NDIA
AT THE HEART
OF THE MISSION

RISKS TO NATIONAL SECURITY

A FULL-YEAR CONTINUING RESOLUTION FOR 2022

An NDIA White Paper
January, 2022

January 2022

First published in 2022 by NDIA.org, 2101 Wilson Blvd, Suite 700, Arlington, VA 22201, United States of America. (703) 522-1820.

This publication is made possible by general support to NDIA. No direct sponsorship contributed to this publication. This publication is produced by NDIA, a non-partisan, non-profit, educational association that has been designated by the IRS as a 501©3 nonprofit organization — not a lobby firm — and was founded to educate its constituencies on all aspects of national security. Its research is nonpartisan and nonproprietary.

For the link to the PDF, see: NDIA.org/CR
For more information, please visit our website: NDIA.org

MEDIA QUERIES:
Evamarie Socha
Director of Public Relations and Communications
(703) 247-2579
esocha@NDIA.org

CONTENTS

EXECUTIVE SUMMARY

In the absence of a Fiscal Year 2022 (FY22) appropriation and given significant budget disagreements to be resolved, the Department of Defense (DoD) faces the real possibility, and the significant risk of a full-year Continuing Resolution (CR) for Fiscal Year 2022 (FY22). As Secretary of Defense Lloyd Austin stated, this "would cause enormous, if not irreparable, damage to a wide range of bipartisan priorities – from defense readiness and modernization, to research and development, to public health." The impact of a full-year CR could not be worse as our country navigates a near-perfect storm of a deteriorating strategic environment, the urgent need for catch-up defense modernization, increasing inflation that is eroding defense buying power, and a defense industrial base (DIB) wrestling with COVID-19, supply chain constraints, and workforce disruptions.

For over two decades, the U.S. has focused on counterterrorism, while in that time, China and Russia have invested in technology and capability advances to gain significant advantages over us. With these expanded capabilities, they have become increasingly aggressive. The U.S. is in a race against time to retain its edge by investing in the force structure and capabilities needed to deter further aggression and prevent a major conflict. A full-year CR would delay those key investments, and some of these delays may be unrecoverable. Furthermore, Congress has authorized large increases to the Pacific Deterrence Initiative, the European Deterrence Initiative, and the Ukraine Security Assistance Initiative. Stopping this funding in FY22 in the face of Russian build-up along the Ukrainian border, in the Artic, and elsewhere as well as increasingly aggressive Chinese acts towards Taiwan risks signaling a lack of seriousness and competence to counter their actions, further emboldening their increasingly belligerent stances.

A full-year CR would cut $36 billion in Congressionally intended growth from DoD, prevent new programs from starting as well as increased procurement, and leave resources misaligned to needs. Key investments that would be delayed by a full-year CR include space capabilities, hypersonic weapons, artificial intelligence and autonomy, and nuclear force modernization. In total, over 300 new starts across the Department of Defense would be cancelled in FY22 by a full-year CR in Research, Development, Test, and Evaluation appropriations (RDT&E), procurement, and military construction accounts. Funding misalignments include $3 billion allocated for Afghan security forces that no longer exist and a lack of funding for the military and civilian pay raises, causing these unavoidable bills to come at the expense of change-of-station moves, incentive and special pays, flying hours and readiness training, and facility maintenance and modernization.

Additionally, a full-year would create a significant impact on the DIB. The COVID-19 pandemic has disrupted defense production lines, development programs, and the industry workforce. Supply chain and workforce disruptions are now adding further complications. These issues are set to exacerbate an already challenged sector that has seen thousands of companies depart over the last decade. According to NDIA's *2021 Vital Signs* report, fewer new entrants to the defense market have resulted in a 50% drop between FY19 (over 12,000) and FY20 (little more than 6,000). An unprecedented full-year CR would add additional strain to an already heavily-burdened sector, costing revenue that suppresses jobs and economic activity across the country. This could be particularly damaging in the technology sector. In many key areas of capability development such as space and AI, the commercial sector is the primary driver of technological advancement and DoD's race against time includes improving incentives for this sector to focus on national security challenges. But these companies already find the government challenging to work with; time is running out to bring the technology sector into the national security market in a serious manner and a full-year CR would burn another year of time that we cannot afford to squander.

January, 2022.

INTRODUCTION

With a Continuing Resolution (CR) funding fiscal year (FY) 2022 until February and deep budget disagreements remaining, the Department of Defense (DoD) faces significant risk it could be funded with CRs for the entirety of FY22. This would be a first for DoD and, as Secretary of Defense Lloyd Austin has stated, “an unprecedented move that would cause enormous, if not irreparable, damage to a wide range of bipartisan priorities — from defense readiness and modernization, to research and development, to public health.”[1] These impacts will extend well beyond DoD, disrupting the performance of the defense industrial base (DIB) and economic activity across the U.S.

The timing of an FY22 full-year CR could not be worse. Our country is navigating a near-perfect storm of a deteriorating strategic environment urgent catch-up defense modernization needs, surging inflation eroding defense buying power, and a defense industrial base (DIB) in the midst of COVID-19, supply chain constraints, and workforce disruptions. To further quote Secretary Austin, a full-year CR “would misalign billions of dollars in resources in a manner inconsistent with evolving threats and the national security landscape, which would erode the U.S. military advantage relative to China, impede our ability to modernize, degrade readiness, and hurt our people and their families. And it would offer comfort to our enemies, disquiet to our allies, and unnecessary stress to our workforce.”[2]

The most visible effect of a full-year CR limits DoD funding to its FY21 level, a $36 billion decrease from the level authorized in the FY22 National Defense Authorization Act (NDAA) passed with strong bipartisan support by Congress and signed by President Biden.[3] As Under Secretary Michael McCord recently testified in a hearing on the effects of a long-term CR, “Congress, in passing the recently enacted FY22 National Defense Authorization Act, was voting in part for a funding level higher than the department requested. If that is what Congress wants, enacting a full-year CR would send our topline in the oppositive direction.”[4]

Other direct impacts include the prevention of new program starts, no procurement quantity changes, no new military construction projects, and lost buying power from mis-aligned funds created when the funding that is available is not in the accounts where it is needed. These changes will all have downstream consequences on the companies supporting DoD, and drive uncertainty and inefficiency into the DIB that will ultimately result in reduced employment and economic activity across the country and a reduced capacity to support our warfighters.

