## Off

### 1nc - US heg

#### Maintaining US space dominance requires a homegrown commercial space industry – private companies offshoring gives China the advantage they need

**Cahan and Sadat 1/6** [(Bruce Cahan, J.D) (Dr. Mir Sadat, ) "US Space Policies for the New Space Age: Competing on the Final Economic Frontier," based on Proceedings from State of the Space Industrial Base 2020 Sponsored by United States Space Force, Defense Innovation Unit, United States Air Force Research Laboratory, 1/6/21, https://www.politico.com/f/?id=00000177-9349-d713-a777-d7cfce4b0000] TDI

Today, China’s commercial space sector is in its infancy but is set to grow with continued national and provincial support, which have been rapidly increasing over the past three years.64 Since 2004, the United States and China accounted for 74% of the $135.2 billion venture capital (VC) invested in commercial space. 65 The early 2020s are pivotal, as it would be far cheaper for China and Chinese commercial space firms to acquire space technologies from the United States or allied nation companies seeking revenues or facing cashflow constraints, than to build the companies and their teams and technologies from scratch in China. The tight coupling of Chinese military goals and an economy organized to achieve those goals magnifies the economic threats and market disruptions that the United States must immediately address, in order for DoD and national security operations to rely on US commercial space capabilities.

3. ISSUES AND CHALLENGES

Peaceful Uses of Space and Space Exploration Space has been primarily a shared, not a warfighting, domain.67 With each passing second of Planck time,68 space enables a modern way of life, provides instantaneous global imagery, assures telecommunications, and captures humanity’s imagination for civil space exploration. As a result, space is a burgeoning marketplace and territory for commercial ventures and investors. Strengthening the US commercial space industrial base is vital to and beyond US national security. Civil space activities are a source of US “soft power” in global commerce, cooperation, and investment. 69 The civil space sector, led by NASA, is fundamental to America’s national security. 70 NASA is on an ambitious critical path to return to the Moon by 2024,71 along with developing the capabilities and infrastructure for a sustained lunar presence. NASA’s lunar plans provide a lunar staging area for missions to Mars and beyond. They offer a strategic and economic presence for the United States on the Moon. Congress, the White House, DoD, and NASA must recognize that economic and strategic dominance in service of national security requires catalyzing and accelerating growth of a vibrant, private US industrial and cultural expansion into the Solar System. Human visitation and eventual settlement beyond the Earth require sustaining visionary leaders, aided by, and aiding, US national security. A recurring theme in US policy is “maintaining and advancing United States dominance and strategic leadership in space” because US global competitors and adversaries are competent and capable of outpacing American space capabilities. 72 The stakes are high: At this historic moment, there is a real race for dominance over cislunar access and resources.   
Regulations Should Foster US Commercial Space as a National Asset   
Leveraging the reimagination and disruption of terrestrial industries, the US commercial space industry is pushing the frontiers of the United States and global space economics and capabilities. A pre-COVID19 assessment by the US Chamber of Commerce projected that the US space market will increase from approximately $385 billion in 2020, to at least $1.5 trillion by 2040.

73 This projection represents a seven percent (7%) annual compound average growth rate (CAGR), driven largely by expanded business opportunities in Low Earth Orbit (LEO). Total addressable market (TAM) for US commercial space companies could be far larger were they to have federal and financial support for initiating cislunar space operations and opportunities. Recent advancements in commercial space technologies and business models have driven down costs and unlocked new areas of economic growth and space capabilities that outpace and de-risk acquiring capabilities through traditional US government economic development, research and development (R&D), procurement and regulatory policies and processes. US regulations must ensure that US companies lead in commercial space. In specific, technological advances that lower access costs and expand space mission capabilities, content, continuity, and redundancies must be fully supported by or incorporated into US government programs, budgets, requirements, and acquisition processes. Until commercial space offerings are fully incorporated, and federal acquisition policies and personnel commit to innovation, US government fiscal buying power, intelligence and program support will lag and remain inadequate in comparison to US private sector companies and the nation’s global competitors and adversaries in space.

Addressing COVID-19’s Impact on US Commercial Space The COVID-19 pandemic damaged and still challenges the US space industrial base. US domestic investors’ funding of space R&D remains inconsistent across the lifecycle of New Space companies and the spectrum of technologies necessary to grow the space economy. To date, public R&D, government procurements and visionary space entrepreneurs have played a major role in establishing and funding the New Space industrial base. In the last five years, $11 billion of private capital has been invested.74 Traditional private investors may become reluctant to fund space technologies due to perceptions of higher risk over longer time horizons before receiving profitable returns on their capital. Institutional and long-horizon investors who manage patient capital have an appetite for illiquid, but higher yielding, terrestrial alternative asset investments such as commodities, private equity limited partnerships and real estate.75 The COVID-19 pandemic has created economic uncertainties making the New Space’s funding model unreliable. COVID-19 significantly impacted venture capital (VC)-backed companies: the pace of VC space investments fell 85% between April - June, as compared to January – March, in 2020. 76 Pre-COVID-19, the New Space industrial base confronted multiple challenges in raising later stages of venture capital such as (1) the lag between having an early-stage startup with an idea and commercializing a viable revenue-generating product, (2) the lack of market liquidity for founder and private equity space investments to attract and retain talented teams, and (3) the lack of a market to re-sell contracts for space goods and services when customers buy more capacity than needed. Even prior to the COVID-19 pandemic, federal financing of US R&D was at a historically minor level, as compared to businesses and universities.77 US government support for basic research has steadily declined as a percent of GDP. The federal government will experience near- to medium-term budget constraints.78 The vibrant venture community in the United States has taken up a portion of this slack by increasing R&D investment in later-stage and applied research. However, founding teams and VC financing rely on government to fund earlier R&D for basic science and engineering. Therefore, government must resume the sustainable and impactful past levels of support for basic research, an essential role in the space economy’s public-private partnership that ensures US leadership in space.

Space as Existential Terrain for National Security  
  
In this Digital Era, space integrates and drives all elements of US national security. The Cold War may be over, but since the early 2010s, a renewed era of great power competition has emerged across terrestrial land, air, sea, and cyber domains. This competition extends into space, where a great game ensues.79 Space is no longer an uncontested or sanctuary domain. Competent and capable global competitors and peer adversaries are challenging US military, commercial, and civil space interests. The United States, along with its allies and partners, has had to accept and anticipate that space may be a warfighting domain, as suggested primarily by Russian and Chinese counter-space capabilities, military operations, and declarative statements. On December 20, 2019, the bipartisan National Defense Authorization Act (NDAA) for Fiscal Year 202080 authorized the creation of the US Space Force, under the Department of the Air Force, to secure US national interests in an increasingly contested domain.81 Back in October 1775, the Continental Congress established the US Navy to ensure that commercial and government fleets could freely navigate the Atlantic coastline - today, that includes the South China Sea. Likewise, the USSF’s mission is to ensure unfettered access to and the freedom to operate in space. The 2017 National Security Strategy considers space to be a “priority domain.”82 Freedom of navigation is a sovereign right that nations have fought to achieve and defend. 83 The USSF’s main role is to organize, train and equip, as well as to protecting US space interests and supporting terrestrial and joint warfighters (e.g., US Space Command). Thus, USSF must secure US national interests in space, whether military, commercial, scientific, civil, or enhancing US competitiveness for cislunar leadership.

#### US space dominance prevents global war

**Zubrin 15** [(Robert Zubrin, president of Pioneer Energy, a senior fellow with the Center for Security Policy) “US Space Supremacy is Now Critical,” Space News, 1/22/15, <https://spacenews.com/op-ed-u-s-space-supremacy-now-critical/>] TDI

