extensive testing capabilities for bomb components) at two sites may not be needed.⁷⁰ Scaling back Livermore’s

role as an independent bomb design center may therefore make eminent sense (it is currently responsible for three of the seven warhead types in the U.S. strategic inventory, and Los Alamos is responsible for the other four). However, I do not count savings from this proposal here.

Estimated annual savings: **\$1 billion**

6. Economize on DOD nuclear modernization, particularly the LRSO weapon

As noted before, the United States has embarked on a trillion-dollar-plus nuclear modernization agenda that includes new submarines, bombers, and ICBMs in the next couple decades. The Biden administration cancelled a new nuclear-tipped sea-launched cruise missile program, while keeping the lower-yield warhead variant for the submarine-launched ballistic missile program, of the two new nuclear systems proposed earlier by Secretary Mattis. The Biden decision makes sense. One new low-yield capability seems adequate, given that credible U.S. nuclear deterrent capabilities already exist for a wide range of scenarios and target sets. (And as noted, Biden also retained the rest of the Trump administration agenda for nuclear modernization.⁷¹)

One further element of the nuclear modernization plan that also seems less than essential is the new air-launched cruise missile known as the long-range standoff (LRSO) weapon. A repackaged nuclear warhead, the W-80, is also being developed just for that LRSO, so there are costs associated with the DOE's National Nuclear Security Administration as well.⁷²

The bomber force is a useful adjunct to the nation's submarine-based and land-based nuclear deterrent forces (together comprising the "nuclear triad"). It is hard to imagine making cuts to the size of the American strategic deterrent at a time when Russia has no interest in arms control or further nuclear reductions and when China is increasing the size and capacity of its own force. Moreover, vulnerabilities could

develop in the other legs of the nuclear triad. An ICBM system may be run by a computer network that Beijing or Moscow is able to hack. Submarines at sea will likely remain highly survivable, but submarines in port, or exiting port, may prove vulnerable to direct attack by robotic swarms or other threats. The two ports used by ballistic missile submarines could also be damaged by enemy action (or even by a natural catastrophe or other accident). ICBMs may become more vulnerable due to the improving accuracy of ballistic-missile reentry vehicles or even conventionally armed cruise missiles.⁷³ Since the B-21 is needed anyway — for conventional deterrence and quite possibly conventional warfighting — it should be used to contribute to nuclear deterrence, too.

However, keeping an air-breathing leg of the nuclear triad does not imply a requirement for the LRSO. Once the B-21 is built (and even today, with the nation's small but powerful B-2 fleet), the prospects for an aircraft penetrating Chinese or Russian airspace at least far enough to reach targets near those nations' borders are good. As such, the bombers (some of them possibly unmanned someday) constitute a viable and credible third leg of the triad with or without modernized cruise missiles.⁷⁴

The idea of saving money on the air-breathing part of the nuclear triad is also compelling when one acknowledges that nuclear war plans continue to be characterized by overkill. The New START treaty, though currently on hold, allows each traditional nuclear superpower 1,550 strategic warheads (with each having more than 2,000 additional warheads in reserve or in shorter-range attack systems). But attacking more than 1,000 targets in China or Russia and believing anything could be left of the world once such a scenario plays itself out strains credulity. Thus, even if the bomber force were slightly less menacing in a situation where it lacked a stealthy cruise missile, deterrence would likely remain robust.⁷⁵

There is one additional economy to consider: delaying the replacement of the Minuteman missile ICBM force with a new ground-based strategic deterrent. The Minuteman force is aging and will need replacement reasonably soon. But much of the impetus to replace it now has come from the depletion of excess missiles needed to maintain an acceptable pace of annual flight tests. Instead, deployed Minuteman missiles could be used as test missiles for a stretch of years. This would gradually reduce the number of deployed warheads on the remaining Minuteman force, possibly dropping the United States below 1,550 strategic warheads. But there are other options. By depending more on the bomber force, or uploading more warheads onto submarine-based missiles (or remaining deployed Minutemen), the nation may be able to scale back the size of its deployed ICBM force temporarily and thereby defer replacement of the Minuteman force. At least, this appears to be a possibility; further analysis is needed to confirm it, with serious scrutiny to the current health of the Minuteman force. Deferring Minuteman replacement may be worth additional study, and serious consideration, if defense budget belt tightening goes as far as some envision in coming years.⁷⁶

Near-term annual savings from canceling LRSO: **\$2.5 billion**

7. Replace some military jobs with civilian jobs/employees

Anyone who has spent much time at the Pentagon or near a military base may be struck by the number of uniformed personnel carrying out tasks that do not seem combat-related or military-specific. Lots of people maintain equipment or infrastructure, run offices, manage personnel, and otherwise do work that — at least during times of peace or when they are stateside — does not seem to require them to be warriors. Sometimes, civilians may be able to do certain jobs more efficiently because they do not have to do a required amount of standard military drilling

each year, do not have to rotate from position to position or location to location as often, and do not qualify for year-long military education programs at certain stages in their careers.

The CBO, based on DOD data, estimates that more than 300,000 of the 1.3 million active-duty troops in the U.S. military are doing work that is not inherently military in nature. Naturally, this could change in times of war, and the DOD may prefer to have the ability to deploy particular people whenever and however it sees fit for combat operations. Thus, it does not make sense to transform all of these 300,000 or more military positions into a somewhat smaller number of civilian jobs. But the CBO believes there is a strong case to replace about 80,000 of them. It also estimates that 20% fewer people would be required, meaning that 64,000 civilians could do what 80,000 active-duty troops are doing today, leading to net annual savings of about \$2 billion a year.⁷⁷ The DOD would retain its existing force structure while making these changes; for example, it would not have to cut combat brigades or aviation squadrons but rather would change the balance of civilian and military jobs within each unit.

There may be a number of jobs where, even within the defense world, civilians may typically be better suited than uniformed personnel. For instance, rotating military personnel every few years through positions such as manager of acquisition programs may squander institutional knowledge and expertise, whereas leaving civilians in a given job for many years may enhance this knowledge and improve program performance.

Some have argued that the DOD's civilian workforce is already too large, and they may be right.⁷⁸ But this argument is actually distinct from the one about whether certain specific, and necessary, jobs done by military personnel could often be done just as well and more economically by civilians.

Estimated annual savings: **\$2 billion**

8. Defer Army vertical lift programs

The U.S. Army is planning to modernize its aircraft, especially its transport and scout helicopters. It intends to build on the V-22 tilt-rotor Osprey by developing and procuring aircraft that take off and land like helicopters but fly more like fixed-wing turboprop aircraft at roughly twice the speed of helicopters. It also seeks to reduce the aircrafts' signatures and lessen detectability. Notably, the technologies associated with lift have been simplified and improved considerably since the Osprey, which should make for safer and more easily maintainable aircraft.

These programs are worthy, but they are also expensive. And the enhanced aircraft would replace helicopter fleets that, for the most part, are in reasonably good shape in terms of age, upgrades, and maintenance. Finally, while certainly useful, the new aircraft would probably have only secondary value given that the nation's top military priority is deterring conflict with China. Moving troops dozens or hundreds of miles by aircraft seems relatively less crucial to determining combat outcomes in a largely maritime theater where strategically crucial land masses are generally many hundreds of miles apart. Longer-range aircraft and missile forces, as well as naval systems such as submarines, seem much more likely to determine the outcome of key fights. (Admittedly, things could be different during a conflict on the Korean Peninsula, during an Eastern Europe-Russia conflict, or even during some limited operations in the Pacific that involve, for example, ferrying weapons and troops from one Japanese or Philippine island to another — but for these scenarios, there are generally other ways to move troops, including existing helicopter fleets.)

Deferring the Army's procurement of two types of advanced vertical-lift aircraft (for transport and for attack as well as reconnaissance) until the 2030s could save \$2.5 billion annually this decade. But this would be a painful choice and

would only make sense as a concession to the DOD's fiscal reality. Nonetheless, these programs could be somewhat lower priorities than other things on the DOD acquisition shopping list.

Estimated annual savings: **\$2.5 billion**

9. Hold intelligence community spending constant in real terms

American intelligence spending, almost all of it hidden within the defense budget, is reaching a major milestone. The administration's proposed total budget for U.S. intelligence agencies exceeds \$100 billion for 2024. As I previewed in an opinion essay published last month,⁷⁹ that is about 8% more than the request for 2023 — well above the expected inflation rate. It comes at a time when the overall military budget could decline in real terms under the recent Biden/McCarthy budget deal.⁸⁰ While the Department of Defense tightens its collective belt in general, this may be a good moment for economies at places like the Central Intelligence Agency (CIA), the Defense Intelligence Agency (DIA), and the National Security Agency (NSA) as well.