There are other less obvious outcomes of a full-year CR as well, including some strikingly harmful effects. A full-year CR would cost the nation time it cannot afford to lose as urgent investments in modernization, posture, and force structure to contain Chinese (e.g., Taiwan) and Russian (e.g., Ukraine) ambitions are not undertaken. It would also send the wrong messages about U.S. competence and commitment to adversaries and allies.

This paper provides a detailed review of this harm to national security, DoD, and the DIB. Its purpose is to inform members of Congress and the public about the importance of steady, reliable, and predictable funding for national security. Its immediate goal is to reduce the risk of a full-year CR for FY22. This paper concludes by taking a broader look at CR challenges and the importance of reforms to avoid this situation in the future.

1 Statement by Secretary of Defense Lloyd J. Austin III on the Impact of a Full-Year Continuing Resolution, December 6, 2021. Statement by Secretary of Defense Lloyd J. Austin III on the Impact of a Full-Year Continuing Resolution > U.S. Department of Defense > Release

2 Ibid.

3 “Biden signs NDAA into law, but when will the money really come?” Aaron Mehta, Breaking Defense, December 27, 2021. Biden signs NDAA into law, but when will the money really come? - Breaking Defense Breaking Defense - Defense industry news, analysis and commentary

4 Testimony of Michael McCord, House Appropriations Committee, Subcommittee on Defense, January 12, 2022. HHRG-117-AP02-Wstate-McCordM-20220112.pdf (house.gov)

NATIONAL SECURITY RISK

Increasing aggression from China and Russia, fueled by their growing capabilities and rapid technological advancements, has reshaped the strategic landscape for the U.S. As the 2018 National Defense Strategy (NDS) stated, "we are emerging from a period of strategic atrophy, aware that our competitive military advantage has been eroding."[5] Two decades of counterterrorism and counterinsurgency warfare have left the U.S. military with extensive combat experience — but against asymmetric forces that do not have the resources or capacity of a peer or near-peer adversary.

While the U.S. was focused elsewhere, limiting attention and resources devoted to more capable rivals, China and Russia were not sitting idly by. These nations have studied the U.S., concentrating their resources on technological and capability advances to gain an advantage. From this position of growing strength, they are now behaving in an increasingly authoritarian manner. Russia's early action against Crimea is now being followed by recurring build-ups that threaten the rest of Ukraine. China's authoritarian crack-down on pro-democracy advocates in Hong Kong is now being followed by escalating tensions with Taiwan, India, and neighbors in the South China Sea.

The U.S. is in a race against time to invest in the capabilities, force structure, and posture needed to deter further aggression and prevent escalation to a major conflict. A full-year CR would hold off on key investments in FY22. Many delays to vital programs may be unrecoverable. Potential adversaries recognize they have finite time windows in which to accomplish major objectives, such as taking Taiwan and Ukraine. Delaying important investments undermines our efforts to deter this aggression in multiple ways. First, it extends the window of opportunity available for them to accomplish their aims. Second, it signals a lack of seriousness and competence in the U.S. to counter these actions — at the risk of further emboldening their aggression.

Investments that would be delayed by a full-year CR include space capabilities, hypersonic weapons, increased funding for artificial intelligence (AI) and autonomy, and nuclear force modernization.[6] The loss is not only to delayed acquisition of equipment, it also can delay or prevent new technology development. In many key areas of capability development such as space and AI, the commercial sector, particularly through startup companies, is the primary driver of technological advancement. Part of the race against time for DoD is improving its ability to access this technology sector and incentivize the sector to focus on national security challenges. A full-year CR slows momentum in developing a national security focus in an entire sector of our economy that is vital for catch-up modernization to deter China and Russia.

Key Congressional priorities including the Pacific Deterrence Initiative (PDI) would also be delayed. At $7.1 billion, the PDI is a major effort to improve our posture in the Pacific, with investments in both DoD capabilities and cooperation with allies.[7] In addition to adding over $2 billion to the administration's request, Congress also significantly changed its composition by reducing the emphasis on platform investments and focusing instead on posture and enabling capabilities. Although some components of the PDI are not new starts and can continue with CR funding, the restructured and expanded initiative will be cancelled in FY22 with a full-year CR, and one of its key aims — creating a baseline to measure progress — will face another year of delay.[8] This challenge also extends to our partners in Europe. The FY22 NDAA authorizes over $500 million in increased funding for the European Deterrence Initiative and a $50 million boost to the Ukraine Security Assistance Initiative.[9] With another Russian buildup on the border of Ukraine, a full-year CR (and an effective cancellation of these investments) would send a terrible message during what may become a pivotal point in time; deterrence investments delayed until after aggression occurs are an unrecoverable strategic and budgetary loss.