The United States needs a new national security policy. For the first time in more than 60 years, we face the real possibility of a large-scale conventional war, and we are woefully unprepared. Eastern and Central Europe is now so weakly defended as to virtually invite invasion. The United States is not about to go to nuclear war to defend any foreign country. So deterrence is dead, and, with the German army cut from 12 divisions to three, the British gone from the continent, and American forces down to a 30,000-troop tankless remnant, the only serious and committed ground force that stands between Russia and the Rhine is the Polish army. It’s not enough. Meanwhile, in Asia, the powerful growth of the Chinese economy promises that nation eventual overwhelming numerical force superiority in the region. How can we restore the balance, creating a sufficiently powerful conventional force to deter aggression? It won’t be by matching potential adversaries tank for tank, division for division, replacement for replacement. Rather, the United States must seek to totally outgun them by obtaining a radical technological advantage. This can be done by achieving space supremacy.To grasp the importance of space power, some historical perspective is required. Wars are fought for control of territory. Yet for thousands of years, victory on land has frequently been determined by dominance at sea. In the 20th century, victory on both land and sea almost invariably went to the power that controlled the air. In the 21st century, victory on land, sea or in the air will go to the power that controls space. The critical military importance of space has been obscured by the fact that in the period since the United States has had space assets, all of our wars have been fought against minor powers that we could have defeated without them. Desert Storm has been called the first space war, because the allied forces made extensive use of GPS navigation satellites. However, if they had no such technology at their disposal, the end result would have been just the same. This has given some the impression that space forces are just a frill to real military power — a useful and convenient frill perhaps, but a frill nevertheless. But consider how history might have changed had the Axis of World War II possessed reconnaissance satellites — merely one of many of today’s space-based assets — without the Allies having a matching capability. In that case, the Battle of the Atlantic would have gone to the U-boats, as they would have had infallible intelligence on the location of every convoy. Cut off from oil and other supplies, Britain would have fallen. On the Eastern front, every Soviet tank concentration would have been spotted in advance and wiped out by German air power, as would any surviving British ships or tanks in the Mediterranean and North Africa. In the Pacific, the battle of Midway would have gone very much the other way, as the Japanese would not have wasted their first deadly airstrike on the unsinkable island, but sunk the American carriers instead. With these gone, the remaining cruisers and destroyers in Adm. Frank Jack Fletcher’s fleet would have lacked air cover, and every one of them would have been hunted down and sunk by unopposed and omniscient Japanese air power. With the same certain fate awaiting any American ships that dared venture forth from the West Coast, Hawaii, Australia and New Zealand would then have fallen, and eventually China and India as well. With a monopoly of just one element of space power, the Axis would have won the war. But modern space power involves far more than just reconnaissance satellites. The use of space-based GPS can endow munitions with 100 times greater accuracy, while space-based communications provide an unmatched capability of command and control of forces. Knock out the enemy’s reconnaissance satellites and he is effectively blind. Knock out his comsats and he is deaf. Knock out his navsats and he loses his aim. In any serious future conventional conflict, even between opponents as mismatched as Japan was against the United States — or Poland (with 1,000 tanks) is currently against Russia (with 12,000) — it is space power that will prove decisive. Not only Europe, but the defense of the entire free world hangs upon this matter. For the past 70 years, U.S. Navy carrier task forces have controlled the world’s oceans, first making and then keeping the Pax Americana, which has done so much to secure and advance the human condition over the postwar period. But should there ever be another major conflict, an adversary possessing the ability to locate and target those carriers from space would be able to wipe them out with the push of a button. For this reason, it is imperative that the United States possess space capabilities that are so robust as to not only assure our own ability to operate in and through space, but also be able to comprehensively deny it to others. Space superiority means having better space assets than an opponent. Space supremacy means being able to assert a complete monopoly of such capabilities. The latter is what we must have. If the United States can gain space supremacy, then the capability of any American ally can be multiplied by orders of magnitude, and with the support of the similarly multiplied striking power of our own land- and sea-based air and missile forces be made so formidable as to render any conventional attack unthinkable. On the other hand, should we fail to do so, we will remain so vulnerable as to increasingly invite aggression by ever-more-emboldened revanchist powers. This battle for space supremacy is one we can win. Neither Russia nor China, nor any other potential adversary, can match us in this area if we put our minds to it. We can and must develop ever-more-advanced satellite systems, anti-satellite systems and truly robust space launch and logistics capabilities. Then the next time an aggressor commits an act of war against the United States or a country we are pledged to defend, instead of impotently threatening to limit his tourist visas, we can respond by taking out his satellites, effectively informing him in advance the certainty of defeat should he persist. If we desire peace on Earth, we need to prepare for war in space.

#### Space domination is zero sum and winner-take-all---solves heg, climate change, space colonization, nuclear war, and global warming.

* Private sector key – free market innovation is a key advantage the US has over China

Steve Kwast 19, Master's degree in public policy, Harvard John F. Kennedy School of Government, lieutenant general in the U.S. Air Force with extensive combat and command experience at every level, from squadron to major command, 19 August 2019, “THE REAL STAKES IN THE NEW SPACE RACE,” https://warontherocks.com/2019/08/the-real-stakes-in-the-new-space-race/

Why is space so critical to the future? Space is powerful precisely because it benefits from the attributes and principles of a network. A network can deliver power, information, and goods from one node, or all nodes, at a fraction of the increase in cost per customer compared to a linear system. The post office is an example of a linear model. If you send a letter to 100 different people, you have to pay for 100 stamps. The Internet is an example of a networked model. If you want to send an email to 100 people you can send it at a fraction of the cost. Most of our terrestrial economies are modeled on linear design, driving up cost for every delivery to a new customer. A networked space infrastructure will always win the cost war against a linear terrestrial infrastructure. Consequently, the first civilization to build a robust networked space infrastructure will dominate the global economy of the 21st century.

Space will be a multi-trillion-dollar market that will disproportionately benefit the first great power that builds a vibrant infrastructure there. Finishing second in this race means accepting defeat. Why is this the case? Whoever moves into a new marketplace first defines and sets the terms of that market. If America is first to build the infrastructure of space, its rule of law and values, including every human’s inherent right to life, liberty, and the pursuit of happiness, will underpin the marketplace. If China is first, its values will dominate. China continues to demonstrate a lack of regard for fair economic practices, the rule of law, human dignity, or liberty.

From transportation, to energy, to information, to manufacturing goods and services, China’s strategy is to dominate the key engines of economic growth that have historically changed world power and it views space as the place to seize and grow that advantage. It’s well-accepted that technological advantage drives economic prosperity, and economic prosperity is essential to sustainable national security. Today, China is applying this principle with new technologies and a superior strategy in space. America, on the other hand, is so underinvested, it is relying on the Russians to launch its astronauts into space. Fortunately, there is a way out, but only if we wake up now.

Most Americans are completely unaware that China has a plan to build manned labs both on the moon and on Mars. Nor are they aware that China has publicly announced its plans to build a nuclear powered space shuttle or its plan to begin mining asteroids by 2040. This isn’t science fiction. China is investing billions and has achieved some notable firsts including putting the first quantum satellite in orbit, operating a rover on the far side of the moon, and its simulated Mars habitat in the Gobi Desert.

If China stays on its current path, it will deploy a power station in space that could begin generating energy before 2040. China will claim that such stations are for peaceful means only — beaming clean energy via lasers or microwaves to anyone on earth — but they could also be weapons. The same beams could be directed at nodes of the U.S. power grid or a military base with destructive effect. America has grown accustomed to holding its adversaries at risk anywhere in the world in hours. China is developing the capability to have a more sophisticated capability that can reach virtually any target in seconds.

America has become complacent and mistakes its rapidly dissipating economic and military advantages as rights. The United States is making the same mistake that other fallen great powers have made. Namely, it is doubling down on the approach that made America successful in previous generations and discounting rising powers taking new approaches. While the U.S. government nibbles around the edges of game-changing technologies, the Chinese party-state is making huge investments in key areas to include: hypersonics, 5G, supercomputing, artificial intelligence, 3D-printing, quantum computing , and robotics. China is employing these and other leading-edge technologies in wholistic and new strategic ways that could render America a second-rate power.

Most Americans, and many in Congress, have not had that broader picture painted. Congress is at a crossroads, but some of its members may not even know it. It is time to make a deliberate decision to compete with China or to surrender by default. While American companies are working on these new technologies (albeit in separate silos), real power lies in harnessing these technologies together from space in intentional and innovative ways to achieve a dominant competitive advantage. China is actively pursuing a plan to use space as the ultimate “high ground” to dominate the global economy and transform economic, military, and political power in its image. While the United States has used terrestrial based strategies to contain its adversaries in the past, China is positioning itself to surround the entire globe from space.

The good news is that there is still a way to win. The United States can build on key competitive advantages: namely, superior cultures of creativity and innovation, rooted in an open society and a free market. The U.S. government should start with a vision that is both bigger than China’s and meaningful to America’s society and values. From there, it can write and implement a strategy that can secure the American way of life in this century and ensure the goods and promises offered by space are not dominated by a country disinterested in human freedom.

The benefits of such a course of action would appeal to most Americans, and indeed most people, to include clean energy, ubiquitous and secure communications, protection from space objects like the “city killing” meteor that hit Russia, deterrence capabilities that will render nuclear weapons obsolete, ensure the survival of humanity through expansion, and even modifying the Earth’s weather using satellites to slow the effects of climate change.

