

# Pragmatism, Populism, and How Americans Think About Investing in Defense

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History shows that sustained defense investment comes about in America only as a reaction to an emergency: Pearl Harbor, Russia's A-bomb, the Korean War, Sputnik, Vietnam, the Soviet Union's buildup after 1979, 9/11, the Iraq surge. It is a national impulse and one that subsides abruptly.

Americans, however, may no longer be able to afford that episodic approach to national security. Great-power competition is back, and its blend of diplomacy, economics, and military matchups requires the U.S. to keep the upper hand. The rise of China and the return of Russian adventurism have altered course for U.S. strategy, but if America can find a way to break its typical boom-and-bust cycle in defense spending, it can enjoy a second century as the world's superpower.

As things stand today, more money is needed to make up for earlier cuts in defense programs, recover fully from nearly three decades of global combat operations, and prepare the U.S. for future challenges that, if history is any guide, could include a high-end fight. "Without sustained and predictable investment to restore readiness and modernize our military to make it fit for our time," warned the 2018 National Defense Strategy (NDS), "we will rapidly lose our military advantage, resulting in a Joint Force that has legacy systems irrelevant to the defense of our people."<sup>1</sup>

In November 2018, a bipartisan Commission on the National Defense Strategy found that "the security and wellbeing of the United States are at greater risk than any time in decades" and recommended that the Department of Defense (DOD) budget be increased at rates from 3 percent to 5 percent above inflation for the next five years, and perhaps beyond. As the commission pointed out, investments made now will pay off in capabilities that the military will use into the 2070s and 2080s.<sup>2</sup>

The Pentagon agreed on the need for consistent and predictable funding and laid in a 4.9 percent increase for fiscal year (FY) 2020. The five-year program, to run through FY 2024, funds what the NDS characterizes as "decisive and sustained military advantages."<sup>3</sup>

Can Americans shake off the old pattern of up-and-down defense spending and set a course for sustained investment? The threats from Russia, China, and others are clear, but the case for sustained investment in defense needs work. Stinging expert critique, a vocal business community committed to trade with China, volatile public opinion with respect to defense spending, and a reflexive, populist critique of the defense establishment are still powerful forces impeding the case for sustained investment.

## Background: Missed Opportunity 2009–2015

The problem stems in part from the way the U.S. came off the crest of defense spending brought about by the Iraq surge. A comparison between the way the U.S. handled its defense spending during and after the Iraq war and how it handled defense spending during the Korean War illustrates the point. Caught off guard by Communist aggression, the Truman Administration increased the defense budget from just \$213 billion in FY 1950 to \$672 billion in FY 1952. Defense budgets did not reach that high a level again for 50 years, until the Iraq surge set a period of steep increases from FY 2006 through FY 2012. The peak came with a total budget of \$801 billion in FY 2008.

While the 1952 budget allotted \$162 billion in operations and maintenance with \$262 billion in procurement, the defense budgets of the Iraq and Afghanistan surges paid for the wars that were taking place, not future modernization. A stunning proportion of the budgets went to operations and maintenance. The FY 2008 budget funded \$305 billion in operations and maintenance and \$195 billion in procurement. Day-to-day expenses far outpaced purchases of equipment. The high daily costs of the Iraq War included other elements such as health care services and information technology. The nation spent hundreds of billions on war costs in those years without investing for the future.

Also, while Americans gave their forces in battle the best capabilities possible—new systems like the Predator/Reaper family of unmanned planes and over \$45 billion in Mine Resistant Ambush Protected (MRAP) vehicles were fast-tracked to meet urgent warfighter needs<sup>4</sup>—these systems were designed for use in Iraq and Afghanistan and not for burgeoning threats from China and Russia. In contrast, the buildups during Korea, Vietnam, and the Reagan years bought force structure that supplied the armed services for years to come.