Another way a full-year CR undermines our ability to deter potential adversaries is by harming readiness. All military departments planned FY22 increases in military personnel (MILPERS) and operations and maintenance (O&M) accounts to pay for annual military and civilian pay raises, while fully funding operating tempo to support readiness. Under a full-year CR, these accounts will not grow. The 2.7% military and civilian pay raises will have to be self-funded from within those accounts. In the MILPERS accounts, this will impact areas including cancelled permanent-change-of-station (PCS) moves and incentive and retention bonuses. In the O&M accounts, this will directly reduce weapon system sustainment, operating tempo, and facilities sustainment and modernization. As we saw in the 2013 sequester readiness decline is provocative to potential adversaries and costly to reverse. Straining readiness, combined with slowing key modernization and posture investments, sends the wrong message to our allies and adversaries. Importantly, it also sends the wrong message to our all-volunteer warfighters, many of whom will consider career changes placing further stress on the force.

5 National Defense Strategy of the United States of America, 2018. Summary of the 2018 National Defense Strategy

6 These new starts are discussed in more detail in the following section.

7 Andrew Eversden, "Pacific Deterrence Initiative gets $2.1 billion boost in final NDAA," Breaking Defense, December 7, 2021. Pacific Deterrence Initiative gets $2.1 billion boost in final NDAA - Breaking Defense Breaking Defense - Defense industry news, analysis and commentary

8 Dustin Walker, "Pacific Deterrence Initiative: A look at funding in the new defense bill, and what must happen now," Defense News, December 15, 2021. Pacific Deterrence Initiative: A look at funding in the new defense bill, and what must happen now (defensenews.com)

9 Andrew Eversden, "Pacific Deterrence Initiative gets $2.1 billion boost in final NDAA," Breaking Defense, December 7, 2021. Pacific Deterrence Initiative gets $2.1 billion boost in final NDAA - Breaking Defense Breaking Defense - Defense industry news, analysis and commentary

DOD RISK

A year-long CR would pose numerous direct impacts to DoD. As stated above, the most obvious would a $36 billion reduction in topline funding level, but preventing new starts and procurement quantity changes along with the general misalignment of funding across accounts can be even more damaging. To mitigate the worst of these impacts, CRs may contain anomalies but these are very rare. Of the CRs in nine of the last 10 years, DoD has requested from 36 to 347 anomalies. In the enacted CRs, one to seven anomalies were included.[10]

LOST BUYING POWER/INFLATION

The FY21 DoD budget was approximately $704 billion. Passed with a bipartisan majority in Congress and signed into law by President Biden, the NDAA authorized a $740 billion budget for FY22.[11] With a full-year CR, the DoD budget would be fixed at $704 billion for FY22 — a $36 billion reduction from Congressional intent. This reduction of intended funding would impact every part of the defense budget. Table 1 provides approximate values (some accounts are combined for simplicity of exposition) of these changes.[12]

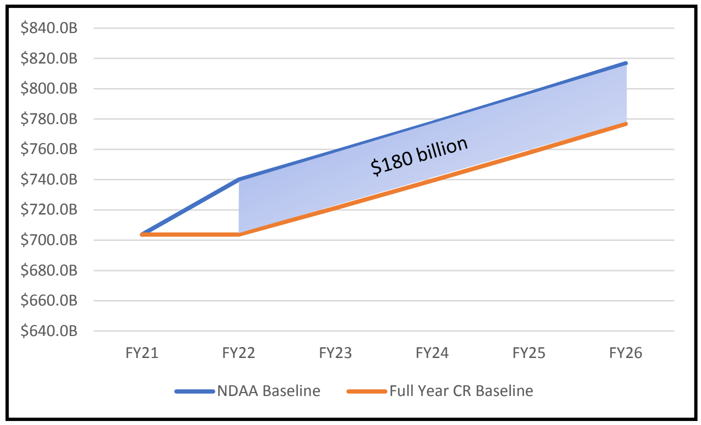
Table 1: Reductions to FY22 NDAA Authorization Levels from Full-Year CR

	FY22 NDAA	CR Level	CR Reduction
Military Personnel	$167B	$162B	-$5B
Operations and Maintenance	$293B	$285B	-$8B
Procurement	$148B	$142B	-$6B
Research, Development, Test, and Evaluation	$119B	$106B	-$13B
Military Construction	$13B	$9B	-$5B
Total	**$740B**	**$704B**	**-$36B**

Each of these reductions has impacts that will be discussed below. The investment accounts (procurement, RDT&E, and military construction) will lose almost $25 billion. The RDT&E shortfall is particularly large, and would represent a 10% reduction in this essential element of modernization. The operations and sustainment accounts (Military Personnel and Operations and Maintenance) would see significant reductions that would in effect, be worse than is readily apparent due to internal requirements growth from pay raises, fuel prices, and other inflationary pressures.

Depending on what happens next year, the loss of buying power from a full-year CR could be significantly greater than $36 billion over time. If the flat funding level from FY21 to FY22 ($704 billion) becomes the new baseline, and inflationary growth in defense spending begins from that new baseline, then a full-year CR would decrease defense funding by $180 billion from FY22-26.