There are 18 agencies that make up the U.S. intelligence community: the CIA, the DIA, the NSA, the National Reconnaissance Office, the National Geospatial-Intelligence Agency, and smaller units within each of the military services as well as other cabinet-level departments that include Homeland Security, Justice, Treasury, Energy, and State. The \$100 billion request also would provide for the Office of the Director of National Intelligence, which oversees and supervises the entire intelligence ecosystem.⁸¹

For nearly two decades, the overall intelligence budget and its two main functional components—the National Intelligence Program and the Military Intelligence Program—have been made public. The request for the NIP in 2024 is \$72.4 billion; that for the MIP is \$29.3 billion. There are no further details on the intelligence budget at the unclassified level.

Fortunately, historical perspectives can help us think about the question of “how much is enough?” Expressed in 2024 dollars, the intelligence budget has hovered in the low-to-mid \$90 billion-dollar range over the last four years.

Relative to 2015 — when the war on terror, such as it was, was winding down, and the new era of great-power rivalry was just heating up — the intelligence community budget for 2024 would represent almost a 20% increase in real dollar terms. That is comparable to the growth in the overall defense budget over that same period of 2015-2024.⁸²

U.S. intelligence capabilities are extremely impressive, but that does not mean that the community should get a blank check. U.S. intelligence correctly forecast that Russia might invade Ukraine a few months before the 2022 invasion began; and it has made many other correct predictions and useful warnings. But even with such funding largesse, it wrongly predicted that the Ukraine war would be over fast and it overestimated the Afghan government’s ability to survive for long after the U.S.-NATO departure in 2021. Such mistakes are inherent to intelligence, which is after all largely focused on the difficult task of predicting future human behavior. Money will not eliminate such errors, and we should avoid any temptation to think that it might. Robust intelligence funding makes sense, but the case for growth in excess of the trend in overall DOD spending is unconvincing.

Estimated annual savings: **\$2 billion**

SUMMARY OF SAVINGS

Depending on whether the aforementioned options are fully implemented, the net savings this decade for adopting most of the above could reach \$10 billion to \$12 billion annually relative to official plans or \$20 billion or more relative to the clear preferences of Congress and certain military services. At a time of fiscal duress across much of the government, the DOD should be able to find savings of such a magnitude, even though doing so will be difficult.

Top unmet needs that require *more* defense spending

Unfortunately, rather than reduce the overall federal deficit, much of the savings from reforms and tough decisions like these will likely be needed to fund important initiatives that the DOD has not yet sufficiently prioritized. Fortunately, the list of key unmet needs is not long. Thus, the net effect should allow the DOD to improve its capabilities with just 1% annual real growth in the national security budget. Several capabilities indeed require more attention and resources; and three of the most important ones are discussed below.

1. Strengthen the joint force for Taiwan contingencies

Both Taiwan and the United States should seek to further reduce China's prospects of successfully crossing the Taiwan Strait and seizing the island. This agenda involves improving the "porcupine" defense concept for Taiwan to make the island less easily conquered—an effort that is going too slowly and should be prioritized more effectively.⁸³ It also involves U.S. force posture changes — notably, the stationing of sensors and anti-ship missiles in the western Pacific in places where they are not vulnerable to Chinese preemptive attack (in the way that bases on Okinawa and large surface ships operating in the western Pacific currently would be vulnerable). The United States also needs increasingly resilient, survivable, and even redundant command and control systems and logistics/transport capabilities — including for mundane measures like making sure that ships and aircraft from civilian reserve fleets carry communications equipment that can function in jamming environments.⁸⁴

As defense analyst David Ochmanek and I argued in an opinion essay published in 2021, more needs to be done to deter a Chinese invasion of Taiwan.⁸⁵ Any such attack would be a cosmic roll of the dice. But some war games and calculations have shown that China's armed forces might be able to pull it off.⁸⁶ And China's leaders might reach that conclusion themselves (even if they were wrong to do so). For example, they might convince themselves that the PLA could begin by barraging Taiwan's airfields and air defenses, ports, big ships, lines of communication, and command/control systems with missile and air attacks. Then, it could load up amphibious vessels for an assault on the island. With Taiwan's air defenses suppressed, the amphibious assault could be accompanied by an airborne invasion by paratroopers and transport helicopters. As part of this scheme, the PLA might strike U.S. forces and bases in the western Pacific, including aircraft carrier strike groups, in order to cripple any U.S. effort to defend Taiwan, especially during the crucial early hours, days, and weeks of the assault.

There are effective steps we could take to make China's job much, much harder. Rather than continue to rely so heavily on big, easily targeted military platforms and facilities in the western Pacific, the United States could station large numbers of sensors and munitions on relatively invulnerable platforms. The technologies to do so are available, affordable, and effective.

To deter such a Chinese amphibious assault, the United States needs the ability to sink or disable hundreds of Chinese ships quickly and deny Chinese forces the ability to operate with impunity in Taiwan's airspace.⁸⁷ Having the capability to prevent an attempted invasion bolsters deterrence and reduces the chances of war.

Specifically, DOD should acquire these capabilities:

- Several dozen large, unmanned underwater vehicles that can loiter in the western Pacific and launch attacks on Chinese ships trying to cross the Strait.
- Small, unmanned aircraft that can be launched from mobile trailers on Okinawa or elsewhere and recovered by parachute. They would look for Chinese ships and attack them, as well.
- Larger stocks of anti-ship missiles to allow the Air Force's bomber fleet to conduct several days' worth of intensive attacks against China's fleet, and weeks or months of lower-intensity follow-on attacks if needed.⁸⁸
- Further hardening, diversification, and addition of redundancy to America's satellite fleets to improve survivability during war.

Taiwan needs more of several key capabilities too: smart mines, anti-ship missiles deliverable from mobile launchers, highly mobile short-range air defense missile systems, and perhaps some of the types of unmanned underwater vessels and aircraft recommended above for the United States. Taiwan should also acquire distributed reconnaissance and communications systems

that allow defenders along the shoreline to operate in small, autonomous cells and to call in strikes.

Military preparations are not the only way to deter a Chinese attack on Taiwan. What U.S. Secretary of Defense Lloyd Austin (and I, going back to my 2019 book, *The Senkaku Paradox*) call integrated deterrence would also wield the prospect of economic and diplomatic punishments by America and her allies to deter China, including for a scenario centered on a Chinese blockade of Taiwan. But the right military capabilities are also essential.

Estimated annual costs relative to existing plans: **\$3 billion to \$5 billion**

2. Fill munitions stockpiles

Much more than they have done for years, the U.S. armed forces need to prioritize adequate stockpiles of munitions as well as a strong industrial base that can produce large quantities on short notice. The Ukraine war has demonstrated the importance of meeting this need, and it is time to make far-reaching policy changes to do so. Among other efforts, this requires replenishing stocks of short-range weapons like Javelin anti-tank munitions and artillery shells, as well as increasing capacity to make more. Fortunately, some progress has already been made. For example, the Army is now producing 24,000 artillery shells monthly, up from 10,000 before Russia's invasion of Ukraine; and it intends to triple the current rate by late 2024. Javelin production is slated to double to 4,000 weapons a year soon.⁸⁹ Yet there has been less movement on the issue of acquiring longer-range strike capacity in regard to Pacific/maritime scenarios and the China challenge.

To deter war in the Taiwan Strait, the United States needs many more long-range precision-guided munitions. Analyst Mark Gunzinger recommends roughly a tenfold increase from the ballpark of 10,000 possessed today to 100,000 in

coming years, with an estimated total multiyear price tag in the low tens of billions of dollars.⁹⁰ These missiles are needed not just against ships, but many land-based targets as well. An expedited program might seek to purchase 10,000 more per year than currently planned. With some munitions costing as much as \$1 million or more,⁹¹ that would make for an average annual investment cost (beyond existing plans) of about \$5 billion. These capabilities are likely even more important than multiple hypersonic missile programs, however hyped the latter may now be in U.S. defense modernization debates.

Retired General John Ferrari has proposed two additional worthy ideas. The first is to commit to substantial five-year buys of key munitions to give industry the confidence and resources needed to establish adequate production capability and to keep subcontractors and supply chains working efficiently. The second is to avoid the creation of monopolies over certain munitions or categories of munitions just out of a desire to wring every last penny of savings out of a short-term contract. The greater imperative here is to have the capacity needed in a crisis or prolonged conflict. And even in peacetime, the DOD needs to set adequate goals for munitions inventories that are based on the possibility of prolonged combat against a capable foe.⁹² It is also possible that more munitions should be used routinely in live-fire training, once inventories are properly replenished.