Despite record levels of funding, however, the long-term task of replacing Reagan-era equipment and buying new force structure,

scheduled for the 2000s, was not carried out. The services came out of the surge with aging force structure and insufficient progress on advanced weapons. As Secretary of the Army Mark Esper has said of this period, the Army “mortgaged its readiness” for the future fight.<sup>5</sup>

Then it was time to cut the budget. At the time, Washington dialogue led by Secretary of Defense Robert Gates settled on a moderate risk assessment and made the case that the military was much too big. According to Pentagon leadership, there were only moderate military threats ahead in the 2010s. This aligned with the Obama Administration’s focus on the growing national debt and a desire for defense to take up less of the discretionary share of the federal budget.

Gates chose deep cuts in procurement. The Pentagon did trim back operations and maintenance, but following Gates’ instructions, it also cut modernization. In his own words, the weapons and other programs that Gates deemed questionable “have not only been plucked, they have been stomped on and crushed.”<sup>6</sup> Cuts began in April 2009 with restructuring and termination of major defense programs like the F-22 fighter and the Army’s Future Combat System.

A tinge of populism had brought back the passion for lambasting big budgets and with it a misty-eyed conception that America’s military could use a bit of a rest. Under this thinking, the U.S. military was big enough to coast for years without much investment in force structure.

Gates made several speeches almost mocking the military for expensive platforms and having more ships and planes than several other militaries combined. For example, his 2010 speech to the Navy League pilloried “significant naval overmatch,” and Gates quipped that “no one is going to challenge us to a Dreadnought race.”<sup>7</sup>

“It is important to remember that, as much as the U.S. battle fleet has shrunk since the end of the Cold War, the rest of the world’s navies have shrunk even more. So, in relative terms, the U.S. Navy is as strong as it has ever been,” Gates calculated. He continued:

The U.S. operates 11 large carriers, all nuclear powered. In terms of size and striking power, no other country has even one comparable ship.... Our Navy can carry twice as many aircraft at sea as all the rest of the world combined. The U.S. has 57 nuclear-powered attack and cruise missile submarines—again, more than the rest of the world combined. Seventy-nine Aegis-equipped combatants carry roughly 8,000 vertical-launch missile cells. In terms of total missile firepower, the U.S. arguably outmatches the next 20 largest navies.<sup>8</sup>

These remarks seemed to assure the public that the U.S. military was sufficiently (if not overly) strong and would be so indefinitely.

The populist toting up of fleet sizes, refusal to distinguish one platform from another, and inattention to emerging threats from Russia and China created a fog bank around future defense investment. Possibly the most generous comment on this period came years later from Chairman of the Joint Chiefs of Staff General Joseph Dunford. Looking back, Dunford said the operating assumption for many in Washington was that overseas commitments would decline and the fiscal environment would stabilize.<sup>9</sup>

Neither happened. Disagreements between Congress and the Obama Administration in the summer of 2011 led to the Budget Control Act and sequestration cuts. Congress forged deals to create room under the budget caps, but defense investment actually dropped far below what the Gates budget had planned. Lost defense investment surpassed \$539 billion in the period from 2012 to 2019.<sup>10</sup> The cutbacks hurt readiness as the services deferred maintenance and cancelled training and exercises. Long-term modernization suffered as well, with major procurements in programs like the F-35 Joint Strike fighter slowed to meet budget caps.

### Great Powers Show Their Hands

Of course, the world did not stand still. The moderate risk talked about in 2010–2011

morphed into competition with not one but two resurgent great powers as Russia and China moved swiftly to expand their military operations and influence.

During the 1990s and 2000s, Russia and China had appeared on track to integrate into global economic institutions (Vladimir Putin once talked about an economic cooperation zone from Lisbon to Vladivostok) and were far behind the U.S. and allies in defense modernization, but both of those conditions began to change, especially after 2012. Putin consolidated his power in Russia, and Xi Jinping did the same in China. Both stepped up military activities and began to shed the veneer of cooperation with Western economic institutions.

In 2014, the annexation of Crimea from Ukraine marked the end of any show of Russian interest in formal integration. Russian military forces went into Syria and set up military bases.<sup>11</sup> In 2018, the Russian state security services conducted a nerve agent poisoning in Great Britain.<sup>12</sup> Thirty thousand Russian troops assembled on NATO countries' borders and practiced with tactical nuclear weapons. Russia accelerated development of nuclear and conventional missile types. Sanctions on Russia and a downward economy bumped Russia out of the G8 group of leading world economies, but this did not lead Russia to reduce its military activity.