Figure 1: Lost Buying Power from a Full-Year CR



This potential reduction in the planned funding level is being made even worse by rising inflation. When the FY22 President's Budget (PB) was being developed, inflation was expected to be around two percent. The planned growth in funding topline in the PB submission, along with offsets from Afghanistan would nearly cover this inflationary cost growth, leaving DoD with an almost neutral budget in real (inflation adjusted) buying power terms. But inflation has risen significantly since that time; the January 12, 2022, Consumer Price Index (CPI) report reported a 7% increase in overall inflation in the U.S. economy. When applied to DoD spending categories, this amounts to over $40 billion in inflationary cost growth that DoD will experience in FY22.[13] In other words, even the NDAA enacted funding level of $740 billion would not fully cover inflation and result in a decline in real buying power. With a full-year CR, DoD is taking the equivalent of a $40 billion buying power cut from the FY21 funding level. Table 2 compares estimates from publicly available data on the anticipated inflation when the PB was developed, actual inflation according to the December 10 CPI report, and the

10 Government Accountability Office, "Defense Budget: DoD Has Adopted Practices to Manage within the Constraints of Continuing Resolutions," September 2021. GAO-21-541, DEFENSE BUDGET: DOD Has Adopted Practices to Manage within the Constraints of Continuing Resolutions

11 The FY22 President's Budget (PB) submission was $715 billion. The Senate Appropriations Committee matched the NDAA funding level of $740 billion for FY22. The House Appropriations Committee initially passed an appropriation bill at the PB level of $715 billion but has since stated it would support the NDAA funding level. See Alexander Ward and Connor O'Brien, "House appropriations likely to back $25B Pentagon funding boost," Politico, January 4, 2021. https://go.politicoemail.com/?qs=5bde7f0af36a1759221db2636827fc021ca2a8db6bebfbbd17ae95eff487c202135c99f21fd13b8d9cd24e7ef9df99c5

12 This table provides approximate values derived from the FY22 PB submission and the FY22 NDAA. For simplicity of exposition, some accounts are combined, e.g., defense management and revolving funds are included in O&M, family housing is included in military construction, and other authorizations from the NDAA like the Defense Health Program are added to their general appropriation category.

13 The estimates reported here are approximations based on publicly-reported budget data. DoD would be able to compute detailed estimates based on specific expenditure categories.

inflation funded in a CR.[14] When comparing original Congressional intent (a $740 billion topline with low inflation) and the actual result of a full-year CR (a $704 billion topline with high inflation), the reduction in real terms of buying power for FY22 is over $75 billion.

Table 2: Lost Buying Power from Full-Year CR

Inflationary Growth			
	FY22 PB Anticipated	Jan 12 CPI Actual	Full-Year CR Funded
Military Pay	2.7%	2.7%	0%
Civilian Pay	2.7%	2.7%	0%
Fuel	10.1%	48.9%	0%
Health	3.7%	2.5%	0%
Other	1.9%	7.0%	0%
Total	**2.3%**	**5.7%**	**0%**

Dollar Value of Inflation			
	FY22 PB Anticipated	Jan 12 CPI Actual	Full-Year CR Funded
Military Pay	$2.9B	$2.9B	$0.0B
Civilian Pay	$2.2B	$2.2B	$0.0B
Fuel	$1.0B	$5.1B	$0.0B
Health	$1.2B	$0.8B	$0.0B
Other	$9.0B	$33.0B	$0.0B
Total	**$16.3B**	**$44.0B**	**$0.0B**

NEW STARTS

New programs cannot start when operating under a CR, cancelling or delaying their start until the following year. Although this can have a bearing all accounts, the impact is primarily felt in RDT&E, procurement, and military construction accounts. Below is a summary of impacts we were able to identify from the DoD budget documentation and other sources:

Department of the Army The Army testified to the House Appropriations Committee that its FY22 PB submission contained 32 RDT&E new starts and 29 procurement new starts.[15] When combined with military construction programs, this means the Army has almost 100 new starts that would be cancelled in FY22 by a full-year CR. Examples of RDT&E new starts include technology to support Long Range Maneuverable Fires, Mobile and Survivable Command Post, and Assured PNT (Position, Navigation, and Timing) Communications. Procurement new starts include Low Tier Air and Missile Defense Sensors, Next Generation Squad Weapon rifles, Joint Tactical Ground Station for intelligence, and capabilities to counter small Unmanned Aircraft Systems (C-sUAS). Military construction projects for the Army include projects in Alabama, California, Georgia, Hawaii, Louisiana, Maryland, New York, Pennsylvania, and South Carolina.

Department of the Navy: Navy new starts in RDT&E include over $187 million in unmanned surface and aerial systems and $150 million in TACAMO modernization (nuclear communications capability). Procurement new starts include a wide range of advanced procurement investments for the Joint Strike Fighter, E-2D Hawkeye, MQ-25, *Ohio* replacement, and *Virginia*-class submarine. The Navy FY22 budget contained military constructions projects in California, Maine, Nevada, North Carolina, and Virginia.

Department of the Air Force: Examples of Air Force new starts cancelled in FY22 by a full-year CR include hypersonics investments in Air-Launched Rapid Response Weapon (ARRW) and Hypersonic Attack Cruise Missile (HACM), and nuclear modernization for Ground Based Strategic Deterrent (GBSD), as well as one to two year delays in the Long Range Stand Off weapon, B-21, and F-35 programs. The Air Force would have 56 military construction projects curtailed in Alaska, Arizona, California, Florida, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, New York, Oklahoma, Ohio, South Carolina, South Dakota, Texas, Utah, Washington DC, Wisconsin, and Wyoming.

Many of these new starts that will not be allowed in FY22 under a full-year CR are vital to our campaign to deter Chinese and Russian aggression. As discussed in the previous section, we are in a race against time to field these capabilities before China and Russia undertake steps such as seizing Taiwan or Ukraine, which would have catastrophic global consequences. Slowing key investments expands the window of opportunity for China and Russia and increases the risk of unrecoverable loss if aggression occurs before we are able to deter or effectively respond to it. Examples of key delays that would be caused by a full-year CR include:

Hypersonic Weapons: The rapid advances made by China in hypersonic weapons in recent years, underscored by the recent test of a hypersonic glide vehicle,[16] has made this one of the highest DoD modernization priorities. Our strategy to penetrate the anti-access, area-denial capabilities of China, which are now beginning to proliferate globally, depends on hypersonic capabilities. With the goal of fielding the first ground-based hypersonic weapons battery by FY23 with air and sea-based capabilities following closely behind, we cannot afford self-imposed delays. The FY22 budget

14 These approximations were estimated from publicly available data in the FY22 PB submission. DoD would be able to create more precise estimates from its internal data.