Average annual cost relative to existing plans: **\$5 billion**

3. Expand basing in Europe

Even with Russia stuck militarily in Ukraine, it would be prudent for NATO to shore up its eastern flank in the months and years to come, as I wrote in a Talbott paper last summer.⁹³ I would identify Estonia and Latvia, where many native Russian speakers live, and those areas in Poland where NATO is shepherding supplies into Ukraine, as the regions of greatest potential vulnerability.⁹⁴

Prior to 2017, the United States had about 35,000 uniformed personnel in Germany. It had another 13,000 in Italy and about 9,000 in the United Kingdom. The total in Poland reached 5,000.

Those overall numbers included a number of key types of units. The Army had a Stryker regiment (essentially a mid-weight combat brigade team) in Germany, a light brigade in Italy, and a heavy brigade on rotation in Poland. It also had Air Force combat wings in Germany, Italy, and the United Kingdom. Logistics, electronic warfare, reconnaissance, and command/control capabilities were part of the overall U.S. presence, too.⁹⁵

In the aftermath of Russia's seizure of Crimea, NATO began an enhanced forward presence in the Baltic countries and Poland starting in 2017. These deployments were quite modest, however, including a grand total of about 5,000 uniformed personnel.⁹⁶ The Baltic states themselves collectively fielded more than 30,000 active-duty military personnel and a somewhat larger number of reservists. They each have one, two, or three brigades of ground combat power; they do not possess significant combat air power.⁹⁷

Thus, after Russia's all-out assault on Ukraine in early 2022, the United States and allies intensified their efforts to position forces near front lines. Over the last two years, the United States has added another 20,000 troops to its European totals, largely in Germany, Poland, and points eastward.

Where to go from here? The key unifying concept should be to move from a tripwire defense of NATO's eastern members to something akin to a forward defense capability;

Begin with Poland. Since the United States already has a strong presence there, the central priority should now be to make the rotational presence more permanent.⁹⁸ Adding a division headquarters to oversee the activities of the brigade combat team already in Poland, as well as smaller elements in the east near the Suwalki Gap, makes sense.⁹⁹ The United States should

also place stocks of prepositioned equipment for an armored brigade in Poland, and store more transportation assets such as tank transporters there, to help move additional forces into the Baltics in a crisis. It also should increase its engineering capabilities, as well as its air and missile defense units. European countries will need to continue to improve some elements of their infrastructure to transport equipment rapidly from Western Europe to Eastern Europe in times of crisis as well. This effort could require increases in NATO infrastructure funds.¹⁰⁰

The argument is also strong for basing real American combat capability in the Baltics going forward. Something in the range of 10,000 U.S. troops stationed in the Baltic region makes sense — made up of a brigade combat team (with some 4,000 soldiers, plus support), an Army combat aviation brigade, and/or two to three squadrons of U.S. Air Force tactical aircraft. These types of units are the basic building blocks of American combat power.¹⁰¹ NATO must include not just combat platforms with these units, but also robust networks of advanced sensors, ample stocks of precision munitions, and possibly rapidly deployable smart mines. Together, these capabilities constitute the kinds of "kill chains" that strategist Christian Brose rightly emphasizes as the correct central focus for modern U.S. defense planning.¹⁰² Washington should also attempt to persuade other NATO nations to make comparable increases in combat capability in the Baltic region. Other changes, such as expedited procedures for NATO to gain priority access to central Europe's rail network in a crisis, should also be pursued promptly. If the Ukraine conflict ends with a happier outcome than now seems likely, some of these plans might be reassessed and scaled back — but for now, NATO should think in terms of robust forward defense of its east.

The good news is that these changes do not involve huge additional expenses and therefore should not fundamentally disrupt the Pentagon's understandable desire to focus much of its future modernization on the Pacific. Once facilities are

built, keeping U.S. forces abroad rather than at home typically adds about 10% to their annual cost.¹⁰³ For 15,000 U.S. military personnel, that would equate to roughly \$1 billion a year.¹⁰⁴ Local partners can handle many of the expenses of building those new facilities, but it would be prudent to assume some U.S. contributions will be needed as well, even above those funded through the current European Deterrence Initiative. This implies another estimated \$1 billion a year for this decade.

If the Army and Air Force permanently reposition small numbers of units in Poland and the Baltics, rather than maintain a new forward posture with frequent rotations of numerous units, they could likely sustain this burden without enlarging their force structures. The Army's past preference to rotate units into Poland (and South Korea) is understandable. This approach gives more soldiers experience with preparing for deployment, as well as a chance to serve abroad. But it also puts strain on the force structure, given that at least three units are needed to sustain a single continuous deployment (due to the need for training, preparation, and then recovery). At this juncture, NATO's long-standing policy of not basing combat units in eastern member states — as a nod to Russian security sensitivities — is no longer relevant in light of Russia's attack on Ukraine. Moreover, the very modest stationing of combat units proposed here for Poland and the Baltics cannot pose a meaningful threat of cross-border aggression against Russia.

Certainly, the diversification and hardening of U.S. bases in the western Pacific should remain a top priority as well. But with funding for the Pacific Deterrence Initiative pushing \$10 billion a year already, and a number of recent positive developments with new access in the Philippines and elsewhere, it does not seem necessary to further intensify these efforts.¹⁰⁵

Estimated annual costs relative to existing plans: **\$2 billion**

A mixed (cost-neutral) case: The future of the aircraft carrier

As I argued back in 2018, one final, big change in U.S. defense policy should also be considered: maintaining a modestly smaller aircraft carrier fleet but with longer-range aircraft operating from those decks.¹⁰⁶ The Navy should develop and buy a long-range unmanned attack aircraft to operate off carriers. Savings from shrinking the carrier fleet from 11 to 10 large-deck ships, as well as somewhat reducing the associated surface escort vessels, could pay for this modernization. The net result may not affect the budget much if at all — but it will improve America's ability to handle the maritime challenges of the 21st century.

There are those who think the aircraft carrier already obsolete. Because of modern antiship missiles and quiet submarines, and the proliferation of satellites and drones — to say nothing of nuclear weapons — the contention is that the aircraft carrier will be too easy to spot and then target to stand much of a chance of survival.

That is not the Navy's view. The Navy seems to believe, or at least hope, that it can continue to use carriers largely as before, well into the future. Perhaps enemy satellite networks can be disrupted, perhaps missile defense systems can be improved — and at worst, perhaps carriers can just be kept a bit further offshore from threatening countries.

The Navy still sizes the carrier fleet using similar criteria to what it has employed before — and plans to keep doing so under its envisioned 355-ship fleet of the future.

I argue for a compromise approach, but closer to the Navy's view than to those who would write a eulogy for the aircraft carrier already.¹⁰⁷

The United States has two aircraft carrier fleets today. The first is the one most people think about when they hear the term: the large flat-deck carriers, of which as noted the Navy now has 11. Each is capable of holding up to about 75 planes, together known as a carrier air wing, with capacity for catapult-assisted takeoff and tail-hook-assisted landing.¹⁰⁸ There are nine carrier air wings in the force today — fewer than the number of carriers themselves, since aircraft may not have quite the same lengthy maintenance and training cycles as ships.¹⁰⁹

The Navy also has another nine ships, each with about one-third the carrying capacity for planes as the flat-deck ships. The aircraft on these large-deck amphibious ships, designed primarily to move Marines around the world and provide platforms for some of their operations, can include helicopters, Harrier jets, Osprey tilt-rotor aircraft, and F-35B Lightning II jets.

Historically, when conducting force sizing, the Navy has often emphasized the importance of peacetime presence missions more than combat requirements. The goal of such operations has been to reassure allies and deter potential adversaries in those regions of greatest strategic concern to the United States, while providing at least some initial response capability should a crisis quickly escalate to open hostilities. The main regions during the Cold War included the western Pacific, the broader Persian Gulf area, and the Mediterranean Sea, though that last area has been deemphasized during most of the post-Cold War era.

All of today's aircraft carriers are based in the United States, except one homeported in Japan. Those based in the United States average just over 25% time on deployment. Thus, they typically average perhaps 20–22% of their time on station in forward waters. That is because they have lengthy periods of maintenance, prepara-

tion, and then “sustainment” (being on call for rapid response) and because the Navy rightly prefers to limit the duration of any given sailor's deployment to six or seven months when possible.¹¹⁰ Additionally, there are long maintenance periods a carrier generally goes through in its lifetime, with one planned lengthy mid-life overhaul and often a couple more unanticipated (if shorter) ones. This reduces the operational fleet available at any given moment to perhaps nine on average. Thus, a fleet of 11 carriers can somewhat effectively sustain less than three on forward station.¹¹¹

The opportunity to base more land-based tactical fighter aircraft in Gulf Cooperation Council countries — say, one squadron each in Kuwait, the United Arab Emirates, and/or Oman — should be explored as a way to allow more gapping of carrier coverage in the broader Persian Gulf. In addition, the types of presence missions conducted in the South China Sea can be carried out by even smaller vessels than large-deck amphibious ships (as they already often are). This practice could be expanded further, including with Coast Guard vessels. Surging more than one carrier occasionally near a country like North Korea, or in the broader region, may be more useful than more consistently having just one carrier there.¹¹² With such a modified overall approach to presence, the Navy could operate effectively with a fleet of 10 large-deck aircraft carriers.