In China, Xi Jinping was elected president in March 2013. The era of “peaceful rise” gave way to a plan for increased influence and dominance of key sectors such as artificial intelligence. Meanwhile, China's military forces displayed huge advances. China had launched its first aircraft carrier, the *Liaoning*, in 2012. Soon thereafter, China began a dredging and construction program in the South China Sea, converting small reefs and terrain features into a string of seven military bases. China also set up military facilities in Djibouti and began to buzz the airspace around Japan on a daily basis.

China's gross domestic product grew from \$9.6 trillion in 2013 to \$12.2 trillion in 2017. The U.S.–China trade deficit was \$318 billion in 2013 but grew to \$439 billion in 2018 according

to official U.S. government figures.<sup>13</sup> Xi's program included military reforms, advanced technology, ship construction, and development of advanced aircraft. The final stroke was the militarization of the South China Sea terrain features. By 2018, despite a 2016 pledge to desist, China had created a string of bases with capabilities that included a 10,000-foot runway, petroleum storage, electronic warfare capabilities, and more.

Chinese and Russian influence touched NATO and the Middle East and penetrated into Central and South America. Collectively, "China and Russia are also trying to shuffle the U.S. out of the Central Command theater of operations," said Marine Corps General Kenneth F. McKenzie, Commander, U.S. Central Command.<sup>14</sup>

"By 2015," said Dunford, "it was clear to all that operational commitments were not going to be reduced and the fiscal situation was not stabilized."<sup>15</sup> Global competition was back, and this time the United States was competing with two other major powers. Added to this were ongoing disruptions from North Korea and Iran and the generational problem of terrorism.

## Turnaround

So began the efforts of Secretary of Defense James Mattis and others to align and stabilize investment in the military. From FY 2017 to FY 2020, the defense budget request rose from \$606 billion to \$718 billion, as documented by the DOD Comptroller.<sup>16</sup> The modest FY 2017 increase marked the first sustained uptick. Budgets for FY 2018 and FY 2019 also included emergency funding for space systems and extra ballistic missile defense capabilities, including theater-based THAAD and a doubling of the Alaska ground-based interceptor protecting the U.S. homeland. The FY 2018 and FY 2019 budgets also improved unit readiness and set a stable course for investment.

However, the episodic pattern of U.S. defense spending is not reassuring. Before the Reagan buildup, budget increases lasted no more than four years, even in wartime. The Reagan buildup saw increased budgets from

FY 1981 to FY 1986 with FY 1987 also quite high.<sup>17</sup> According to this historic pattern, the great power buildup has been underway since FY 2017 and will have no more than three years to go. That will not cover the nuclear modernization of the mid-2020s, the move to advanced multi-domain information systems, or the restocking of equipment for the services.

International conflict and military operations do not fully account for the pattern. Stronger forces are at work and can be seen in public opinion data. Even during the Reagan buildup, consensus on defense wavered. In 1980, on the cusp of the Reagan buildup, 71 percent of responding Americans told a Harris poll that they favored increased defense spending. By 1983, the number had plummeted to 14 percent.<sup>18</sup> Those numbers suggest that support can be found for quick infusions of investment but not for steady, long-term increases of the kind recommended earlier by the bipartisan Commission on the National Defense Strategy.

The same problem may affect defense investment in the 2020s. Americans in 2019 rightly hold the military in high regard. That regard is so high, in fact, that Americans polled by Gallup in early 2019 believed that military spending was about right or somewhat too high. Just 31 percent of Americans favored higher defense spending. They also felt more satisfied with national defense than with any of 21 other issues facing the nation. Compared to immigration, the economy, and other issues, defense seemed just fine.<sup>19</sup>

The investment in and modernization of forces needed to project power and achieve superiority in any domain are now at stake. "The challenge for Trump and Pentagon leaders," Gallup senior scientist Frank Newport has observed, "is to explain why the excellent job the military is doing today (as perceived by the public) translates into the need for more and more military funding tomorrow."<sup>20</sup>

## Public Opinion, Populism, and Pragmatism

Though illogical, the rhetoric of the Gates speeches on Dreadnought competitions and

the oversized military caught hold in part because it resurfaced certain deep strains in American public sentiment: distrust of the defense establishment, concerns about the share of defense spending and the economy, fatigue with the problems of the world “over there,” and a popular impulse to bash defense programs that dates back nearly 100 years. These familiar themes still have the power to knock 2020s defense investment plans off balance.