15 Testimony of General Joseph Martin, Vice Chief of Staff of the Army, January 12, 2022. [Impact of Continuing Resolutions on the Department of Defense and Services | House Committee on Appropriations]

16 Sandra Erwin, "China's hypersonic vehicle test a 'significant demonstration' of space technology." Space News, October 22, 2021. [China's hypersonic vehicle test a 'significant demonstration' of space technology - SpaceNews]

contains several hundred million dollars in new funding across DoD for hypersonics, including engineering, manufacturing, and design in the Army budget and large increases for Air Force ARRW and HACM programs. Delaying our hypersonics investments in the midst of our race to catch up would be a major blow.

Space: The Russian antisatellite test in the fall of 2021 reinforced the vulnerability that comes from our reliance on largely unprotected space assets.[17] China and Russia have both made significant investments in space, eroding our historic advantage. We are now playing catch-up in both offensive and defensive space capabilities. New starts or procurement quantity changes in FY22 include Mobile User Objective System (MUOS), National Security Space Launch, and Joint Tactical Ground Stations (JTAGs).

Artificial Intelligence: China has been investing heavily in AI for many years.[18] When combined with its willingness to use AI in unethical ways (e.g., no human in the loop for lethal systems), it is becoming a major threat to our national security. Like hypersonics and space, the U.S. is now playing catch up. The NDAA significantly increased investments in AI above the already large increases in the PB submission.

Nuclear Modernization: With some forecasts predicting that China may have over 1,000 nuclear warheads by the end of the decade,[19] it remains vitally important for the U.S. to prevent erosion of its nuclear deterrent. But after years of "kicking the can down the road," we have a significantly depreciated nuclear force and are required to simultaneously modernize all three legs of our nuclear triad in addition to the supporting infrastructure in the Department of Energy. The cost of this catch-up is enormous and further delays aggravate this situation. The FY22 budget continues nuclear modernization with new RDT&E starts for the Air Force in GBSD and nuclear command and control and for the Navy in TACAMO modernization. A year-long CR would lead to a $1.1 billion reduction to the GBSD program and delay its operating capability past 2029, as well as significant construction delays for the *Columbia*-class submarine.[20,21]

PROCUREMENT QUANTITY CHANGES

Similar to the prevention of new starts, a CR also prevents changes to procurement quantities. Procurement quantities are established in law through an appropriation act and planned increases in procurement as a relatively new program ramps up cannot be implemented under a CR. Marine Corps Commandant General David Berger provided a detailed list of procurement quantity increases that would be prevented by a full-year CR in FY22:22

- Amphibious Combat Vehicle: Limited to 72 versus the planned 92.
- KC-130J: Limited to 5 versus the planned 6.
- F-35B: Limited to 10 versus the planned 17.
- Advanced Anti-Radiation Guided Missile: Limited to 16 versus the planned 54.
- Hellfire: Limited to 95 versus the planned 120.

Another example is provided by the Department of the Air Force with planned procurement increases that include an 18 unit increase in F-15E EPAWSS, 20 unit increase in JASSM-ER, and two additional National Security Space Launches.

MISALIGNED FUNDING

The loss of buying power identified above from reduced funding levels and higher than expected inflation is made even larger by the misalignment of funds from a full-year CR. Funding is typically moved across accounts each year in budget formulation to align it with DoD's highest priorities. A full-year CR eliminates all realignment of funding across accounts, rendering some funding unusable at all or in places where it can only be used less efficiently. A particularly stark example is the Afghanistan Security Forces Fund (ASFF). This fund has been used for many years to support the Afghan National Security Forces, but the collapse of the latter following the U.S. withdrawal from Afghanistan has rendered the account obsolete. A full-year CR would continue the $3 billion in ASFF funding from FY21 with no way for DoD to use this funding.

Within the Services, several Service leaders provided estimates of the misalignment of funds at the January 12, 2022, House Appropriations Committee hearing, including: U.S. Army with $9.2

17 Kylie Atwood, Jim Sciutto, Kristin Fisher, and Nicole Gaouette, "US says it 'won't tolerate' Russia's 'reckless and dangerous' anti-satellite missile test," CNN, November 16, 2021. Russian anti-satellite missile test: US 'won't tolerate' 'reckless and dangerous act' - CNNPolitics

18 Ryan Fedasiuk, Jennifer Melot, and Ben Murphy, "Harnessed Lighting: How the Chinese Military is Adopting Artificial Intelligence," Center for Security and Emergency Technology, October 2021. Harnessed Lightning - Center for Security and Emerging Technology (georgetown.edu)

19 Oren Liebermann, "Pentagon warns China is rapidly expanding its nuclear arsenal," CNN, November 3, 2021. Pentagon warns China is rapidly expanding its nuclear arsenal - CNNPolitics

20 https://docs.house.gov/meetings/AP/AP02/20220112/114316/HHRG-117-AP02-Wstate-BrownC-20220112.pdf https://docs.house.gov/meetings/AP/AP02/20220112/114316/HHRG-117-AP02-Wstate-GildayM-20220112.pdf

21 For a discussion of these delays, see Valerie Insinna and Andrew Eversden, "Yearlong CR would 'irreversibly delay' nuclear modernization programs: service chiefs," Breaking Defense, January 12, 2022. Yearlong CR would 'irreversibly delay' nuclear modernization programs: service chiefs - Breaking Defense Breaking Defense - Defense industry news, analysis and commentary