### 1nc - democracy

#### Global authoritarian resurgence is on the brink now --- Russia’s key

Diamond 18 – PhD in Sociology, professor of Sociology and Political Science at Stanford University (Larry, “The Liberal Democratic Order in Crisis,” *The American Interest*, <https://www.the-american-interest.com/2018/02/16/liberal-democratic-order-crisis/>)

As democracies appear ever more dysfunctional, divided, and irresolute, as authoritarian regimes exploit and propagandize these difficulties, and as China expands its economic and political muscle through its Belt and Road Initiative and surge of development “assistance”, global faith in democracy as the best system is eroding. The specter that now haunts the world is something unseen since the 1930s: an authoritarian zeitgeist celebrating the suppression of political and individual freedom as a better way to govern. A simplistic reading of the social science literature could say the rollback of democracy was to be expected in countries lacking the key conditions for democratic success—a large middle class, highly levels of education, a strong civil society, and a cultural of tolerance and mutual restraint. But many democratic success stories began under difficult circumstances. It is analytically fatuous and morally wrong to write off democratic aspirations anywhere. As India and Botswana have shown, democratic norms and institutions can take hold in poor countries. And they can unravel in rich countries—including, we should not be so arrogant to doubt, our own. Democratic values must be cultivated and renewed in every generation. And they need to defended and promoted across borders. The most important contribution of Samuel Huntington’s landmark study, The Third Wave, was not to give this name to the democratic expansion of the late twentieth century, but rather to see how indispensable international—and especially American—efforts to foster democracy were to this transformation. In particular, the renewal of American power and resolve under Ronald Reagan, and the expansion of efforts and instruments to support democracy abroad, helped bring about the end of Soviet communism and the rapid spread of freedom. Back then the zeitgeist was all about democracy. Now it is about democratic weakness, apathy, and decay. We are at a tipping point. Around the world, many democracies are hanging by a thread and autocrats are preparing more savage assaults on what remains of freedom. Two things stand in the way: pressure from below, in civil societies that will not go quietly into the dark authoritarian night, and pressure from outside, particularly from the United States and the European Union. Although doubts about democracy are growing, public opinion polls still show considerable support for democratic and accountable government, not just in Europe and North America but in Africa, Asia and Latin America as well. Democratic parties, mass media, think tanks, and associations need material support and technical assistance. At least as much, they need diplomatic support—clear messages of Western democratic solidarity with people struggling to fight corruption and defend their freedom, and clear warnings of consequences—in terms of economic aid, security assistance, and political support—if rulers trample on democratic constitutions and individual rights. These messages need to come both from our ambassadors on the ground and our highest officials in Washington. No great power can pin its global engagement on principle alone. But in most countries, we can do and say something on behalf of freedom and the rule of law. And on many fronts, including the troubled transitions in Ukraine and Tunisia, our engagement and pressure could make the difference between success and failure. If we do not renew our global leadership for freedom, and our resolve to assist and defend it where we can—including against Russia’s ongoing cyber assaults—the long decade of democratic recession will give way to an authoritarian rout.

#### Space cooperation with Russia leads to global authoritarianism

Juul 3-20-2019 – senior policy analyst at the Center for American Progress, MA @ Georgetown (Peter, “Trump’s Space Force Gets the Final Frontier All Wrong: A new space race may be on, but the United States should opt for peaceful exploration rather than military presence.,” *Foreign Policy*, <https://foreignpolicy.com/2019/03/20/trumps-space-force-gets-the-final-frontier-all-wrong/>)

This new multinational flotilla of robotic explorers sailing through the solar system shouldn’t be surprising. Since the dawn of the space age, nations large and small have sought to demonstrate their technological skill and economic strength through daring feats of human and robotic spaceflight. More importantly, however, great powers have always seen space exploration as a matter of national prestige and international standing. A nation cannot be considered truly influential or powerful, it seems, unless it explores the heavens. And with relations between countries on the ground becoming more competitive, it is not surprising that the space race has picked back up too. To be sure, today’s quest for international status looks to be more friendly and productive than the Cold War competition between the Soviet Union and the United States. But it nevertheless marks a shift away from the collaborative climate that characterized the post-Cold War era—and represents an opportunity for the United States to show that it is still the standard-bearer of the future. U.S. President John F. Kennedy made it clear that the quest for national prestige defined his space program in his famous 1962 address on America’s nascent effort to put a man on the moon: “No nation which expects to be the leader of other nations can expect to stay behind in the race for space.” The Apollo program would demonstrate America’s superior ambition and skill to the world in spectacular fashion. Similar motives drove U.S. President Richard Nixon to approve the space shuttle program in the 1970s and U.S. President Ronald Reagan to push for a permanently inhabited space station in the 1980s. The end of the Cold War marked an end to the competitive epoch of space exploration. By the late 1980s, traditional allies like Canada, Japan, and the European Space Agency had all signed on to help NASA build President Reagan’s proposed space station. Presidents George W. Bush and Bill Clinton brought Russia into the project after the fall of the Soviet Union, and the construction and continued operation of the International Space Station over 20 years remains an impressive feat of global collaboration. Today, however, the United States finds itself on the precipice of a new and uncertain era. American astronauts continue to live and work aboard the International Space Station, but no American has rocketed into orbit from U.S. territory since the last flight of the space shuttle in 2011. And back on Earth, the United States and its democratic allies in Europe and Asia have settled into a worldwide competition for power and influence with Russia and China. Now Russia remains the only nation that regularly launches humans into space. Meanwhile, reflecting their growing power, new players like India and China have embarked on their own ambitious robotic exploration missions to Mars and the far side of the moon. National prestige and international standing are once more at the forefront of space exploration, as is competition between nations—especially between democracies and autocracies—to make impressive achievements on the final frontier. To navigate the new space competition, the United States must first recognize that national prestige and global standing are critical national interests worth pursuing and not pointless—and possibly dangerous—chest-thumping exercises. And peaceful space exploration provides the United States a huge opportunity to restore pride at home and burnish its prestige overseas. It certainly beats other—perhaps less productive—ways of seeking international status, such as stockpiling nuclear weapons. America starts with an advantage on this front despite not having launched astronauts from its own soil in almost eight years. Even after five decades, the Apollo moon landings continue to stir pride at home and admiration abroad. The space shuttle remains iconic nearly a decade after retirement, while the cosmic images beamed back from the Hubble Space Telescope continue to provoke awe and wonder. Astronauts aboard the International Space Station have turned their own camera lenses back toward Earth and given the world stunning images of our home planet. Robotic explorers from Voyager to the Mars rovers and New Horizons have kept the country on the cutting edge of discovery in our solar system. But this advantage won’t last forever. Without consistent and increased funding for NASA, ambitious programs of both human and robotic exploration will literally fail to leave the ground. Progress doesn’t entail an Apollo-level commitment of national resources, but instead funding comparable to the early 1990s. An additional $5 billion a year should get the job done, with $3 billion for human exploration and $2 billion for robotic missions. But funding isn’t everything, and in the new geopolitical context, democracy must be seen to work effectively. When it comes to space exploration, that means ratcheting back U.S. space cooperation with Russia as well as forgoing any equally intimate cooperation with China and its secretive space agency. The fact that the head of Russia’s space agency remains under U.S. sanctions for his role in Moscow’s military intervention in Ukraine illustrates the hazards involved in working with autocracies in space. Deep cooperation with autocratic powers in space gives autocracies a major point of diplomatic leverage over the United States, and more generally allows them to poach unearned international prestige by working on goals set and largely carried out by the United States. In today’s world, there’s no reason for the United States to give Russia or China this sort of standing by association.

#### Expanded authoritarianism leads to great power war

Diamond 19 – PhD in Sociology, professor of Sociology and Political Science at Stanford University (Larry, “Ill Winds: Saving Democracy from Russian Rage, Chinese Ambition and American Complacency,” Kindle Edition)

In such a near future, my fellow experts would no longer talk of “democratic erosion.” We would be spiraling downward into a time of democratic despair, recalling Daniel Patrick Moynihan’s grim observation from the 1970s that liberal democracy “is where the world was, not where it is going.” 5 The world pulled out of that downward spiral—but it took new, more purposeful American leadership. The planet was not so lucky in the 1930s, when the global implosion of democracy led to a catastrophic world war, between a rising axis of emboldened dictatorships and a shaken and economically depressed collection of selfdoubting democracies. These are the stakes. Expanding democracy—with its liberal norms and constitutional commitments—is a crucial foundation for world peace and security. Knock that away, and our most basic hopes and assumptions will be imperiled. The problem is not just that the ground is slipping. It is that we are perched on a global precipice. That ledge has been gradually giving way for a decade. If the erosion continues, we may well reach a tipping point where democracy goes bankrupt suddenly—plunging the world into depths of oppression and aggression that we have not seen since the end of World War II. As a political scientist, I know that our theories and tools are not nearly good enough to tell us just how close we are getting to that point—until it happens.

## case

### 1nc – theory

Counterinterp: Debaters must disclose round reports on the wiki through the 1nc.