There has long been a strain in American public opinion that has been wary of the entire defense establishment. Historical ambivalence about military power, perhaps stemming from George Washington’s warning to beware of foreign entanglements, is as much a part of American culture as the Fourth of July. During World War I, President Woodrow Wilson took over two years to settle on the message rallying Americans to side with Britain and France in 1917.

Joining in the Great War did not eradicate the problem. On the contrary, it linked war with a powerful populist sentiment. After the war, military strength plummeted to new lows. Reaction to World War I also engraved a distaste for overseas wars and for munitions makers into the American consciousness. From 1925 to 1935, the belief that war could be stripped of its profitability—or even outlawed through international mechanisms—became widespread. The decade that spawned the Great Depression also encompassed the Spirit of Locarno, the Kellogg–Briand Pact to outlaw war, and the Nye Committee’s hearings on war profits.<sup>21</sup>

In September 1934, the Senate Munitions Committee opened its investigation into whether arms manufacturers had dragged America into World War I. North Dakota Senator Gerald Nye led the committee through 93 separate hearings debating whether “manufacturers of armaments had unduly influenced the American decision to enter the war in 1917,” thereby reaping “enormous profits at the cost of more than 53,000 American battle deaths.” The investigation was sparked by concern that “these ‘merchants of death’ [might] again drag

the United States into a struggle that was none of its business.” Among the captains of industry called to testify were J. P. Morgan, Jr., and Pierre Du Pont (the Du Ponts had been in the gunpowder business since the Revolution). The Nye Committee found little but stoked “popular prejudice against the greedy munitions industry.”<sup>22</sup>

It was against this background that President Dwight Eisenhower warned of the military–industrial complex in his farewell speech in 1961.<sup>23</sup> He mentioned that the annual defense appropriation was nearly equivalent to the share of corporate profits in a single year. Back then, defense spending was a major chunk of the federal budget and held greater sway in the U.S. economy. Now neither is true. The term “military–industrial complex” has been popular ever since then, with numerous anniversary articles in 2011 from the Council on Foreign Relations. “Eisenhower was able to keep a lid on the military–industrial complex because he was Eisenhower,” noted Leslie Gelb in a 2011 interview,<sup>24</sup> and the term continues to pop up in 2020 election speeches.<sup>25</sup>

The populist tide against defense investment recurs periodically, as it did at the peak of the Reagan defense buildup in the 1980s when defense program bashing started to single out specific programs. Journalists made easy prose of it, highlighting the absurdities of alleged Pentagon expenditures: “a \$285 screwdriver, a \$7,622 coffee maker,” and “a \$640 toilet seat,” wrote *Los Angeles Times* columnist and former World War II Marine combat reporter Jack Smith in 1986.<sup>26</sup>

In 2018, a full 32 years later, it was Iowa Senator Chuck Grassley speaking out against “thousand-dollar coffee cups” on Air Force aerial refueling tanker planes. The facts of the case actually concerned innovation by enlisted airmen who 3D-printed replacement handles for just a few dollars,<sup>27</sup> but the part of the story that stuck was the sardonic, populist takedown of military spending.

The point is that Americans adore stories about bloated defense spending partly because of a cultivated skepticism about defense

industry and “foreign wars.” Underlying this theme is the idea that defense spending is “too big” as a share of national spending and can imperil the economy. By this thinking, high defense spending is somehow an abnormality and will ebb in time.

Since Eisenhower’s time, there has been a vast decoupling of defense spending from the American economy—something of which he would have approved. Based on 2018 dollars and statistics from the St. Louis Federal Reserve Bank and the Department of Defense, in 1959, U.S. corporate profits totaled \$1.14 trillion, and the defense budget was \$422 billion. In 2018, U.S. corporate profits were \$7.7 trillion, and the base defense budget was \$643 billion. The defense budget was indeed about 37 percent of the total income of U.S. corporations in 1959, as Eisenhower suggested. In 2018, it was only about 8 percent of that same total income.<sup>28</sup>

Corporations and the defense budget have changed a great deal since 1959, and the comparison is not academically perfect, but the overall message still rings out: The FY 2020 defense budget is no burden on America’s economy.