22 Testimony of General David Berger, Commandant of the Marine Corps, House Appropriations Committee, January 12, 2022. HHRG-117-AP02-Wstate-BergerD-20220112.pdf (house.gov)

billion in misaligned funds, U.S. Navy with $14 billion in misaligned funds, and the U.S. Marine Corps with $4.2 billion in misaligned funds.[23] Specific examples of funding mis-alignments include:

Pay raises: The NDAA directed a 2.7% military pay raise, which will be funded from the military personnel accounts. The civilian pay raise (set for the entire government) is also 2.7 percent, which will be funded mostly from O&M accounts. In the PB submission and the enacted NDAA, funding was added to these accounts to pay for these pay raises. Under a full-year CR, this requirement would have to paid from within the FY21 funding levels. The AF estimates that it will have to curtail or modify 98,000 change-of-station moves, reduce $167 million in incentive and retention bonuses, and significantly reduce Guard and Reserve active duty operational support to fund the military pay raise from within the MILPERS account. Similarly, the Air Force expects offsets from its flying hour program, facilities sustainment and modernization program, and a civilian hiring freeze in order to pay the civilian pay raise from within the FY21 O&M account funding level.[24]

Readiness: Every military department had an O&M funding increase to support readiness in the FY22 PB submission that will not occur with a full-year CR. In addition, as stated above, the civilian pay raise would have to be mostly funded from within existing O&M resources and require offsets from O&M accounts that support readiness such as flying hours and other optempo accounts. The Army provides a particularly striking example. Following an uptick in aviation accidents, internal analysis found that insufficient flying hours was a contributor. The FY22 budget submission increased O&M funding for aviation flying hours and aviation spare parts for the working capital fund. This was considered a must-pay bill for safety reasons by the Army and will not only be cancelled by a full-year CR, but it would also see internal budget pressure from other must-pay bills such as the civilian pay raise. Additionally, the U.S. Navy reports that a full-year CR would delay maintenance for 10% of the submarine force.[25]

OUTYEAR IMPACTS AND THE LOSS OF TIME

The above examples illustrate the impact in FY22 of a full-year CR. That is only part of the overall impact because each of these has a bearing on follow-on implications for FY23 and beyond. As discussed, one of the most significant impacts is if the $36 billion reduction in DoD funding level becomes a new funding baseline. This would result in a $180 billion reduction in DoD funding from FY22-26.

A second challenge given a full-year CR is with individual programs and systems that are delayed. New starts and procurement quantity changes are directly delayed for a year. Other programs may be delayed as well from the reduced funding level. The downstream impacts can be large. One significant modernization priority is hypersonics; the U.S. Army reports that the first battery fielding date of FY23 may survive a full-year CR, but the second battery would be delayed from its FY25 fielding date. More broadly, a major milestone in U.S. Army modernization is that it plans to have 31 signature programs in the hands of soldiers in some form by FY23 — a full-year CR would delay 24 of these soldier placements.[26] Similar out-year impacts occur in the other services.

A third challenge is the "ripple" effect that occurs through the force over time from similar systemic disruptions. DoD saw this with the sequester reductions and would likely see it again with a full-year CR. For example, curtailing key training opportunities because of a budget shortfall causes a cohort of military personnel to reach key career milestones such as promotion boards, several years later without those courses. Delaying change-of-station moves, cancelling courses, reducing special pays, and so forth all impact service member decisions to stay in or leave military service, and the opportunities they have for assignments, education, and training to advance their careers. Such downstream impacts were experienced during the sequester regime of the 2011 Budget Control Act. Several years later, individual service members who had key training courses or developmental assignments cancelled during sequester were then disadvantaged at promotion boards. Every service has identified significant impacts on professional military education, special pays, and change-of-station moves from a full-year CR.[27]

23 Impact of Continuing Resolutions on the Department of Defense and Services | House Committee on Appropriations

24 Testimony of General Charles Brown, Chief of Staff of the Air Force, House Appropriations Committee, January 12, 2022. HHRG-117-AP02-Wstate-BrownC-20220112.pdf (house.gov)

25 Testimony of Admiral Michael Gilday, Chief of Naval Operations, House Appropriations Committee, January 12, 2022. HHRG-117-AP02-Wstate-GildayM-20220112.pdf (house.gov)

26 Testimony of General Joseph Martin, Vice Chief of Staff of the Army, January 12, 2022. Impact of Continuing Resolutions on the Department of Defense and Services | House Committee on Appropriations

27 Impact of Continuing Resolutions on the Department of Defense and Services | House Committee on Appropriations

DEFENSE INDUSTRIAL BASE RISK

The defense industrial base (DIB), as with DoD, has been through an enormously challenging two years. The COVID-19 pandemic caused significant disruptions to production lines, development programs, and the defense workforce. Supply chain and workforce disruptions are now adding further complications that compound the negative effects of the continuing COVID-19 pandemic.

These disruptions arrive in an already challenging period for the DIB. The defense sector has seen thousands of companies depart over the last decade. According to NDIA's *2021 Vital Signs* report, there are fewer and fewer new entrants to the defense market with a gaping 50% drop between FY19 (over 12,000) and FY20 (little more than 6,000). And that was before the challenges wrought by the pandemic.[28] A full year CR would be another damaging blow exacerbating the turmoil of the last two years and the longer term challenges the industry is facing, and it would come at a time when revitalizing the strength, innovation, and agility of the DIB has become a national security imperative.