B: I meet, I disclosed my Blake rounds -- check my wiki

C: Prefer:

1. People don't keep old flows from three months ago and memory fades which means that it would be impossible to construct RRs after the fact. Two implications:

a) Makes it impossible to comply which kills fairness because I would auto-lose under their interp

b) Kills norming because deterrence only works if I can change my behavior so no terminal impact to the shell

c) Turns their offense: people would fabricate round reports under their interp which means more misinformation. Outweighs: there are other round reports so missing a few isn't harmful plus the wiki checks but false ones could give completely the wrong impression. *Also outweighs under their framing because lying is far less virtuous than failure to provide some benefit.*

#### Also theres a ton of things that check this 1. You could ask, just email me before the round or the tournament and ill disclose 2. Asking is a norm – the time differential isn’t much and prepping out both positions is necessary – when it comes to being aff you never truly know

Disclosure bullying is an independent voter -- the wiki gives big schools an asymmetric advantage because they have the teammates and coaches to write comprehensive prepouts which means it's exclusionary for them to nitpick the disclosure practices of small schools, as long as I've reasonably complied that should be good enough. It's absurd to drop a small school debater to a big school debater for the sake of small school disadvantage. Also this means that small schools can check small schools which solves your offense.

Perfcon with the aff -- it is not virtuous

On their interp:

1. Current topic solves -- old prep no longer applies

2. TURN: Old RRs are outdated because people evolve as debaters, people can LARP on one topic and run Ks on the next which means old RRs actively misinform people.

3. Round reports aren't key -- this is just an argument for why people should disclose theory and other independent offense. That would paint enough of a picture to solve their offense.

4. TURN: Thinking on your feet is good -- knowing exactly what your opponent goes for kills in-round strategic thinking.

5. They need to win "free-riding bad" or else there's no marginal impact, one person not complying with a norm doesn't matter.

6. Reject out-of-round offense:

a) Justifies ad homs like "your coach wrote a bad Facebook post" which causes a race to the bottom and weaponizes the debate space creating hostility that turns accessibility and education

b) Non-reciprocal because out-of-round circumstances are inherently unequal given different life circumstances and only in-round arguments provides a level playing field, kills fairness

### 1nc – space col

#### Their internal link to space col is trash – its just about like the impacts of climate change and why space col is good – no reason why they get there

#### C/a their inherency evidence – it literally flows neg and is about why companies going into space is good for innovation

#### We’re straight-turning colonization:

#### Only private sector solves it

Diakovska & Aliieva 20 [Halyna Diakovska and Olga Aliieva, Ph.D.s in Philosophy, Associate Professors, Donbass State Pedagogical University, “Consequentialism and Commercial Space Exploration,” 2020, *Philosophy and Cosmology*, Vol. 24, pp. 5-24, https://doi.org/10.29202/phil-cosm/24/1, EA]

The experience of the USA showed that leadership in space exploration, which is maintained solely through public funding, could be erroneous. Since 1984, the share of public funding has gradually decreased in space telecommunications, commercial space transportation, remote sensing, etc., while the share of participation of non-state enterprises has increased rapidly. A legal and regulatory framework has been modified to stimulate space commercialization. The stages of space law development are discussed in the research of Valentyn Halunko (Halunko, 2019), Larysa Soroka (Soroka & Kurkova, 2019), etc. Larysa Soroka and Kseniia Kurkova explored the specifics of the legal regulation of the use and development of artificial intelligence for the space area (Soroka & Kurkova, 2019).

As a result of changing the legal framework and attracting private investors to the space market, the US did not lose its leadership in space exploration, but rather secured it. Private investment along with government funding have significantly reduced the risk of business projects in the space industry. The quality and effectiveness of space exploration programs have increased.

In 2018, Springer published an eloquent book The Rise of Private Actors in the Space Sector. Alessandra Vernile, the author of the book, explores a broad set of topics that reveal the role of private actors in space exploration (Vernile, 2018). The book covers the following topics: “Innovative Public Procurement and Support Schemes,” “New Target Markets for Private Actors,” etc. In the “Selected Success Stories,” Vernile provides examples of successful private actors in space exploration (Vernile, 2018).

The current level of competition, which has developed on the space market, allows us to state the following fact. Private space companies have been able to compete with entire states in launching spacecraft, transporting cargo to orbital stations, and exploring space objects. The issue of mining on space objects, the creation of space settlements and the intensive development of the space tourism market are on the agenda.

In the 21st century, the creation of non-governmental commercial organizations specializing in the field of commercial space exploration, is regarded as an ordinary activity. They are established as parts of the universities around projects funded by private investors. For example, Astropreneurship & Space Industry Club based on the MIT community (Astropreneurship, 2019).

Large-scale research in the field of commercial space exploration, as well as the practical results achieved, led to the formation of a new paradigm called “New Space” ecosystem. The articles of Deganit Paikowsky’s (Paikowsky, 2017), Clelia Iacomino (Iacomino & Ciccarelli, 2018) et al. reveal its key meanings and the opportunities it offers in the space sector. The “New Space” ecosystem is a new vision for commercial space exploration. It is the formation of a cosmic worldview, in which the near space with all the wealth of its resources and capabilities, becomes a part of the global economy and the sustainable development of the society. The “New Space” ecosystem offers the following ways for commercial space exploration (Iacomino & Ciccarelli, 2018):

1. Innovative public procurement and support schemes, which significantly expand the role of commercial actors in space exploration.

2. Attracting new entrants in the space sector. First of all, these are companies working in the domain of Information and communications technology, artificial intelligence, etc. that are expanding their research in space markets. They offer innovative business models and new solutions to space commercialization.

3. Innovative industrial approaches based on new processes, methods, and industrial organization for the development and production of space systems or launchers.

4. Disruptive market solutions, which significantly reduce commercial space exploration prices, increase labor productivity, provide new types of services, etc.

5. Substantial private investment from different sources and involving different funding mechanisms. For instance, these are private fortunes, venture capital firms, business angels, private equity companies, or banks, etc.

6. Involvement of an increasing number of space-faring nations investing in the acquisition of turnkey space capabilities or even in the development of a domestic space industrial base. This expands the space markets and makes it more competitive.

The analysis of the research and advances in commercial space exploration allows us to draw the following conclusions:

1. In fact, the space market has already been created. It is currently undergoing continuous development that will integrate the resources and capabilities of the near space into the global economy over the next decade.

2. A new paradigm, denoted by the term “New Space” ecosystem, is at the heart of the created space market. The “New Space” ecosystem is a step towards the formation of cosmic thinking, in which outer space, with its resources and capabilities, is considered as a sphere of human activities.

3. Space market regulates space law, which is constantly evolving. The space law develops within the bounds of international law. In essence, the space market is integrated into the international legal field and is governed by its laws.

#### Property claims are key to catalyze investment in space development – OST killed public space exploration so try or die for private sector

Hickman 7 [John Hickman is an associate professor in the Department of Government and International Studies at Berry College in Mt. Berry, Georgia, “Still crazy after four decades: The case for withdrawing from the 1967 Outer Space Treaty,” *The Space Review,* Sept 24, 2007, https://www.thespacereview.com/article/960/1]

This year is the 40th anniversary of the Treaty on Principles Governing the Activities of States in the Exploration of Outer Space Including the Moon and Other Celestial Bodies, more commonly known as the 1967 Outer Space Treaty. Born out of anxiety about the Cold War and excitement about the Space Age, the agreement is a tribute to the ability of diplomats to draft international law that is simultaneously effective but bad. Successful in preventing states from claiming sovereign territory in outer space the treaty also hobbled space exploration and development. Today, human activity in outer space is confined to low Earth orbit and unmanned space exploration of the solar system proceeds at a leisurely pace. The Space Age has sputtered to a crawl and the 1967 Outer Space Treaty deserves a large measure of the blame.

Anti-commons and arrogance

Fear gave birth to the international legal regime for outer space: the ever-present fear of a nuclear war between the United States and Soviet Union, the fear that either superpower would achieve a decisive military technological advantage over the other in outer space, the fear that competition for the best “real estate” on celestial bodies might itself result in war between the superpowers, and the fear that the superpowers might cooperate in a duopoly over all of outer space. That space exploration and development had much to offer humanity was largely a rhetorical rather than a practical imperative in drafting the agreement establishing the international legal regime. Instead the practical imperative was to prevent by denial.

The core legal principle of the 1967 Outer Space Treaty declared that everywhere beyond the atmosphere to be res communis, an international commons rather akin to the “international waters” of the open oceans on Earth, rather than terra nullius, the sort of territory that is unclaimed yet claimable by states as sovereign territory. In what was then stirring, and today preposterous, language of the agreement, all of outer space was declared the “Common Home of Mankind” to be explored and exploited by all countries and for the benefit of all humanity.