But some might ask: What about combat scenarios? In major recent wars, which have been fought largely in the broader Persian Gulf region, the Navy has typically wound up deploying five to seven aircraft carriers at peak strength.¹¹³ Not coincidentally, major post-Cold War defense planning documents starting with the Base Force and the 1993 Bottom-Up Review commonly assumed that five to six carriers would be needed in any future conflicts of similar character. It is debatable, though, whether five to seven carriers were truly needed for conflicts in which the United States generally also had access to land bases.¹¹⁴

And what about a great-power threat? Consider one specific example: an operation involving elements of a Chinese naval blockade against Taiwan, perhaps after Beijing determined that Taipei had taken a step too far in the direction of declaring independence. China might conclude that a naval blockade could be “leaky” but still be quite potent. It would not need to stop all ship voyages into and out of Taiwan. It would simply need to deter enough ships from risking the journey that Taiwan’s economy would suffer badly. The goal would likely be to squeeze the island economically to a point of capitulation.¹¹⁵

As the centerpiece of its approach, China might have the submarine fleet introduce a significant risk factor into all maritime voyages in and out of Taiwan — occasionally sinking a cargo ship with submarines or with mines it laid in Taiwan’s harbors.¹¹⁶ Over the last 20 years, China’s number of modern attack subs has grown from roughly two to 40.¹¹⁷ Its precision-strike capabilities have improved to the point where it could conceivably use a preemptive missile and air attack against Taiwanese airfields and ports and associated infrastructure to hobble Taiwan’s ability to strike back.¹¹⁸

The United States and Taiwan could try to break the blockade by deploying enough forces to the western Pacific to set up a protected shipping lane east of Taiwan. To carry out that mission successfully, they would probably need to establish air superiority throughout a large part of the region. They may not be able to do so, however, which is one reason China might prevail in this kind of engagement. The two countries, and perhaps Japan and other allies as well, would also need to protect ships against Chinese submarine attacks and cope with the threat of mines near Taiwan’s ports. This mission could easily involve half a dozen carriers itself.¹¹⁹ One or more might be lost and require backfilling.

There would be huge additional uncertainties in this kind of scenario, including the risk of escalation to nuclear conflict.¹²⁰ Thus, in the actual event of hostilities, the United States would also

want other options, including asymmetric ones that play to its own strengths and perhaps lower the near-term risk of escalation. Rather than forcibly reopen sea and air lanes into Taiwan, the United States and allies might wish to apply military power at times and places of their own choosing, where the correlation of forces and geography were more favorable — perhaps in the Indian Ocean region extending over to the Persian Gulf. Offensive mine warfare operations might also be conducted near China’s ports to reinforce the counter-blockade; mines might be deployed using unmanned underwater systems, submarines, or aircraft.¹²¹ There would be downsides to such an approach. Notably, China’s blockade of Taiwan might not be quickly broken or mitigated. But deterrence — the real goal here — would likely be reinforced. That is because indirect defense may be a more credible, and believable, response than direct defense in some cases. A somewhat smaller aircraft fleet could likely handle this mission, since it would not have to cope with proximate Chinese airpower or land-based missiles in the Indian Ocean region.

Such blockades as well as associated sanctions would hurt the West as well. But such pain is preferable to huge and enormously costly military operations that carry considerable uncertainty about their likely outcomes — not to mention a real risk of nuclear escalation.

Putting the pieces together, the aircraft carrier is not becoming obsolete. But its optimal usages in peacetime and especially in war against near-peer competitors are changing. Thus, it may make the most sense to have a carrier force with 10 flat-deck vessels and a carrier air wing with up to two dozen long-range and stealthy UCLASS unmanned systems rather than a strike force dominated by the likes of F-18 and F-35 manned jets.

Conclusion

A strong American military and growing U.S. defense budget are important for this nation's security, to be sure. But they are consistent with an approach that asks the Pentagon to contribute at least modestly to a national sense of shared sacrifice and fiscal discipline. That sense of discipline does not mean it is time to drastically cut the defense budget or raise it more slowly than the inflation rate, however. The global environment does not lend itself to such an experiment at this moment in history.

The nation needs broader fiscal reform, and much smaller deficits. But achieving these results will require attention to entitlements and revenues, not simply to “discretionary spending.”

America's military is well funded, ready, innovative, and excellent. It can and must stay that way. There is no crisis in defense that requires a massive new buildup. But nor is there any room for complacency or for scaling back.

References

- 1 See “How Would You Fix the Budget?,” (Washington, DC: Committee for a Responsible Federal Budget, 2022), <https://www.futurebudget.org>; Alice M. Rivlin, Sheri Rivlin, and Allan Rivlin, *Divided We Fall: Why Consensus Matters* (Washington, DC: Brookings Institution Press, 2022); William Gale, *Fiscal Therapy: Curing America's Debt Addiction and Investing in the Future* (Oxford: Oxford University Press, 2019).
- 2 National Defense Strategy Commission, “Providing for the Common Defense,” U.S. Institute of Peace, Washington, D.C., November 2018, p. xii, <https://www.usip.org/publications/2018/11/providing-common-defense>.
- 3 Michael E. O’Hanlon and James N. Miller, “Focusing on quality over quantity in the US military budget,” The Brookings Institution, December 2, 2019, <https://www.brookings.edu/articles/focusing-on-quality-over-quantity-in-the-us-military-budget/>.
- 4 International Institute for Strategic Studies, *The Military Balance 2023* (Oxfordshire: Routledge, 2023), 14.
- 5 International Institute for Strategic Studies, *The Military Balance 2023* (Oxfordshire: Routledge, 2023), 500-505.
- 6 Gianna Melillo, “More than one-third of military health care beneficiaries have limited access to psychiatrists: study,” The Hill, January 3, 2023, <https://thehill.com/changing-america/well-being/mental-health/3796871-over-one-third-of-military-health-care-beneficiaries-have-limited-access-to-psychiatrists-study>.
- 7 “Long-Term Implications of the 2023 Future Years Defense Program,” (Washington, DC: Congressional Budget Office, January 2023), <https://www.cbo.gov/publication/58899>.
- 8 International Institute for Strategic Studies, *The Military Balance 2023* (Oxfordshire: Routledge, 2023), 500-505.; Marine Corps University, “Chronologies-1991,” <https://www.usmcu.edu/Research/Marine-Corps-History-Division/Research-Tools-Facts-and-Figures/Chronologies-of-the-Marine-Corps/1991/>.
- 9 Editorial Board, “The Pentagon’s Recruiting Woes,” *The Wall Street Journal*, October 14, 2022, <https://www.wsj.com/articles/the-pentagons-recruitment-woes-army-military-navy-air-force-u-s-defense-11665664019?mod=mhp>.
- 10 These ideas might include recruiting more at colleges and community colleges (not just high schools), having other services emulate the Marines by putting the best officers and noncommissioned officers into recruiting jobs, rethinking whether relatively innocuous behavior like using marijuana or getting certain tattoos should be disqualifying, and enlisting former officials and officers with political lineage in both parties to counter the false narrative that the military has somehow become too “woke” (an allegation belied by historically high retention statistics). The services might also underscore that today’s military is actually much safer (given greater attention to avoiding training accidents and other dangers) — even if sexual harassment trends remain a serious problem and if room for improvement exists in other realms of the armed forces as well. The military services also should be more creative and flexible in how they define and enforce standards for recruits in areas like physical training and fitness; at present, they are turning away too many gifted individuals. Ideas like the Air Force’s new concept to “choose your own PT test” make sense, at least for many types of occupational specialties.