The most obvious impact on industry is lost revenue. Much of the $36 billion reduction in topline funding will result in reduced revenue to the defense industry. This effect will be spread out over several years because DoD takes time to first obligate and then outlay funding. It was beyond the scope of this white paper to develop a precise figure of lasting economic impacts from a full-year CR with respect to defense spending, but several rudimentary observations about outlay reductions over time can be made. Including all appropriations (with military personnel and the civilian pay portion of operations and maintenance) and using approximate historic outlay rates, we estimate a full-year CR would result in a $20 billion reduction in outlays in FY22. If this became a new baseline for defense spending, we estimate outlays would fall by approximately $155 billion from FY22-26. A small portion of this would be paid to overseas entities, but the vast majority would be direct reductions to payments to employees or contractors within the U.S.

This loss of revenue translates to reduced economic activity across the country. For example, 78 RDT&E and procurement new starts for the Air Force that will be prevented by a full-year CR would impact at least 15 states, including Arizona, California, Colorado, Georgia, Florida, Maryland, Michigan, Missouri, New Mexico, New York, North Carolina, Oklahoma, Texas, Utah, and Virginia.

There are other, less direct impacts on the DIB beyond these immediate effects. For example, when there is uncertainty about whether or not and when a program will start, companies may be forced to delay key internal investments in plant, equipment, and workforce training. Once funding does arrive, these delayed investments may have to be made in a hurry or production may have to begin without these cost saving investments reducing efficiency and raising cost to the taxpayer for the required military capability. This can be particularly pronounced in Multi-Year Procurements (MYPs).

Another potential impact is to the incentives in the technology sector for national security work. In many key areas of capability development like space and AI, the commercial sector, particularly through startup companies, is the primary driver of technological advancement. Part of the race against time for DoD is improving its ability to access this technology sector and incentivize the sector to focus on national security challenges. But these companies already find the government hard to work with and a questionable investment at times. Venture capital backed startups work on short cycles between funding rounds and need to show development of a customer base to continue receiving investments.[29]

As Trae Stephens, co-founder of Anduril Industries stated in December, 2021, "A startup has [about] 18 to 24 months of runway at any given time — that's how the financing structure works. And so if you find a willing end user, someone who wants to use your product, and they say, 'Okay, give me three years and in three years, we might have this contract somewhere,' the company is dead."[30] This is the challenge working with the government in normal circumstances; a full-year CR adds another year of delays to this already burdensome process. As Congressman Ken Calvert, ranking member of the defense subcommittee of the House Appropriations Committee, stated, "the US government has been a lousy partner, quite frankly. We don't protect intellectual property. We get companies in and waste their time. Then we're wondering why we're not getting the technologies we want."[31] In short, as with deterring our adversaries, "time is running out" to bring the technology sector into the national security space in a serious manner and a full-year CR would burn another year of time that the U.S. cannot afford to waste.

28 National Defense Industry Association, *Vital Signs 2021: The Health and Readiness of the Defense Industrial Base*, 2021. vital-signs_2021_digital.ashx (ndia.org)

29 See, for example, Valerie Insinna, "Silicon Valley warns the Pentagon: 'Time is running out'," Breaking Defense, December 21, 2021. Silicon Valley warns the Pentagon: 'Time is running out' - Breaking Defense (ampproject.org)

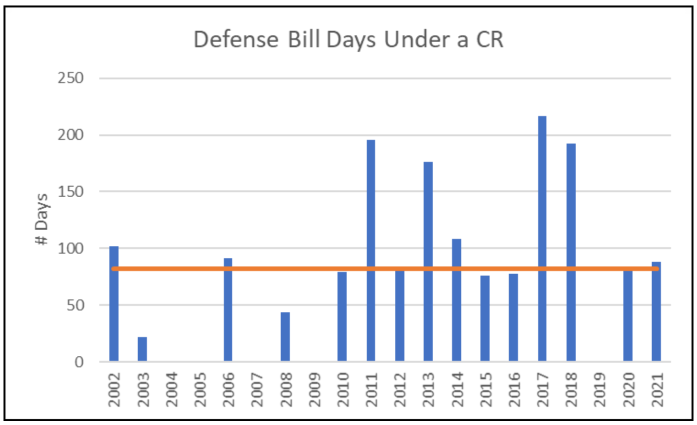
30 See, for example, Valerie Insinna, "Silicon Valley warns the Pentagon: 'Time is running out'," Breaking Defense, December 21, 2021. Silicon Valley warns the Pentagon: 'Time is running out' - Breaking Defense (ampproject.org)

31 See, for example, Valerie Insinna, "Silicon Valley warns the Pentagon: 'Time is running out'," Breaking Defense, December 21, 2021. Silicon Valley warns the Pentagon: 'Time is running out' - Breaking Defense (ampproject.org)

LONG-TERM INEFFICIENCIES AND REFORMS TO REDUCE RISKS IN THE FUTURE

While a full-year CR for DoD would be unprecedented, partial year CRs are, unfortunately, common practice. For the entire federal government, in the 45 years from FY1977 to FY2021 only three started the fiscal year with all appropriations bills enacted.[32] In the 20 years from FY02 to FY21, DoD has started the fiscal year with an appropriation passed on time 5 years and started the fiscal year with a CR the remaining 15.[33] The average length of time DoD has been under a CR over these 20 years has been 82 days.[34] Figure 2 provides the CR lengths for each fiscal year, along with the 82 day average.

Figure 2: History of Defense Appropriations under a CR35



Unsurprisingly, DoD has adapted itself to the reality of this suboptimal operating environment. These adaptations introduce inefficiency into DoD operations, reducing return on taxpayer investment in national security. GAO recently examined three areas of inefficiency resulting from the frequent occurrence of CRs:[36]

Delaying hiring: GAO found a 20 percent drop in civilian hiring during CR periods.[37] This limitation on hiring during CR periods, followed by hiring surges under an enacted appropriation, drives inefficiency in the human resources function and, more importantly, workforce variability for the organizations effected. It is important to note that there are also hiring consequences in the defense industry.