The theme persists, however, currently expressed as a concern for the national debt. In 2012, a group of august former officials including Henry Kissinger and former Chairman of the Joint Chiefs of Staff Admiral Michael Mullen issued a statement warning that “our long-term debt is the single greatest threat to our national security.”<sup>29</sup> Although an amended 2016 statement also recognized growing threats from Russia and China, this group still recommended reform of the Pentagon, elimination of unnecessary or antiquated weapons systems, and encouragement of soft power as remedies.<sup>30</sup>

The national debt rightly worries many Americans, but familiar populist complaints about America spending more on defense than is spent by other nations are nothing more than a superficial approach to the problem.

### **China: Partner and Rival**

One final area of public opinion is of great significance in staying the course on sustained

defense spending: On the one hand, there is the view of China as a military rival; on the other, there is the conflicting view of China as a business partner. Washington’s coalescing view sees China as a military threat and rival that did not play fair after joining the World Trade Organization; American businesses see China as a vital market.

That split poses a challenge. The complex China threat asks Americans to hold conflicting images in tension and to back sustained investment in defense against a nation that also makes their phones, shoes, and shirts.

This problem did not come up during the U.S.–Soviet Cold War. U.S. military policy toward the USSR did not have to contend with a big trade relationship. American companies did relatively little business with the Soviet Union. According to RAND economist Abraham Becker, in 1984, a peak year of the Cold War, just 1.5 percent of U.S. exports went to the Soviet Union, and the Soviet Union accounted for a miniscule 0.2 percent of total U.S. imports. Trade between the USSR and Western Europe, especially Finland, was somewhat higher. However, self-sufficiency was a pillar of Soviet policy. The USSR had little to sell other than gold and energy. Imports focused on grain and valued manufacturing equipment like drill bits.<sup>31</sup>

In short, the trade was insignificant enough to be batted around as a policy tool with little risk. Richard Nixon and Leonid Brezhnev used trade as a tool of détente. So did Ronald Reagan and Mikhail Gorbachev as they dealt with fluctuating grain sales and export controls. However, U.S.–Soviet trade was available as a policy tool partly because it was so limited.

In contrast, U.S. trade relations with China will remain a variable. Vociferous debates on tariff positions have amplified the implications for business, again crowding out the implications for national security. The Trump Administration’s imposition of tariffs beginning in 2018 was justified in part on national security grounds, including intellectual property theft. High-profile cases like B-2 bomber espionage,<sup>32</sup> the 2013 Office of Personnel Management data

hack by China,<sup>33</sup> and intrusion into Tennessee Valley Authority nuclear facilities<sup>34</sup> would seem to make the case. Yet discussion remains bifurcated. “China is not an enemy. It is a nation trying to raise its living standards,” wrote one professor in a recent editorial.<sup>35</sup>

However, discussion of the economic relationship should not provide an avenue of retreat. China is not confused: It sees the U.S. as a rival. “The men in Beijing understand that Trump is the first president in a generation to ‘get it’ about China’s effort to create a new world order that depends on the Chinese economy,” one observer has written.<sup>36</sup> Whatever the trade situation, America needs the fortitude to invest in systems to deter China in the Pacific, in space, and around the globe.

### **Business Tools for Sustained Defense Spending**

So far, this essay has argued that policymakers must present a credible and consistent threat analysis and develop a case for sustained defense spending that can navigate past obstacles in public opinion and take on the popularity of the China market with the business community.

Rebuilding the military does not end with appropriation and justification. Assume, for a moment, that a good budget is put in place with a sound future-year plan that keeps the U.S. ahead of Russia and China. Another equally important step remains: implementing management tools within the Pentagon’s future years defense program. “Even though DoD is a public entity, it should manage itself more like a business (whenever it can),” according to the Defense Business Board.<sup>37</sup>

Business reviews of the Pentagon tend to focus on personnel costs, management layers, and overhead. While there is room for improvement in these areas, the business executive approach often overlooks specific management tools already available within the DOD and on Capitol Hill. Fortunately, a few tools are available that are centered on a common theme: sound execution of major defense programs.