- 11 Stephen Losey, "Lockheed eyes new F-35 parts deal, but can it handle wartime demands?," *Defense News*, May 2, 2023, <https://www.defensenews.com/air/2023/05/02/lockheed-eyes-new-f-35-parts-deal-but-can-it-handle-war-time-demands/>; Jeff Zeberlein, "Can-Do Is Not Working," *Proceedings* 147, no. 12 (December 2021): 25, <https://www.usni.org/magazines/proceedings/2021/december/can-do-not-working>.
- 12 "21st century soldiers of the sea: A conversation with General David Berger, 38th commandant of the US Marine Corps," The Brookings Institution, May 23, 2023, <https://www.brookings.edu/events/21st-century-soldiers-of-the-sea-a-conversation-with-general-david-berger-38th-commandant-of-the-us-marine-corps>.
- 13 Jeff Zeberlein, "Can-Do Is Not Working," 22–27.
- 14 Statement of Robert F. Hale, Under Secretary of Defense for Financial Management and Comptroller, Brookings Institution, Washington, DC, January 7, 2013.
- 15 Peter Levine, *Defense Management Reform: How to Make the Pentagon Work Better and Cost Less* (Stanford, California: Stanford University Press, 2020), 143–48; Harvey M. Sapolsky, Eugene Gholz, and Caitlin Talmadge, *U.S. Defense Politics: The Origins of Security Policy* (New York: Routledge, 2017, third edition), 140–57.
- 16 Brian Everstine, Guy Norris, Steve Trimble, and Graham Warwick, "The B-21 Arrives," *Aviation Week & Space Technology*, December 12–25, 2022, 14–16, <https://archive.aviationweek.com/issue/20221212>.
- 17 Ash Carter, *Inside the Five-Sided Box: Lessons from a Lifetime of Leadership in the Pentagon* (New York: Dutton, 2020), 10–15.
- 18 Sharon Rollins, "Defensive Cyber Warfare: Lessons from Inside Ukraine," *Proceedings* 146, no. 6 (June 2023): 34–37, <https://www.usni.org/magazines/proceedings/2023/june/defensive-cyber-warfare-lessons-inside-ukraine>.
- 19 Robert F. Hale, "Promoting Efficiency in the Department of Defense: Keep Trying, But Be Realistic," (Washington, DC: Center for Strategic and Budgetary Assessments, January 2002), <https://csbaonline.org/research/publications/promoting-efficiency-in-the-department-of-defense-keep-trying-but-be-realis>.
- 20 Robert Kagan, *The World America Made* (New York: Alfred A. Knopf, 2012).
- 21 See Robert Kagan, *The World America Made*; Joseph S. Nye, Jr., *Is the American Century Over?* (Cambridge, England: Polity, 2015); Michael W. Doyle, *Liberal Peace: Selected Essays* (New York: Routledge, 2012); Eliot A. Cohen, *The Big Stick: The Limits of Soft Power and the Necessity of Military Force* (New York: Basic Books, 2016); Paul B. Stares, *Preventive Engagement: How America Can Avoid War, Stay Strong, and Keep the Peace* (New York: Columbia University Press, 2018); Hal Brands, *What Good Is Grand Strategy?: Power and Purpose in American Statecraft from Harry S. Truman to George W. Bush* (Ithaca, NY: Cornell University Press, 2014); Daniel Deudney and G. John Ikenberry, "Debating US Foreign Policy," *Survival* 63, no. 4 (August/September 2021): 7–32, <https://www.routledge.com/Survival-August-September-2021-Debating-US-Foreign-Policy/ISS/p/book/9781032018317>.
- 22 See for example, Stephen Sestanovich, *Maximalist: America in the World from Truman to Obama* (New York: Vintage Books, 2014); Michael O'Hanlon, *Military History for the Modern Strategist: America's Major Wars Since 1861* (Washington, DC: Brookings Institution Press, 2023), 191–325.
- 23 See Michael O'Hanlon, *The Art of War in an Age of Peace: U.S. Grand Strategy and Resolute Restraint* (New Haven, CT: Yale University Press, 2021).

- 24** Stephen Sestanovich, *Maximalist: America in the World from Truman to Obama*; Hal Brands, *What Good Is Grand Strategy?*; Julian E. Zelizer, *Arsenal of Democracy: The Politics of National Security—from World War II to the War on Terrorism* (New York: Basic Books, 2010); Robert Kagan, *The World America Made*; Michael O'Hanlon, *Military History for the Modern Strategist*.
- 25** Ryan Hass, "For Taiwan, reading the moment is essential," The Brookings Institution, June 13, 2022, <https://www.brookings.edu/blog/order-from-chaos/2022/06/13/for-taiwan-reading-the-moment-is-essential>.
- 26** Dani Rodrik and Stephen M. Walt, "How to Build a Better Order: Limiting Great Power Rivalry in an Anarchic World," *Foreign Affairs* 101, no. 5 (September/October 2022): 154, <https://www.foreignaffairs.com/world/build-better-order-great-power-rivalry-dani-rodrik-stephen-walt>; Ryan Hass, Bonnie S. Glaser, and Richard C. Bush, *U.S.-Taiwan Relations: Will China's Challenge Lead to a Crisis?* (Washington D.C.: Brookings Institution Press, 2023).
- 27** "The 2022 National Defense Strategy: A conversation with Colin Kahl," The Brookings Institution, November 4, 2022, <https://www.brookings.edu/events/the-2022-national-defense-strategy-a-conversation-with-colin-kahl>.
- 28** "Statement of Admiral Michael M. Gilday, Chief of Naval Operations, On the Posture of the United States Chief of Naval Operations, Before the Senate Armed Services Committee," (Washington, DC: Senate Armed Services Committee, May 2022), https://www.armed-services.senate.gov/imo/media/doc/12MAY22_CNO_SASC_USN_Posture_Hearing_Final%20V1.pdf; Secretary of the Air Force Public Affairs, "The Air Force We Need: 386 Squadrons," Joint Base San Antonio, Department of Defense, September 17, 2018, <https://www.jbsa.mil/News/News/Article/1635636/the-air-force-we-need-386-operational-squadrons>; "National Defense Budget Estimates for Fiscal Year 2024," (Washington, DC: Office of the Under Secretary of Defense, Comptroller, March 2023), 288–90, https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2024/FY24_Green_Book.pdf.
- 29** "Approaches for Managing the Costs of U.S. Nuclear Forces," (Washington, DC: Congressional Budget Office, October 2017), <https://www.cbo.gov/publication/53211>.
- 30** Abraham Mahshie, "Hypersonics Defense: How hypersonic weapons maneuver and what to do about it," *Air & Space Forces Magazine*, January 19, 2022, <https://www.airandspaceforces.com/article/hypersonics-defense/>.
- 31** "National Defense Budget Estimates for Fiscal Year 2024," 87.
- 32** Renanah M. Joyce and Becca Wasser, "All About Access: Solving America's Force Posture Puzzle," *The Washington Quarterly* 44, no. 3 (September 2021): 50, <https://www.tandfonline.com/doi/abs/10.1080/0163660X.2021.1970335?journalCode=rwaq20>.
- 33** "Force Design 2030: Annual Update," (Washington, DC: U.S. Marine Corps, June 2023, <https://www.marines.mil/Force-Design-2030/>.
- 34** Brian Everstine, "The U.S. Air Force's Future Spending Plan," *Aviation Week*, March 14, 2023, <https://aviationweek.com/defense-space/budget-policy-operations/us-air-forces-spending-plan-nuclear-modernization-ccas>.
- 35** John R. Deni and Michael O'Hanlon, "NATO Is Hedging on Its Promise to Protect the Baltics," *The Wall Street Journal*, August 10, 2022, <https://www.wsj.com/articles/time-for-nato-to-deliver-on-its-promise-to-protect-the-baltics-estonia-lithuania-poland-russia-putin-invasion-war-11660145914>.