Delaying obligations and contracts: When operating under a CR, funding is obligated at a lower rate and then surged later in the year when an appropriation is enacted. Without the disruption of frequent CRs, funding would be spent more evenly throughout a year. For example, training events and military education courses would be efficiently managed across organizations throughout the year. With a CR, spending is initially restrained, e.g., less training, fewer deployments or courses, and then a surge of these activities later in the year. For O&M, GAO found about a five to ten percent shift of spending from the first to the fourth quarter in years with a CR.

Similarly, GAO found that it is now standard practice in DoD to delay program starts and contracting actions until later in the year. Similarly, procurement quantities remain fixed under a CR. GAO cited an example of Marine Corps Amphibious Vehicle Program in FY20: the prior year, the Marines had purchased 30 vehicles. The Marine Corps planned to buy 56 in FY20, but under the CR it could not increase procurement quantity. The solution was to issue a contract for 30 and later, when an appropriation was enacted, issue a second contract for the remaining 26. This consumed staff time and increased uncertainty for the contractor.

Staff focus on CR requirements: GAO found inefficiencies resulting from the repetitive activities and incremental planning necessary during CRs. GAO identified three specific activities: developing legislative anomaly proposals, creating spending plans for various CR scenarios, and adjusting contracts to reflect CR funding availability. Other activities included: preparing for shutdowns, scheduling and rescheduling training and deployments, and surging staffing actions when an appropriation is enacted.

The above challenges with partial year CRs are serious, but the ultimate impact is inefficiency. DoD is unable to use taxpayer resources as effectively as it could if there were greater predictability and regularity to its budget. These effects, along with the many others that GAO did not estimate, raise the costs of programs to DoD and the taxpayer. As Under Secretary of Defense (Comptroller) Mike McCord recently testified, "One of the central insights for me, when serving on the Commission on the National Defense Strategy for the United States, is that our competitors, China and Russia in particular, use all the pieces on the chessboard against us, not just their military assets. We are competing on the diplomatic front, the economic front, the military front, the cultural front, the innovation and technology front. If we take this competition seriously,

32 Congressional Research Service, "Continuing Resolutions: Overview of Components and Practices," November 5, 2020. Continuing Resolutions: Overview of Components and Practices (congress.gov)

33 Major General Arnold Punaro, Sugar Plums or Coal? DoD Past, Present, and Future, presentation dated December 22, 2021.

34 Major General Arnold Punaro, Sugar Plums or Coal? DoD Past, Present, and Future, presentation dated December 22, 2021.

35 Major General Arnold Punaro, Sugar Plums or Coal? DoD Past, Present, and Future, presentation dated December 22, 2021.

36 Government Accountability Office, "Defense Budget: DoD Has Adopted Practices to Manage within the Constraints of Continuing Resolutions," September 2021. GAO-21-541, DEFENSE BUDGET: DOD Has Adopted Practices to Manage within the Constraints of Continuing Resolutions

37 DoD averaged hiring 200 civilians per day under a CR and 250 civilians a day when not under a CR.

as we should, as our adversaries do, then we cannot afford the inefficiencies that this pattern demonstrates and enables. Time is money, and year after year we give away time in lengthy CRs. We do not have such an insurmountable edge that we can afford to fritter away one third of our time, year after year, while our competitors move as fast as they can."[38]

The challenges of a full-year CR are fundamentally different. In a full-year CR, the surge of appropriation later in the year never happens, the new starts and procurement quantity changes never happen, and the misalignment of funds is never corrected. Instead of activities being more expensive or lower quality because of inefficiency, the activities never happen at all in that year.

In addition to passing an FY22 appropriation bill for DoD to prevent the harmful effects identified above, reforms to the budget process are also required to prevent this recurring problem. There have been many proposals discussed in recent years, e.g., a two-year budget aligned to the Congressional cycle (where the first year of a congress sets the two-year budget, second year is for adjustments and oversight). An ironic result of the Budget Control Act and the devastating impacts of the 2013 Sequestration was the two-year bipartisan budget agreements that set budget toplines for federal agencies. This led, in 2019, to the on-time passage of both the NDAA and defense appropriations — the first time in decades that both were enacted before the beginning of the fiscal year. And, in the other years when we still faced a CR, the set top-line meant less complex negotiations and no real threat of a year-long CR.

Other reforms have been suggested to include holding Congress in session until passage of all spending bills and others. There is an opportunity to consider these and other potential reforms. The FY22 NDAA included direction to establish a commission on DoD's resource allocation process, the Planning, Programming, Budgeting, and Execution system. This commission should be directed to identify systematic reforms that could prevent or further mitigate the harmful effects of CRs.

38 Testimony of Michael McCord, House Appropriations Committee, Subcommittee on Defense, January 12, 2022. HHRG-117-AP02-Wstate-McCordM-20220112.pdf (house.gov)

The National Defense Industrial Association is the trusted leader in defense and national security associations. As a 501(c)(3) corporate and individual membership association, NDIA engages thoughtful and innovative leaders to exchange ideas, information, and capabilities that lead to the development of the best policies, practices, products, and technologies to ensure the safety and security of our nation. NDIA's membership embodies the full spectrum of corporate, government, academic, and individual stakeholders who form a vigorous, responsive, and collaborative community in support of defense and national security. For more than 100 years, NDIA and its predecessor organizations have been at the heart of the mission by dedicating their time, expertise, and energy to ensuring our warfighters have the best training, equipment, and support. For more information, visit **NDIA.org**