**Program Management: Multiyear Procurement and Economic Order Quantity.** The defense program manager and his or her service acquisition overseers have two powerful tools at their disposal for defense investment: multiyear procurement and economic order quantity. Used effectively, these tools can save billions while still providing America with the military it needs.

A multiyear procurement is an agreement by the government to buy ships or planes across multiple fiscal years instead of in a single year. Generally, the government contracts to buy a fixed quantity in one year only. In a multiyear procurement, the contract is for unit quantities for several years. In March 2019, for example, the Navy awarded Boeing a \$4 billion contract to buy 78 F/A-18E/F Superhornet fighters across three years from 2019–2021. “A multiyear contract helps the F/A-18 team seek out suppliers with a guaranteed three years of production, instead of negotiating year to year,” explained Dan Gillian, Boeing’s vice president of F/A-18 and EA-18G programs.<sup>38</sup>

Multiyear procurements work best when the weapon system is stable and past the modification and price volatility of early production learning curves. Defense industry program managers like multiyears because they can buy from suppliers in economic order quantities. Other efficiencies include steady labor force plans, investment in cost-reducing factory improvements, and lower administrative burdens. Granted, the government must negotiate a good price up front. Typical multiyear contracts save 10 percent, which is a substantial amount on billion-dollar contracts.<sup>39</sup> Each multiyear procurement requires a justification and approval from Congress.

Most Navy ships are bought under multiyear procurements. This approach should be extended to major aircraft, helicopter, and other acquisitions.

With or without multiyear procurements, sustained defense investment depends on the concept of economic order quantity. In cases such as the production of aircraft and Navy surface combatants, there exist periods a few

years in to full-rate production where learning curves have created significant unit price savings. These are the prime years in which to buy. Stretching out purchases is almost never a wise move.

According to a landmark RAND study on Navy shipbuilding, costs of weapon systems go up over time because of two types of factors: those driven by the customer and those driven by the economy.<sup>40</sup> The customer-driven factors include design changes, among others. The economy-driven factors include real zingers: labor costs, matériel prices, and—looming over it all—inflation. A program on a 10-year acquisition cycle is subject to variable cost inflation that is both independent of any improvements in the system itself and largely beyond government managerial control. The longer the program runs, the more subject it is to variations in inflation from one year to the next. The only thing the defense program manager can do is buy in quantity at the right time.

While putting aside funding does tempt Pentagon management and congressional committees to pilfer and reallocate those big dollars, economic order quantity and multi-year purchases are two powerful fiscal tools that should be used for sustained investment.

**Fencing Programs: Strategic Deterrence Modernization.** The best way to achieve stable investment for some programs may be to fence them off from the larger defense budget. The Congressional Budget Office has projected that modernizing nuclear forces will cost \$494 billion from 2019 to 2028.<sup>41</sup> That sum, almost \$50 billion per year, includes some Department of Energy funding but is centered primarily on DOD modernization programs.

Congress can limit volatility by establishing stable funding for strategic nuclear modernization apart from the regular budget for defense. Despite occasional debate, the strategic nuclear triad of bombers, land-based ICBMs, and submarines remains a solid foundation. Nor has NATO given serious thought to abandoning the tactical nuclear weapons delivered by a variety of fighters and bombers. Both Russia and China have modernized and expanded

their nuclear forces, and nuclear ambitions persist in several other countries.

Here is a case for American pragmatism. Fenced funding for the major nuclear modernization programs including the B-21 bomber, *Columbia*-class submarine, ICBM modernization, nuclear command and control, and weapons programs can help to ensure fiscal stability for these expensive programs and deliver capability at the same time. Several of these programs would be good candidates for multiyear contracts. Safeguarding this major cluster of programs could allow service program managers to use all of the management tools at their disposal to bring their programs in on time and at more efficient cost.