- 36** Jonathan Stevenson, *Overseas Bases and US Strategy: Optimising America's Military Footprint* (Abingdon, England: Routledge, 2022), 97.
- 37** *Ibid.*, 75–76.
- 38** Stephen Wright, “U.S. plans over-the-horizon radar facility in Palau,” *Benar News*, January 11, 2023, <https://www.benarnews.org/english/news/pacific/us-palau-radar-01112023014042.html>.
- 39** “U.S. military will have ‘unimpeded access’ to Papua New Guinea bases under new security deal,” *The Guardian*, June 15, 2023, <https://www.theguardian.com/world/2023/jun/15/us-military-will-have-unimpeded-access-to-papua-new-guinea-bases-under-new-security-deal>.
- 40** “National Security Strategy,” (Washington, DC: The White House, October 2022), 21, <https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf>.
- 41** “Remarks by National Security Advisor Jake Sullivan for the Arms Control Association (ACA) Annual Forum,” *Arms Control Association*, Washington, DC, June 2, 2023, <https://www.armscontrol.org/2023Annual-Meeting/sullivan-remarks>.
- 42** Amy J. Nelson and Michael O’Hanlon, “All START: a proposal for moving beyond U.S.-Russia arms control,” *Bulletin of the Atomic Scientists*, March 16, 2023, <https://thebulletin.org/2023/03/all-start-a-proposal-for-moving-beyond-us-russia-arms-control/>.
- 43** Michael O’Hanlon, “Can China take Taiwan?: Why no one really knows,” (Washington, DC: The Brookings Institution, August 2022), <https://www.brookings.edu/articles/can-china-take-taiwan-why-no-one-really-knows>.
- 44** “Options for Reducing the Deficit, 2023 to 2032--Volume II: Smaller Reductions,” (Washington, DC: Congressional Budget Office, December 7, 2022), <https://www.cbo.gov/publication/58163>.
- 45** “Military and Security Developments Involving the People’s Republic of China,” (Washington, DC: Office of the Secretary of Defense, November 2022), <https://media.defense.gov/2022/Nov/29/2003122279/-1/-1/1/2022-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>. ix.
- 46** “Reflections on US defense policy from Rep. Adam Smith,” *The Brookings Institution*, January 11, 2023, <https://www.brookings.edu/events/reflections-on-u-s-defense-policy-from-the-honorable-adam-smith/>.
- 47** For a recent discussion of the politics around the A-10 Warthog, see Daniel Nasaw, “Why Is America Still Flying the A-10 Warthog, a Cold War Relic?” *The Wall Street Journal*, April 13, 2023, <https://www.wsj.com/articles/a-10-warthog-why-is-america-still-flying-cold-war-relic-f34f607f>.
- 48** Michael E. O’Hanlon and James N. Miller, “Focusing on quality over quantity in the US military budget,” *The Brookings Institution*, December 2, 2019, <https://www.brookings.edu/policy2020/bigideas/focusing-on-quality-over-quantity-in-the-us-military-budget>.
- 49** “Defense Budget Overview, United States Department of Defense, Fiscal Year 2024 Budget Request,” (Washington, DC: Office of the Under Secretary of Defense, Comptroller/Chief Financial Officer, March 2023), https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2024/FY2024_Budget_Request_Overview_Book.pdf, 4–30 through 4–31.
- 50** *Ibid.*
- 51** Michael E. O’Hanlon, *Defense 101: Understanding the Military of Today and Tomorrow* (Ithaca, NY: Cornell University Press, 2021), 74–75; “The U.S. Military’s Force Structure: A Primer, 2021 Update,” (Washington, DC: Congressional Budget Office, 2021), 126–27, <https://www.cbo.gov/publication/57088>.

- 52** Brent M. Eastwood, "Why pilots love the F-22 even though it's a pain to get off the ground," *Business Insider*, October 8, 2021, <https://www.businessinsider.com/why-pilots-love-the-f-22-despite-maintenance-challenges-2021-10>.
- 53** Mallory Shelbourne, "HASC Agrees to Navy's Plans to Shed Littoral Combat Ships, Moves to Abolish CAPE," *U.S. Naval Institute News*, June 12, 2023, <https://news.usni.org/2023/06/12/hasc-agrees-to-navys-plans-to-shed-littoral-combat-ships-moves-to-abolish-cape>.
- 54** Melanie W. Sisson, James A. Siebens, and Barry Blechman, *Military Coercion and U.S. Foreign Policy: The Use of Force Short of War* (London, England: Routledge, 2020).
- 55** Mike Cherney, "Coast Guard Looks at More Ships, Innovative Patrols to Ramp Up Pacific Presence," *The Wall Street Journal*, February 9, 2023, <https://www.wsj.com/articles/coast-guard-looks-at-more-ships-innovative-patrols-to-ramp-up-pacific-presence-11675933625?mod=mhp>.
- 56** See Jeffrey E. Kline, James A. Russell, and James J. Wirtz, "The US Navy's Generational Challenge," *Survival* 64, no. 4 (August 2022): 123–36, <https://www.tandfonline.com/doi/abs/10.1080/00396338.2022.2103264>.
- 57** "Extra Large Unmanned Undersea Vehicle: Navy Needs to Employ Better Management Practices to Ensure Swift Delivery to the Fleet," (Washington, DC: U.S. Government Accountability Office, September 2022), <https://www.gao.gov/products/gao-22-105974>.
- 58** Brad Cooper and Peter W. Singer, "Tests in Fifth Fleet a Bridge to Future," *Proceedings* (June 2022): 47, <https://www.usni.org/magazines/proceedings/2022/june/tests-fifth-fleet-bridge-future>.
- 59** Michael E. O'Hanlon, *The \$650 Billion Bargain: The Case for Modest Growth in America's Defense Budget* (Washington, DC: Brookings Institution Press, 2016), 50–60.
- 60** Eric C. Labs, "An Analysis of the Navy's Fiscal Year 2023 Shipbuilding Plan," (Washington, DC: Congressional Budget Office, November 2022), 7, <https://www.cbo.gov/publication/58447#:~:text=Under%20the%20three%20alternatives%20in,to%20367%20battle%20force%20ships>.
- 61** "Defense Budget Overview," 6–14.
- 62** I am grateful to Bruce Jones for this point. Also see Jeong Soo Kim, "Use Allies in Shipyard Modernization," *Proceedings* (May 2023): 16–21, <https://www.usni.org/magazines/proceedings/2023/may/use-allies-shipyard-modernization>.
- 63** Steve Trimble, "U.S. Hypersonic Push Exposes Deep Industry and Testing Gaps," *Aviation Week & Space Technology*, May 22–June 4, 2023, 42–44, <https://aviationweek.com/defense-space/missile-defense-weapons/us-hypersonic-push-exposes-deep-industry-testing-gaps#:~:text=A%20U.S.%20hypersonics%20resurgence%20that,%2C%20workers%20and%20testing...>
- 64** "United States Department of Defense Fiscal Year 2024 Budget Request," Office of the Under Secretary of Defense (Comptroller/Chief Financial Officer), March 2023, https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2024/FY2024_Budget_Request.pdf.
- 65** Michael E. O'Hanlon, "A Systematic Use of Performance Based Logistics Will Save DoD Money," *The Brookings Institution*, October 15, 2014, <https://www.brookings.edu/articles/a-systematic-use-of-performance-based-logistics-will-save-dod-money/>.
- 66** Michael E. O'Hanlon, *Defense 101: Understanding the Military of Today and Tomorrow* (Ithaca, N.Y.: Cornell University Press, 2021), pp. 70–77.
- 67** Michael E. O'Hanlon, "A Systematic Use of Performance Based Logistics Will Save DoD Money."

- 68** Sharon K. Weiner, "Reconsidering U.S. Plutonium Pit Production Plans," *Arms Control Today* (June 2020), <https://www.armscontrol.org/act/2020-06/features/reconsidering-us-plutonium-pit-production-plans>.
- 69** On this possibility, see "China's Emergence as a Second Nuclear Peer: Implications for U.S. Nuclear Deterrence Strategy," (Livermore, CA: Lawrence Livermore National Laboratory, Center for Global Security Research, Spring 2023), 6–9, https://cgsl.llnl.gov/content/assets/docs/CGSR_Two_Peer_230314.pdf.
- 70** Whitney Spivey, "Greetings from Los Alamos National Laboratory," *National Security Science* (Spring 2023): 22–29, https://cdn.llnl.gov/files/nss-2023-online_0016f.pdf; Jake Bartman, "Greetings from Lawrence Livermore National Laboratory," *National Security Science* (Spring 2023): 30–35, https://cdn.llnl.gov/files/nss-2023-online_0016f.pdf.
- 71** Brian Everstine, "New Biden Strategy Aims for Balance in Nuclear Spending and Rhetoric," *Aviation Week & Space Technology*, October 24–November 6, 2022, 28, <https://aviationweek.com/defense-space/budget-policy-operations/new-biden-strategy-aims-balance-nuclear-spending-rhetoric>.
- 72** "Options for Reducing the Deficit: 2021 to 2030," (Washington, DC: Congressional Budget Office, December 2020), 29, <https://www.cbo.gov/publication/56783>.
- 73** See Ryan Snyder, Benoit Pelopidas, Keir A. Lieber, and Daryl G. Press, "Correspondence: New Era or New Error? Technology and the Future of Deterrence," *International Security* 43, no. 3 (Winter 2018/19): 192–93, <https://direct.mit.edu/isec/article-abstract/43/3/190/12213/Correspondence-New-Era-or-New-Error-Technology-and?redirectedFrom=fulltext>; Michael T. Klare, "Autonomous Weapons Systems and the Laws of War," *Arms Control Today*, March 2019, <https://www.armscontrol.org/act/2019-03/features/autonomous-weapons-systems-laws-war#:~:text=Autonomous%20weapons%20systems%20are%20lethal,the%20basis%20of%20sophisticated%20algorithms>.
- 74** Steven Pifer, "Who needs a new nuclear air-launched cruise missile anyway?," *Order from Chaos* (blog), The Brookings Institution, December 10, 2015, <http://www.brookings.edu/blogs/order-from-chaos/posts/2015/12/10-long-range-stand-off-weapon-unnecessary-pifer>.
- 75** For a very good recent discussion of modern nuclear deterrence issues, see Francis J. Gavin, *Nuclear Weapons and American Grand Strategy* (Washington, DC: Brookings Institution Press, 2020).
- 76** Lauren Caston, Robert S. Leonard, Christopher A. Mouton, Chad J.R. Ohlandt, S. Craig Moore, Raymond E. Conley, and Glenn Buchan, "The Future of the U.S. Intercontinental Ballistic Missile Force," (Santa Monica, CA: RAND Corporation, 2014), <https://www.rand.org/pubs/monographs/MG1210.html>.
- 77** "Options for Reducing the Deficit, 2023 to 2032—Volume II: Smaller Reductions," (Washington, DC: Congressional Budget Office, December 2022), 26, <https://www.cbo.gov/publication/58163>.
- 78** Mackenzie Eaglen, "A U.S. Defense Budget that Makes China Smile," *American Enterprise Institute*, July 27, 2021, <https://www.aei.org/op-eds/a-us-defense-budget-that-makes-china-smile/>.
- 79** Michael E. O'Hanlon, "America's \$100 Billion-Plus Intelligence Budget," *The Messenger*, July 6, 2023, <https://themessenger.com/opinion/americas-100-billion-plus-intelligence-budget>.
- 80** "Members of the IC," Office of the Director of National Intelligence, <https://www.dni.gov/index.php/what-we-do/members-of-the-ic>.