There are two patently obvious flaws in the 1967 Outer Space Treaty, one tragic and the other silly. The tragic flaw is that it created an “anti-commons.” The general problem is that establishing a commons runs the risk of creating perverse incentives. Where the commons is easy to exploit the likely result is the degradation of its renewable resources. That much has been understood by public policymakers at least since publication of Garret Hardin‘s influential essay “The Tragedy of the Commons.” Less appreciated is that establishing a commons can also establish an “anti-commons.” Eliminating the possibility of reaping rewards from a desired activity discourages that desired activity. When the 1967 Outer Space Treaty eliminated the possibility that states could claim territory on the final frontier it also extinguished an important motivation for states and private firms to engage in exploration and development. Had the policy purpose of the treaty been wilderness preservation in outer space then today it would be declared a smashing success. Beyond low Earth orbit, outer space remains a wilderness that benefits no one except astronomers and stargazing lovers. Yet the ostensible policy purpose of the agreement was to encourage space exploration and development in a manner that benefits humanity as a whole. As such, the 1967 Outer Space Treaty was an abysmal failure. While there are other reasons for the effective closing of the space frontier beyond low Earth orbit with the last Apollo Missions to the Moon—the relaxation of Cold War tensions in the 1970s gave the superpowers less reason to compete and their other budget priorities competed with space programs—the diplomats and politicians who foisted the treaty onto an unwitting humanity in 1967 deserve much of the credit. Their negotiations resulted in a near-quarantine of humans on Earth and low Earth orbit and only anemic efforts to explore our solar system via unmanned space programs.

Depriving states of the right to claim sovereign national territory on solid celestial bodies has discouraged more energetic space exploration and development in the same manner that depriving property developers of the right to purchase real property would discourage their investment. One need to not applaud each and every property development project to recognize the economic value of property development to society, and the same may be said of the efforts of states in claiming and governing new territories. That idea that states are no longer interested in claiming new territory is belied by the Russian Federation’s recent claim under the Convention on the Laws of the Sea to the 1.2 million square kilometers of the Lomonosov Ridge in the Arctic.

#### **Space tourism key to tech developments that facilitate settlements**

Collins 10 [Patrick Collins, \*Professor of Life & Environmental Science at Azabu University & Systems Engineer at Andromeda Inc., Italy, and Adriano Autino, Expert in the economics of energy supply from space, “What the growth of a space tourism industry could contribute to employment, economic growth, environmental protection, education, culture and world peace,” *Acta Astronautica* 66 (2010) 1553–1562]

7.2. High return in safety from extra-terrestrial settlement Investment in low-cost orbital access and other space infrastructure will facilitate the establishment of settlements on the Moon, Mars, asteroids and in man-made space structures. In the first phase, development of new regulatory infrastructure in various Earth orbits, including property/usufruct rights, real estate, mortgage financing and insurance, traffic management, pilotage, policing and other services will enable the population living in Earth orbits to grow very large. Such activities aimed at making near-Earth space habitable are the logical extension of humans’ historical spread over the surface of the Earth. As trade spreads through near-Earth space, settlements are likely to follow, of which the inhabitants will add to the wealth of different cultures which humans have created in the many different environments in which they live. Success of such extra-terrestrial settlements will have the additional benefit of **reducing** the danger of human extinction due to planet-wide or cosmic accidents [27]. These horrors include both man-made disasters such as nuclear war, plagues or growing pollution, and natural disasters such as super-volcanoes or asteroid impact. It is hard to think of any objective that is more important than preserving peace. Weapons developed in recent decades are so destructive, and have such horrific, long-term side- effects that their use should be discouraged as strongly as possible by the international community. Hence, reducing the incentive to use these weapons by rapidly developing the ability to use space-based resources on a large scale is surely equally important [11,16]. The achievement ofthisdepends on low space travel costswhich, at the present time, appear to be achievable only through the development of a vigorous space tourism industry

#### Companies are key to innovation that will get us off the rock

Thiessen ‘20 – writes a twice-weekly column for The Post on foreign and domestic policy. He is a fellow at the American Enterprise Institute, and the former chief speechwriter for President George W. Bush. (Marc A., "SpaceX’s success is one small step for man, one giant leap for capitalism," Washington Post, 6-1-2020, https://www.washingtonpost.com/opinions/2020/06/01/spacexs-success-is-one-small-step-man-one-giant-leap-capitalism/, Accessed 6-27-2021, LASA-SC)

It was one small step for man, one giant leap for capitalism. Only three countries have ever launched human beings into orbit. This past weekend, SpaceX became the first private company ever to do so, when it sent its Crew Dragon capsule into space aboard its Falcon 9 rocket and docked with the International Space Station. This was accomplished by a company Elon Musk started in 2002 in a California strip mall warehouse with just a dozen employees and a mariachi band. At a time when our nation is debating the merits of socialism, SpaceX has given us an incredible testament to the power of American free enterprise. While the left is advocating unprecedented government intervention in almost every sector of the U.S. economy, from health care to energy, today Americans are celebrating the successful privatization of space travel. If you want to see the difference between what government and private enterprise can do, consider: It took a private company to give us the first space vehicle with touch-screen controls instead of antiquated knobs and buttons. It took a private company to give us a capsule that can fly entirely autonomously from launch to landing — including docking — without any participation by its human crew. It also took a private company to invent a reusable rocket that can not only take off but land as well. When the Apollo 11 crew reached the moon on July 20, 1969, Neil Armstrong declared “the Eagle has landed.” On Saturday, SpaceX was able to declare that the Falcon had landed when its rocket settled down on a barge in the Atlantic Ocean — ready to be used again. That last development will save the taxpayers incredible amounts of money. The cost to NASA for launching a man into space on the space shuttle orbiter was $170 million per seat, compared with just $60 million to $67 million on the Dragon capsule. The cost for the space shuttle to send a kilogram of cargo into to space was $54,500; with the Falcon rocket, the cost is just $2,720 — a decrease of 95 percent. And while the space shuttle cost $27.4 billion to develop, the Crew Dragon was designed and built for just $1.7 billion — making it the lowest-cost spacecraft developed in six decades. SpaceX did it in six years — far faster than the time it took to develop the space shuttle. The private sector does it better, cheaper, faster and more efficiently than government. Why? Competition. Today, SpaceX has to compete with a constellation of private companies — including legacy aerospace firms such as Orbital ATK and United Launch Alliance and innovative start-ups such as Blue Origin (which is designing a Mars lander and whose owner, Jeff Bezos, also owns The Post) and Virgin Orbit (which is developing rockets than can launch satellites into space from the underside of a 747, avoiding the kinds of weather that delayed the Dragon launch). In the race to put the first privately launched man into orbit, upstart SpaceX had to beat aerospace behemoth Boeing and its Starliner capsule to the punch. It did so — for more than $1 billion less than its competitor. That spirit of competition and innovation will revolutionize space travel in the years ahead. Indeed, Musk has his sights set far beyond Earth orbit. Already, SpaceX is working on a much larger version of the Falcon 9 reusable rocket called Super Heavy that will carry a deep-space capsule named Starship capable of carrying up to 100 people to the moon and eventually to Mars. Musk’s goal — the reason he founded SpaceX — is to colonize Mars and make humanity a multiplanetary species. He has set a goal of founding a million-person city on Mars by 2050 complete with iron foundries and pizza joints. Can it be done? Who knows. But this much is certain: Private-sector innovation is opening the door to a new era of space exploration. Wouldn’t it be ironic if, just as capitalism is allowing us to explore the farthest reaches of our solar system, Americans decided to embrace socialism back here on Earth?