Gaining support for \$50 billion of sustained investment per year will require great effort. The Pentagon must free the armed services to tie investment to these programs by name. President Reagan did not “recapitalize long-range aviation”; he built the B-1 bomber. While it may seem a minor point, a little more explanatory publicity and a little less secrecy could help to forge the consensus on investment.

**Prioritizing the Services.** Along the same lines, one of the best ways to sustain defense spending is to remember that it ultimately buys capability for the military services, not for the Pentagon. The high regard that Americans have for the military is regard for the Army, Navy, Air Force, and Marine Corps (and perhaps one day, a Space Force).

The best leaders for sustained defense investment are the Secretaries of the Army, Navy, and Air Force. They, not the Office of the Secretary of Defense, have the statutory authority to cultivate top talent through their general and flag officer promotion systems. Their requirements drive funding, and the actions of their servicemembers produce the results in the form of military operations. The service departments alone are the one type of organization that is set up to manage requirements and leadership over a long period. The service secretaries and their staffs are also in the best position to conduct requirements trades for new systems and set upgrade,

logistics, and other funding priorities across the force structure.

While joint command has been a huge success, the post-Goldwater–Nichols legacy of joint requirements evaluation has not produced notable investment efficiencies; arguably, it may have compounded problems by creating oversized program offices. Joint weapons procurement actually works best in the form of bilateral agreements on specific programs. For example, the Army went on to buy the unmanned Grey Eagle plane after the Air Force had developed and tested it in combat.

Now for some good news. Orbiting overhead is a success story for sustained defense investment based on a service vision: in this case, the Air Force's. The Global Positioning System (GPS) began as a military satellite constellation to provide accurate navigation and timing. The system, owned by the U.S. government and operated and controlled by the U.S. Air Force's 50th Space Wing, also makes possible countless commercial/private-sector transactions, from banking to map location. The timing signal is accurate to a millionth of a second, and location is better than 100 feet. An even more accurate system is reserved for military users.

When the full constellation of 24 satellites filled out in 1993, GPS began providing radio-navigation to unlimited users. More than 30 years of sustained investment has created a global information resource used by individuals and businesses large and small every day. It also provided an on-ramp for significant private investment to break into and establish market share for a highly demanding government customer. GPS satellites have now been launched by SpaceX's Falcon 9 rocket, marking a success for sustained private investment.

## Conclusion

The U.S. exited the Cold War still reaping the benefits of earlier technology investments. Since then, the episodic pattern of surge and

cut has eroded the U.S. military's competitive edge. The U.S. remains the world's strongest military power, but steady investment is crucial if America is to maintain its edge through 2025 and beyond. That time horizon is important. According to a U.S. Army estimate, Russia's military strength will grow through 2028 and beyond, while China will not reach its peak goals until 2030.<sup>42</sup>

Sound defense investment planning must steer through the ups and downs of public opinion and craft a rationale that takes into account the competing military and economic tides of a bumpy multipolar world where deterrence and trade go hand-in-hand. U.S. defense investment buys long-range power projection in many forms and the ability to respond with tailored ground forces. Most of all, the military must complete its transition to a framework in which the use of information and cyberspace can decide the tactical advantage. All of this will take place under the commons of space, which must be safeguarded as never before.

As President Eisenhower told America in his farewell address long ago:

[What] is called for [is] not the emotional and transitory sacrifices of crisis, but those which enable us to carry forward steadily, surely, and without complaint the burdens of a prolonged and complex struggle—with liberty the stake. Only thus will we remain, despite every provocation, on our chartered course toward permanent peace and human betterment.<sup>43</sup>

The plans and actions of Russia, China, Iran, and others make clear that the struggle is complex and the stakes still high. "We pray that... those who have freedom will understand, also, its heavy responsibilities," said Eisenhower back in 1961. "May we be ever unswerving in devotion to principle, confident but humble with power, diligent in pursuit of the Nation's great goals."<sup>44</sup>

## Endnotes

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6. Robert M. Gates, speech on defense spending as delivered to the American Enterprise Institute, Washington, D.C., May 24, 2011, <https://archive.defense.gov/Speeches/Speech.aspx?SpeechID=1570> (accessed June 17, 2019).
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