- 81** “U.S. Intelligence Community Budget,” Office of the Director of National Intelligence, <https://www.dni.gov/index.php/what-we-do/ic-budget#:~:text=U.S.%20INTELLIGENCE%20COMMUNITY%20BUDGET%20%20%20Fiscal,%20%20%2423.3%20%2016%20more%20rows%20>.
- 82** “National Defense Budget Estimates for Fiscal Year 2024,” 144–45.
- 83** Gordan Lubold, Doug Cameron, and Nancy A. Youssef, “U.S. Effort to Arm Taiwan Faces New Challenges With Ukraine Conflict,” *The Wall Street Journal*, November 27, 2022, <https://www.wsj.com/articles/u-s-effort-to-arm-taiwan-faces-new-challenge-with-ukraine-conflict-11669559116?mod=mhp>; Phillip C. Saunders and Joel Wuthnow, “Crossing the Strait: PLA Modernization and Taiwan,” in *Crossing the Strait: China’s Military Prepares for War with Taiwan*, Joel Wuthnow, Derek Grossman, Phillip C. Saunders, Andrew Scobell, and Andrew N.D. Yang, eds. (Washington, DC: National Defense University Press, 2022), 10.
- 84** Megan Eckstein, “US military developing tech, concept to resupply Pacific troops,” *Defense News*, October 17, 2022, <https://www.defensenews.com/naval/2022/10/17/us-military-developing-tech-concept-to-resupply-pacific-troops/>.
- 85** David A. Ochmanek and Michael O’Hanlon, “Here’s the strategy to prevent China from taking Taiwan,” *The Hill*, December 8, 2021, <https://thehill.com/opinion/national-security/584370-heres-the-strategy-to-prevent-china-from-taking-taiwan/>.
- 86** David A. Ochmanek and Michael O’Hanlon, “Preventing China from Taking Taiwan,” *The RAND Blog*, December 9, 2021, <https://www.rand.org/blog/2021/12/preventing-china-from-taking-taiwan.html>.
- 87** Sydney J. Freedberg Jr., “US ‘Gets Its Ass Handed To It’ In Wargames: Here’s A \$24 Billion Fix,” *Breaking Defense*, March 7, 2019, <https://breakingdefense.com/2019/03/us-gets-its-ass-handed-to-it-in-wargames-heres-a-24-billion-fix/>.
- 88** Stacie Pettyjohn, Becca Wasser, and Chris Dougherty, “Dangerous Straits: Wargaming a Future Conflict over Taiwan,” (Washington, DC: Center for a New American Security, June 2022), <https://www.cnas.org/publications/reports/dangerous-straits-wargaming-a-future-conflict-over-taiwans>.
- 89** Alistair MacDonald and Andrew Tangel, “U.S. Ramps Up Howitzer Shell Production to Supply Ukraine, Replenish Stockpiles,” *The Wall Street Journal*, June 22, 2023, <https://www.wsj.com/articles/u-s-ramps-up-howitzer-shell-production-to-supply-ukraine-replenish-stockpiles-1e6dce54>; Seth G. Jones, “America’s Looming Munitions Crisis: How to Fill the Missile Gap,” *Foreign Affairs*, March 31, 2023, www.foreignaffairs.com/print/node/1130112.
- 90** See Mark Gunzinger, “Affordable Mass: The Need for a Cost-Effective PGM Mix for Great Power Conflict,” *Air & Space Forces Magazine*, November 5, 2021, 47–51, <https://www.airandspaceforces.com/article/affordable-mass/>; also see Christopher Brose, David Ochmanek, and Michael O’Hanlon, “U.S. Defense Innovation and Great-Power Deterrence,” *The Brookings Institution*, November 14, 2022, <https://www.brookings.edu/events/us-defense-innovation-and-great-power-deterrence>.
- 91** Tyler Hacker, “Beyond Precision: Maintaining America’s Strike Advantage in Great Power Conflict,” (Washington, DC: Center for Strategic and Budgetary Assessments, June 2023), 59, <https://csbaonline.org/research/publications/beyond-precision-maintaining-americas-strike-advantage-in-great-power-conflict>.

- 92** John Ferrari, "Four steps the Pentagon can take to fix the munitions industrial base," *The Hill*, October 17, 2022, <https://thehill.com/opinion/national-security/3687506-four-steps-the-pentagon-can-take-to-fix-the-munitions-industrial-base/>.
- 93** Michael E. O'Hanlon, "Strengthening the US and NATO defense postures in Europe after Russia's invasion of Ukraine," *The Brookings Institution*, June 21, 2022, <https://www.brookings.edu/articles/strengthening-the-us-and-nato-defense-postures-in-europe-after-russias-invasion-of-ukraine/>.
- 94** "Article by Vladimir Putin 'On the Historical Unity of Russians and Ukrainians,'" President of Russia, Presidential Executive Office, July 12, 2021, <http://en.kremlin.ru/events/president/news/66181>; Robert Coalson, "Putin Pledges to Protect All Ethnic Russians Anywhere. So, Where Are They?" *Radio Free Europe/Radio Liberty*, April 10, 2014, <https://www.rferl.org/a/russia-ethnic-russification-baltics-kazakhstan-soviet/25328281.html>; Fiona Hill and Clifford G. Gaddy, *Mr. Putin: Operative in the Kremlin* (Washington, DC: Brookings Institution Press, new and expanded edition, 2015), 369–76; Kathryn E. Stoner, *Russia Resurrected: Its Power and Purpose in a New Global Order* (Oxford, England: Oxford University Press, 2021); Angela E. Stent, *The Limits of Partnership: U.S.-Russian Relations in the Twenty-First Century* (Princeton, NJ: Princeton University Press, 2015).
- 95** Alexander R. Vershbow and Philip M. Breedlove, "Permanent deterrence: Enhancements to the U.S. military presence in North Central Europe," (Washington, DC: Atlantic Council, February 2019), 45–46, <https://atlanticcouncil.org/wp-content/uploads/2020/04/Permanent-Deterrence.pdf>; International Institute for Strategic Studies, *The Military Balance 2022* (London, England: Routledge, 2022), 60–63.
- 96** "NATO's Enhanced Forward Presence," North Atlantic Treaty Organization, February 2022, https://mndne.wp.mil.pl/v/pages/atts/2022/4/2202-factsheet_efp_en.pdf.
- 97** International Institute for Strategic Studies, *The Military Balance 2022*, 100–01, 122–25.
- 98** See Mark T. Esper, *A Sacred Oath: Memoirs of a Secretary of Defense During Extraordinary Times* (New York: HarperCollins Books, 2022), 420–30.
- 99** Alexander R. Vershbow and Philip M. Breedlove, "Permanent deterrence."
- 100** Daniel Michaels, "Ukraine War Spurs NATO to Improve Transport of Military Equipment," *The Wall Street Journal*, January 5, 2023, <https://www.wsj.com/articles/ukraine-war-spurs-nato-to-improve-transport-of-military-equipment-11672871478?mod=mhp>.
- 101** Michael E. O'Hanlon and Christopher Skaluba, "A report from NATO's front lines," *Order from Chaos* (blog), June 13, 2019, <https://www.brookings.edu/blog/order-from-chaos/2019/06/13/a-report-from-natos-front-lines>.
- 102** Christian Brose, *The Kill Chain: Defending America in the Future of High-Tech Warfare* (New York: Hachette Books, 2020).
- 103** Michael J. Lostumbo, Michael J. McNerney, Eric Peltz, Derek Eaton, David R. Frelinger, et al., "Overseas Basing of U.S. Military Forces: An Assessment of Relative Costs and Strategic Benefits," (Santa Monica, CA: RAND Corporation, 2013), https://www.rand.org/pubs/research_reports/RR201.html.
- 104** "The U.S. Military's Force Structure: A Primer," (Washington, DC: Congressional Budget Office, July 2016), <https://www.cbo.gov/publication/51535>; Michael E. O'Hanlon, *Defense 101*, 70–80.
- 105** Alastair Gale, "China's Missile Threat Drives New U.S. Approach in Asia," *The Wall Street Journal*, June 1, 2023, <https://www.wsj.com/articles/chinas-missile-threat-drives-new-u-s-approach-in-asia-95fc9a7b>.