Line by line their cards:

Off Phillips 1:

This just says space colonization is long-term

1. Their own inherency evidence says that private companies are profiting and investing now – the innovations they develop facilitate long-term colonization
2. Governments also make really short-term decisions like not regulating climate change or funding pandemic prevention so it’s nonunique, they don’t prove governments WILL adequately fund it

Off Phillips 2:

1. Zero warrant for public opinion – they’re not citing any polling or anything at all that justifies this claim – you can’t just make an analytic claim that everyone hates billionaires because you’re writing in Jacobin and your audience agrees

Off Davenport:

1. Only true if supply elasticity is zero – if more people hire space scientists more people will become space scientists so there’s no long-term tradeoff
2. The card only says some tradeoff on the margin not that it’s completely impossible to do both

Off Thompson

1. Durable fiat solves, just says they wouldn’t not that they shouldn’t

#### Every second of delay is worth 10^29 potential human lives – it easily outweighs

Bostrom ‘3 (Nick Bostrom, philosopher at the University of Oxford, a Ph.D. degree in philosophy from the London School of Economics, and was a British Academy Postdoctoral Fellow at the University of Oxford, 2003, “Astronomical Waste: The Opportunity Cost of Delayed Technological Development”, Utilitas Vol. 15, No. 3, https://nickbostrom.com/astronomical/waste.html#\_edn8, Accessed: 7-2-2021)//ILake-HG recut

As I write these words, suns are illuminating and heating empty rooms, unused energy is being flushed down black holes, and our great common endowment of negentropy is being irreversibly degraded into entropy on a cosmic scale. These are resources that an advanced civilization could have used to create value-structures, such as sentient beings living worthwhile lives. The rate of this loss boggles the mind. One recent paper speculates, using loose theoretical considerations based on the rate of increase of entropy, that the loss of potential human lives in our own galactic supercluster is at least ~10^46 per century of delayed colonization.[1] This estimate assumes that all the lost entropy could have been used for productive purposes, although no currently known technological mechanisms are even remotely capable of doing that. Since the estimate is meant to be a lower bound, this radically unconservative assumption is undesirable. We can, however, get a lower bound more straightforwardly by simply counting the number or stars in our galactic supercluster and multiplying this number with the amount of computing power that the resources of each star could be used to generate using technologies for whose feasibility a strong case has already been made. We can then divide this total with the estimated amount of computing power needed to simulate one human life. As a rough approximation, let us say the Virgo Supercluster contains 10^13 stars. One estimate of the computing power extractable from a star and with an associated planet-sized computational structure, using advanced molecular nanotechnology[2], is 10^42 operations per second.[3] A typical estimate of the human brain’s processing power is roughly 10^17 operations per second or less.[4] Not much more seems to be needed to simulate the relevant parts of the environment in sufficient detail to enable the simulated minds to have experiences indistinguishable from typical current human experiences.[5] Given these estimates, it follows that the potential for approximately 10^38 human lives is lost every century that colonization of our local supercluster is delayed; or equivalently, about 10^29 potential human lives per second. While this estimate is conservative in that it assumes only computational mechanisms whose implementation has been at least outlined in the literature, it is useful to have an even more conservative estimate that does not assume a non-biological instantiation of the potential persons. Suppose that about 10^10 biological humans could be sustained around an average star. Then the Virgo Supercluster could contain 10^23 biological humans. This corresponds to a loss of potential equal to about 10^14 potential human lives per second of delayed colonization. What matters for present purposes is not the exact numbers but the fact that they are huge. Even with the most conservative estimate, assuming a biological implementation of all persons, the potential for one hundred trillion potential human beings is lost for every second of postponement of colonization of our supercluster.[6] II. THE OPPORTUNITY COST OF DELAYED COLONIZATION From a utilitarian perspective, this huge loss of potential human lives constitutes a correspondingly huge loss of potential value. I am assuming here that the human lives that could have been created would have been worthwhile ones. Since it is commonly supposed that even current human lives are typically worthwhile, this is a weak assumption. Any civilization advanced enough to colonize the local supercluster would likely also have the ability to establish at least the minimally favorable conditions required for future lives to be worth living. The effect on total value, then, seems greater for actions that accelerate technological development than for practically any other possible action. Advancing technology (or its enabling factors, such as economic productivity) even by such a tiny amount that it leads to colonization of the local supercluster just one second earlier than would otherwise have happened amounts to bringing about more than 10^29 human lives (or 10^14 human lives if we use the most conservative lower bound) that would not otherwise have existed. Few other philanthropic causes could hope to match that level of utilitarian payoff.

### 1nc -- defense

#### Their author agrees there’s alt causes – military and geopolitical tensions

#### US-Russian space cooperation high now.

Adam Gadd 9/30 [Adam Gadd is a research associate at the Swedish Defence University. “The US Cooperates With Russia in Space. Why Not China?” The Diplomat, September 30, 2021 https://thediplomat.com/2021/09/the-us-cooperates-with-russia-in-space-why-not-china/]

In the most recent continuation of a rare success story of cooperation between the United States and Russia, Washington recently extended its agreement on cooperation in space with Moscow, which has survived deteriorating relations on Earth, until September 2030.

In 1975, two space modules, one American, the other Soviet, docked in the first international manned mission to space, Apollo-Soyuz. At the time, it seemed like an isolated example of rapprochement in space, but it set the stage for future cooperation. Through the Shuttle-Mir program in the 1990s and the ongoing International Space Station program, NASA and its Russian counterpart, Roscosmos, have maintained cooperation despite otherwise frosty relations between the two countries. The duopoly of the United States and Russia in manned spaceflight was broken in 2003 when the launch of Shenzhou 5 made Yang Liwei China’s first astronaut to orbit Earth, and China the third country to achieve human spaceflight capabilities. While the previous four decades of space exploration had been characterized by extensive international cooperation, the U.S. Wolf Amendment passed in 2011 essentially prohibits any direct cooperation between NASA and its Chinese counterparts and leaves China as the odd one out. What explains this discrepancy in U.S. relations with its two main rivals in space? It is worth noting that the Wolf Amendment does not explicitly ban any cooperation between NASA and its Chinese counterparts, but merely states that NASA is banned from using government funds to cooperate with China in the absence of direct Congressional approval. The effect of the policy, however, has been to prevent nearly all contact between NASA and China. A 2019 report by the United States Economic and Security Commission (USCC) showcases the arguments for maintaining this policy. It asserts that China is aggressively pursuing technology from abroad, has specific plans to industrially dominate cis-lunar space, is utilizing its space program for geopolitical objectives, views space as a critical U.S. weakness, and is developing and fielding Anti-Satellite (ASAT) weapons. Russia is also using its space program to advance its geopolitical aims. According to statements by the Russian Ministry of Defense, Russia has been utilizing its imagery and electronic warfare satellites in its intervention in the Syrian Civil War. There are also reports that Russia has supplied Iran with an advanced imagery satellite and the United States has accused Russia of using its cyberwarfare capabilities to steal satellite data. Nor is China alone in fielding ASATs. The United States Space Command (USSC) accused Russia of conducting ASAT tests in 2020. According to Gen. John Raymond, commander of the USSC: “This is further evidence of Russia’s continuing efforts to develop and test space-based systems, and consistent with the Kremlin’s published military doctrine to employ weapons that hold U.S. and allied space assets at risk.” Justifying the China exclusion policy in terms of military security threats is incongruous when the United States continuing cooperation with Russia. The only possible logic for this seemingly muddled policy can be found in the way that Russia’s and China’s space ambitions are perceived. Russia’s space program has been discussed in terms of decline ever since the break-up of the Soviet Union, although this is not entirely accurate as the United States had to rely on Russian rockets between 2011 and 2020 when it lacked independent human spaceflight capabilities. The rapid progress of China’s space program means that there is an increasing perception in the United States that China could surpass it in the coming years or decades. The USCC report illustrates the current U.S. narrative on China’s space program: China’s goal to establish a leading position in the economic and military use of outer space, or what Beijing calls its “space dream,” is a core component of its aim to realize the “great rejuvenation of the Chinese nation.” In pursuit of this goal, China has dedicated high-level attention and ample funding to catch up to and eventually surpass other spacefaring countries in terms of space-related industry, technology, diplomacy, and military power. If plans hold to launch its first long-term space station module in 2020, it will have matched the United States’ nearly 40-year progression from first human spaceflight to first space station module in less than 20 years. It seems that the narrative of China’s rise has not stayed on Earth. Hence, U.S. cooperation with China is arguably held back by fears that China’s space advances will seriously threaten U.S. leadership and prestige in space. While the U.S. role as the senior partner in its cooperation with Russia has never been in doubt, a Chinese space program growing stronger by the day could leave the United States the junior partner in the event of future Sino-U.S. cooperation. These fears, however, are more the product of hyperbole than of fact. While NASA currently plans for the United States to return to the moon in the coming years, China is still in the process of constructing its space station and only plans to undertake human missions to the moon in the 2030s, in a program that also includes Russia. The exact time frame for this program and what it entails, however, are unclear, as the Russian version of the agreement is more ambitious than the Chinese. The Chinese-Russian lunar program does illustrate, however, that the picture of a rapidly advancing Chinese space program poised to surpass that of the United States is dubious at best. Russia-U.S. cooperation in space shows that the China exclusion policy is motivated less by the security risks of opening up to China, and more by the U.S. fear of losing its leadership position. It also illustrates the loss of potential that the policy has meant for both sides. By drawing on each other’s strengths, the U.S. and Russian space programs have both benefited. While the United States has consistently taken the lead on both spending and scientific research in space, its cooperation with Russia has been a significant enabling factor. It was only through this partnership that the United States could continue its manned spaceflight program after it decommissioned its Space Shuttle in 2011. For Russia, the partnership might well have helped save a space industry faced with possible demise in the 1990s.

#### No U.S.-Russian war -- they’ll never risk it

Ted Galen Carpenter 18, senior fellow in defense and foreign policy studies at the Cato Institute, 7-28-2018, "Russia Is Not the Soviet Union," National Interest, https://nationalinterest.org/feature/russia-not-soviet-union-27041?page=0%2C1)

The problem with citing such examples is that they applied to a different country: the Soviet Union. Too many Americans act as though there is no meaningful difference between that entity and Russia. Worse still, U.S. leaders have embraced the same kind of uncompromising, hostile policies that Washington pursued to contain Soviet power. It is a major blunder that has increasingly poisoned relations with Moscow since the demise of the Union of Soviet Socialist Republics (USSR) at the end of 1991. One obvious difference between the Soviet Union and Russia is that the Soviet governing elite embraced Marxism-Leninism and its objective of world revolution. Today’s Russia is not a messianic power. Its economic system is a rather mundane variety of corrupt crony capitalism, not rigid state socialism. The political system is a conservative autocracy with aspects of a rigged democracy, not a one-party dictatorship that brooks no dissent whatsoever. Russia is hardly a Western-style democracy, but neither is it a continuation of the Soviet Union’s horrifically brutal totalitarianism. Indeed, the country’s political and social philosophy is quite different from that of its predecessor. For example, the Orthodox Church had no meaningful influence during the Soviet era—something that was unsurprising, given communism’s official policy of atheism. But today, the Orthodox Church has a considerable influence in Putin’s Russia, especially on social issues. The bottom line is that Russia is a conventional, somewhat conservative, power, whereas the Soviet Union was a messianic, totalitarian power. That’s a rather large and significant difference, and U.S. policy needs to reflect that realization. An equally crucial difference is that the Soviet Union was a global power (and, for a time, arguably a superpower) with global ambitions and capabilities to match. It controlled an empire in Eastern Europe and cultivated allies and clients around the world, including in such far-flung places as Cuba, Vietnam, and Angola. The USSR also intensely contested the United States for influence in all of those areas. Conversely, Russia is merely a regional power with very limited extra-regional reach. The Kremlin’s ambitions are focused heavily on the near abroad, aimed at trying to block the eastward creep of the North Atlantic Treaty Organization (NATO) and the U.S.-led intrusion into Russia’s core security zone. The orientation seems far more defensive than offensive. It would be difficult for Russia to execute anything more than a very geographically limited expansionist agenda, even if it has one. The Soviet Union was the world’s number two economic power, second only to the United States. Russia has an economy roughly the size of Canada’s and is no longer ranked even in the global top ten . It also has only three-quarters of the Soviet Union’s territory (much of which is nearly-empty Siberia) and barely half the population of the old USSR. If that were not enough, that population is shrinking and is afflicted with an assortment of public health problems (especially rampant alcoholism). All of these factors should make it evident that Russia is not a credible rival, much less an existential threat, to the United States and its democratic system . Russia's power is a pale shadow of the Soviet Union's. The only undiminished source of clout is the country's sizeable nuclear arsenal. But while nuclear weapons are the ultimate deterrent, they are not very useful for power projection or warfighting, unless the political leadership wants to risk national suicide. And there is no evidence whatsoever that Putin and his oligarch backers are suicidal. Quite the contrary, they seem wedded to accumulating ever greater wealth and perks.

#### Upheaval inevitable

Robert Coalson 20, M.A. in Russian History from Cornell, senior correspondent for RFE/RL who covers Russia, the Balkans, and Eastern Europe, “Echoes Of War And Collapse: Russia's Demographic Decline As Small 1990s Generation Comes Of Age”, https://www.rferl.org/a/russia-demographic-data-dip-as-small-1990s-generation-comes-of-age/30373049.html

MOSCOW -- Russia's demographic turbulence, which stretched the length of the last century, is continuing into the third decade of this one. The government's statistics agency, Rosstat, released figures in December showing a natural population decline of 259,600 in the first 10 months of 2019. The predicted decline for the whole year: more than 300,000, a loss three times greater than the year before. It marks the third straight year of decline -- Russia lost about 19,000 people in 2017 and nearly 100,000 in 2018. In-migration was enough to overcome the 2017 natural population loss, but the 2019 figures mark the second straight year of overall population decline. The sobering figures marked the end of nearly a decade of increases following the catastrophic demographic losses of the 1990s, a downward spiral that was only reversed in 2009. But experts have not been surprised by the numbers, which they say are echoes of demographic trends of previous generations. "First, this is about the relatively large generation that was born during the [post-World War II] period of rising birthrates reaching old age," says Alla Ivanova, head of the Department of Health at the Institute of Sociopolitical Research, part of the Russian Academy of Sciences. "Of course, this affects the increase in the death rate." "And birthrates are declining, primarily, because the relatively small generation of women born in the 1990s has reached reproductive age," Ivanova adds. "It is well-known that that period saw a very significant decrease in births." In other words: Fewer babies then, fewer babies now. Ivanova tells RFE/RL the current trend seems likely to continue for the foreseeable future. "For the next 10 years we will most likely live in a period of depopulation -- that is, a contraction of the population driven by natural decrease," she explains. "But the overall population might actually increase if migration can compensate for the natural decrease." 'Thin Generation' President Vladimir Putin, who made ensuring natural population growth a top priority when he started his current term in 2018, lamented the phenomenon in his annual press conference on December 19, saying that Russia was "haunted" by the 1990s birthrate collapse. "Every 20 years, a thin generation of those born in these years enters adulthood, the childbearing age, but by definition, there are few of them, both men and women," Putin said. The president then outlined "a system of measures" the government had implemented to support families with children, including a 450,000-ruble ($7,350) mortgage credit to families with three children. "I know this is not enough," he added. "We need to broadly increase living standards as a whole, to achieve growth in wages and people's real incomes. The general sentiment, family planning, and broader planning horizons will depend on the economy." Former Prime Minister Mikhail Kasyanov, now an outspoken critic of Putin who lives in the United States, is skeptical of such pronouncements, accusing the Russian government of short-sightedness and of prioritizing political goals over demographic issues. "The main thing that has disenchanted me [in 2019] is the authorities' complacency about everything," Kasyanov tells RFE/RL. "The authorities do not want to change anything.... They all admit that we have big problems but no one can do anything about them because Putin cannot bring himself to change either domestic or foreign policy." Kasyanov says he believes the inevitable demographic trough that Russia is experiencing is exacerbated by a general public mood of despondency about the future. "[People] aren't thinking about or planning their lives five or 10 years in advance like they did in the early 2000s, when birthrates started rising again," he says. "Today we have returned to 1998, when there was a crisis situation and people could only think about their lives day-to-day -- what should they do tomorrow? Their planning horizon is no more than one year." The government has also launched a plan to attract up to 10 million Russian-speaking migrants by 2025 as part of its National Projects program. But the results of that initiative so far have been inconclusive. Sociologist Ivanova says migration will have to be a crucial component of the government's response as the labor pool contracts, but she adds that the obstacles are formidable. "It is clear that considering our living standards and the development of the economy, highly qualified migrants are not rushing here in large numbers," she says. "But there are other methods that are being used, but not sufficiently." For example, she says, the government could do more to attract young people to study in Russia and create incentives for them to remain in the country after they graduate. "Such students gradually become integrated into the national, language, and cultural milieu where they study," she says, and that this makes it easier for them to acculturate for the long term. "The policy of student migration is actively encouraged by specialists, but there hasn't been much response so far," she says. Alcohol, Abortions To Blame? Economist Aleksei Ulyanov, a member of the government's advisory panel on demographics and family policy, tells RFE/RL that Russia "is on the brink of extinction." He says the three main problems contributing to the demographic crisis, beyond the echoes of past demographic events, are abortion and the consumption of alcohol and tobacco. He is calling for direct or indirect restrictions on all three. As most of the country "is turning into a desert, the government is allocating money -- despite the budgetary crisis -- for abortions," he says. Ivanova, however, warns against searching for magic cures. Reducing alcohol consumption, for instance, is a laudable goal but it entails changing the culture, not merely raising taxes or imposing bans. "We have already stepped on the rake a few times and there is no sense in doing it again," she says. According to the World Health Organization, alcohol consumption, while still a problem in Russia, fell 43 percent between 2003 and 2016, a result it attributed primarily to government policies adopted after 2000. Likewise, restricting access to abortions leads to numerous negative consequences, including "rising maternal mortality rate, underground abortions, increased criminality, and problems with women's health -- including reproductive health and sterility," Ivanova says. "Consulting, providing social, psychological, and economic help -- that is the path toward gradually reducing the number of abortions," she concludes. "The number of abortions in this country is going down -- substantially. And we will continue along that path." "But I repeat -- we simply don't need sharp policy changes and radical methods," Ivanova says. "Radical methods have never brought anything positive." At the end of December, Rosstat issued three possible demographic prognoses for the period to 2036. According to the optimistic prediction, which foresees successes improving birthrates and life expectancy as well as increasing migration, has the population rising to 150.13 million people by 2036. The conservative estimate puts the population at 143 million by 2036. The pessimistic version, which projects continued declining natural population declines and a failure of the migration policy, puts the population at 134.28 million by 2036. United Nations forecasts for Russia are even a bit more dire. The "optimistic" variant puts Russia's population at 147.3 million in 2050. The conservative estimate is 135.8 million, while the pessimistic prediction foresees a population of 124.6 million by the middle of this century. The UN projected that pessimistic prediction even further, saying it is possible Russia's population could be just 83.7 million by 2100.