- 106** Michael E. O'Hanlon, "The Future of the Aircraft Carrier and the Carrier Air Wing," National Defense University Press, July 3, 2018, <https://ndupress.ndu.edu/Media/News/News-Article-View/Article/1566448/the-future-of-the-aircraft-carrier-and-the-carrier-air-wing/>.
- 107** Legal Information Institute, "10 U.S. Code 8062—U.S. Navy: composition; functions," Cornell Law School, 2003, <https://www.law.cornell.edu/uscode/text/10/8062>.
- 108** "Aircraft Carriers—CVN," U.S. Navy, November 12, 2017, <https://www.navy.mil/Resources/Fact-Files/Display-FactFiles/article/2169795/aircraft-carriers-cvn/>.
- 109** Meghann Myers, "Navy to disband a carrier air wing in 2017," *Navy Times*, February 9, 2016, <https://www.navytimes.com/news/your-navy/2016/02/09/navy-to-disband-a-carrier-air-wing-in-fiscal-2017>.
- 110** Eric Labs, "Preserving the Navy's Forward Presence With a Smaller Fleet," (Washington, DC: Congressional Budget Office, March 2015), 9, <https://www.cbo.gov/publication/49989#:~:text=The%20Navy%20can%20sustain%20its,basing%2C%20and%20more%20rotating%20crews>.
- 111** Seth Cropsey, Bryan G. McGrath, and Timothy A. Walton, "Sharpening the Spear: The Carrier, the Joint Force, and High-End Conflict," (Washington, DC: Hudson Institute, October 2015), 93–94, <https://www.hudson.org/national-security-defense/sharpening-the-spear-the-carrier-the-joint-force-and-high-end-conflict#:~:text=Sharpening%20the%20Spear%20addresses%20the,-threats%20to%20sea%2Dbased%20operations>.
- 112** In 2017, the United States surged three aircraft carriers at once near Korea; more commonly in modern times, a typical crisis response or signaling operation has involved an average of 1.5 carriers. See Barry M. Blechman and Stephen S. Kaplan, *Force Without War: U.S. Armed Forces as a Political Instrument* (Washington, DC: Brookings Institution Press, 1978), 10–13. For another important study that underscores the importance of presence of various types — but that suggests there is no strong requirement for a given type of predictable presence in peacetime or in crisis — see Melanie Sisson, James A. Siebens, and Barry M. Blechman, *Military Coercion and U.S. Foreign Policy*. For further debate on the subject, see Robert O. Work, "American Sea Power Project: A Slavish Devotion to Forward Presence Has Nearly Broken the Navy," *Proceedings* 147, no. 12 (December 2021), 34–43, <https://www.usni.org/magazines/proceedings/2021/december/slavish-devotion-forward-presence-has-nearly-broken-us-navy#:~:text=Essay%20Contests-,A%20Slavish%20Devotion%20to%20Forward%20Presence%20Has%20Nearly%20Broken%20the,the%20fleet%20and%20the%20force.&text=%E2%80%9CThe%20gods%20refuse%20the%20crown,content%20after%20a%20single%20triumph>; Joshua Dworkin, "Let Carriers Do What They Do Best," *Proceedings* (December 2021): 16–21, <https://www.usni.org/magazines/proceedings/2021/december/let-carriers-do-what-they-do-best>; Robert C. Rubel, "Think Differently about Naval Presence," *Proceedings* 147, no. 12 (December 2021): 28–33, <https://www.usni.org/magazines/proceedings/2021/december/think-differently-about-naval-presence>.
- 113** "The U.S. Military's Force Structure: A Primer," 53.
- 114** See, for example, William W. Kaufmann and John D. Steinbruner, *Decisions for Defense: Prospects for a New Order* (Washington, DC: Brookings Institution Press, 1991), 44, 62; Michael E. O'Hanlon, *Defense Planning for the Late 1990s: Beyond the Desert Storm Framework* (Washington, DC: Brookings Institution Press, 1995), 53.

- 115** Mark A. Stokes, "Employment of National-Level PLA Assets in a Contingency: A Cross-Strait Conflict as Case Study," in *The People's Liberation Army and Contingency Planning in China*, Andrew Scobell, Arthur S. Ding, Phillip C. Saunders, and Scott W. Harold, eds. (Washington, DC: National Defense University Press, 2015), 135–46.
- 116** For a discussion of Chinese writings that seem to take a similar tack, see Roger Cliff, Mark Burles, Michael S. Chase, Derek Eaton, and Kevin L. Pollpeter, "Entering the Dragon's Lair: Chinese Antiaccess Strategies and Their Implications for the United States," (Santa Monica, CA: RAND Corporation, 2007), 66–73. Among other naval force modernizations, China now has about 20 modern attack submarines in its fleet, and it is also expected to acquire ocean reconnaissance satellites (early versions of which it already reportedly possesses) as well as communications systems capable of reaching deployed forces in the field in the next five to 10 years. See "Military Power of the People's Republic of China, 2008: Annual Report to Congress," (Washington, DC: Office of the Secretary of Defense, Department of Defense, 2008), www.defenselink.mil/pubs/pdfs/China_Military_Report_08.pdf, 4, 27; Michael McDevitt, "The Strategic and Operational Context Driving PLA Navy Building," in *Right-Sizing the People's Liberation Army: Exploring the Contours of China's Military*, Roy Kamphausen and Andrew Scobell, eds. (Carlisle, PA: Strategic Studies Institute, Army War College, 2007), 499.
- 117** Eric Heginbotham, Michael Nixon, Forrest E. Morgan, Jacob L. Heim, Jeff Hagen, et al., "The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996–2017," (Santa Monica, CA: RAND Corporation, 2015), 185.
- 118** See, for example, David A. Shlapak, David T. Orletsky, Toy I. Reid, Murray Scot Tanner, and Barry Watson, "A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute," (Santa Monica, CA: RAND Corporation, 2009), 31–90.
- 119** Michael O'Hanlon, "Can China take Taiwan?"
- 120** On China and nuclear escalation, see Caitlin Talmadge, "Would China Go Nuclear?: Assessing the Risk of Chinese Nuclear Escalation in a Conventional War with the United States," *International Security* 41, no. 4 (April 2017): 50–92, <https://direct.mit.edu/isec/article-abstract/41/4/50/12156/Would-China-Go-Nuclear-Assessing-the-Risk-of?redirectedFrom=fulltext>.
- 121** See Victor Duenow, "Disputing Chinese Sea Control Through Offensive Sea Mining," *Proceedings* (June 2022): 54–58.

About the Author

Michael E. O'Hanlon is a senior fellow and director of research in Foreign Policy at the Brookings Institution, where he specializes in U.S. defense strategy, the use of military force, and American national security policy. He directs the Strobe Talbott Center on Security, Strategy and Technology, as well as the Defense Industrial Base working group, and is the inaugural holder of the Philip H. Knight Chair in Defense and Strategy. He co-directs the Africa Security Initiative as well.

Acknowledgments

The author would like to thank Alejandra Rocha for research assistance and Rachel Slattery for design and layout. The author would also like to thank Caitlin Talmadge, Melanie Sisson, Bruce Jones, other members of the Brookings Talbott Center and Foreign Policy program, Sara Chiaravalle, and anonymous reviewers for their constructive suggestions and collegial assistance, as well as Suzanne Maloney for leadership of the Foreign Policy program.

Disclaimer

The Brookings Institution is a nonprofit organization devoted to independent research and policy solutions. Its mission is to conduct high-quality, independent research and, based on that research, to provide innovative, practical recommendations for policymakers and the public. The conclusions and recommendations of any Brookings publication are solely those of its author(s), and do not reflect the views of the Institution, its management, or its other scholars.

BROOKINGS

The Brookings Institution
1775 Massachusetts Ave., NW
Washington, D.C. 20036
[brookings.edu](https://www.brookings.edu)