### 1nc- containment turn

#### Space coop makes containment impossible— Russian space policy is militarized and run by sanctioned generals

Stracqualursi 2019 (Veronica Stracqualursi, 1-5-2019, "NASA rescinds invitation to Russian space agency chief to visit US after backlash," CNN, <https://www.cnn.com/2019/01/05/politics/nasa-cancels-russian-space-official-visit/index.html> LAO)

NASA says it has canceled an upcoming visit by the head of Russia's space agency after mounting pressure from Capitol Hill over US sanctions against the official. "After receiving feedback from the Senate, we have rescinded our invitation to Roscosmos Director General Dmitry Rogozin," Megan Powers, the press secretary for NASA, told CNN late Friday. Powers added, "Russia is a key partner for NASA, and we look forward to continuing our cooperation." NASA Administrator Jim Bridenstine said in a statement Saturday that he "had heard from numerous senators suggesting that this was not a good idea and I wanted to be accommodating to the interest of the senators." "However we will continue our strong working relationship with Russia as it relates to the International Space Station and sending our astronauts into space," he said. The NASA administrator had invited Rogozin to tour the agency's facilities next month and discuss the cooperation between the two countries on space exploration, according to a NASA official. The official said the invitation to Rogozin had been coordinated with other federal agencies and that the Treasury Department approved US engagement with Rogozin last June. But the trip had become controversial because the Obama administration had placed sanctions on Rogozin, a former deputy prime minister, in 2014, banning him from traveling to the US "in response to the Russian government's actions contributing to the crisis in Ukraine," the White House said when it announced the sanctions. Several US senators had called on NASA this week to cancel the visit, and two top Democrats threatened congressional intervention to withdraw the invitation. "To welcome Mr. Rogozin to the United States and provide him a platform to speak is an affront to our sanctions regime and will further undermine the Trump Administration's limited credibility on Russia policy," New Jersey Sen. Bob Menendez, the top Democrat on the Senate Foreign Relations Committee, wrote in a letter to Bridenstine on Thursday. In a statement Wednesday, New Hampshire Sen. Jeanne Shaheen, the top Democrat on the Senate panel that funds NASA, argued that the invitation "undermines the United States' core national security objectives" and "weakens the U.S.'s global standing by demonstrating the ease by which Russian officials can get around transatlantic sanctions."

#### Russia is revisionist and coop linearly provokes aggression— Putin will invade the Baltics

Satter 16 - senior fellow at the Hudson Institute and a fellow of the Johns Hopkins University School of Advanced International Studies, visiting professor @ U of I-Champaign (David, “Trump and Russia,” *National Review*, <https://www.nationalreview.com/2016/08/donald-trump-russia-policy-dangerously-na-ve-about-vladimir-putin/>)

Trump has indicated that he is open to lifting sanctions against Russia imposed after the 2014 Russian invasion of Ukraine and to cooperating with Russia in Syria, ostensibly against the Islamic State. He has suggested that the NATO alliance is passé and that, if elected, he would not necessary abide by the U.S. commitment under NATO to defend the Baltic republics. Trump’s Russia policy, however, has no chance of leading to an improvement in relations between the U.S. and Russia or to greater world stability. The reason is that although the U.S. wants Russia as a friend, Russia’s leaders need the U.S. as an enemy. Only in this way, can the anger of the Russian people be directed against the West instead of against them. The leaders of post-Soviet Russia use wars to achieve internal political objectives. The first Chechen war was “a small victorious war” that was calculated to raise the popularity of President Boris Yeltsin, which fell because of the suffering caused by market “reforms” in the 1990s. The second Chechen war was started to save the Yeltsin entourage from prison or worse and assure Vladimir Putin’s rise to power. Four apartment buildings in Buinaksk, Moscow, and Volgodonsk were blown up in 1999, killing 300 people; the attack was blamed on Chechen terrorists. In fact, there is overwhelming evidence that the bombings were carried out by the Russian Federal Security Service (FSB), the successor to the Soviet-era KGB. This evidence includes the fact that FSB agents were caught after placing a bomb in a fifth building in Ryazan southeast of Moscow and that Gennady Seleznev, the speaker of the Russian Duma, announced the bombing in Volgodonsk on September 16, 1999 — three days before it occurred. The bombings were used to justify a new invasion of Chechnya and success in that war brought Putin to power. In other words, there is overwhelming evidence that Putin rules as a result of an act of terror against his own people. The leaders of post-Soviet Russia use wars to achieve internal political objectives. The war in Ukraine was also a diversion. It was launched to distract the Russian people from the lessons of the Maidan revolt in Ukraine, specifically that it is possible for a people to organize spontaneously and overthrow a kleptocratic regime. The war in Syria, in turn, was undertaken in order to distract attention from the lack of success in Ukraine. The ambitious plans to carve out a “New Russia” from sovereign Ukrainian territory were at least temporarily frozen in the face of Western sanctions and stiff Ukrainian military resistance. Trump’s call for a grand bargain with Russia is therefore naïve and misguided. It will not inspire Russia to cooperate with the U.S. for the common good but instead serve as an open invitation to further aggression with potentially serious consequences. The following are a few of them: Ukraine: At the present time, Russian troops are massing in areas of occupied Crimea adjacent to mainland Ukraine. The Ukrainians expect an offensive by the Russian Army at any time. Meanwhile, the Ukrainians report that the Russian-separatist forces in eastern Ukraine on August 8 attacked Ukrainian army positions 61 times in 24 hours. The Russian-separatist army, built up by Russia on Ukrainian territory, consists of an estimated 40,000 fighters — 12,000 of whom are regular Russian troops. Leadership and coordination are provided by Russia. This force is equipped with multiple rocket launchers, anti-aircraft systems, and more tanks than many members of NATO. It is supported by another 50,000 Russian troops stationed just over the border on the Russian side. There has been a lull in the fighting in recent months which removed Ukraine from the world’s headlines. But statements by U.S. politicians that undermine faith in the American will to react to aggression will encourage the Putin regime to intensify its efforts to destabilize Ukraine with a new offensive whether Trump is elected or not. The Baltics: Russia cannot defeat the U.S. or NATO in an all-out war but it has strategic superiority in the Baltics where it could provoke a conflict and then threaten to use nuclear weapons, presenting NATO with a choice of escalation or backing down. The Russians are clearly ready to take risks. On April 14, a Russian SU-27 fighter jet flew dangerously close to a U.S. RC-135 reconnaissance aircraft over the Baltic Sea. It came within 50 feet of the American plane and conducted a barrel roll starting from the left side of the aircraft, going over the aircraft, and ending up on the aircraft’s right. This incident came two days after a simulated Russian aerial assault against the guided-missile destroyer USS Donald Cook in the Baltic Sea. One of the jets flew within 30 feet of the warship. This was the most reckless flyover of an American ship by a Russian jet since the Cold War. The Russians are clearly ready to take risks. The Russian leaders are not fanatics. The effort that they have invested in amassing personal fortunes attests to this. They will not risk their hold on power on behalf of a conflict they know they will lose. But they could miscalculate, which is why statements such as Trump’s that question U.S. treaty commitments are likely to invite a crisis rather than avoid one. Indiscriminate violence: The Russian authorities act with a complete disregard for human life. In Syria, the Russian bombing is indiscriminate. According to the Violations Documentation Center, which seeks to document the attacks by all sides, the civilian death toll from Russian strikes in six months until mid-March was over 2,000. In January, according the Syria Network for Human Rights, another monitoring organization, Russian air strikes killed 679 civilians. This exceeded the number of civilians killed during that period by the Syrian Army, which is also guilty of indiscriminate bombing, as well as by ISIS (98 killed) and the al-Nusra Front (42 killed). In light of the dangers that the present Russian regime represents, what matters is deterrence. The bombing of civilian targets in Syria, including bakeries and hospitals, also increases the flow of refugees toward Turkey and Europe, exacerbating internal tensions in those regions and creating pressure to accept a resolution of the Syrian crisis on Russian terms. Americans have not been immune to Russian aggression. An American was among the victims when on July 17, 2014, Malaysia Airlines flight MH17 was shot down over eastern Ukraine killing all 298 persons on board. The Dutch Safety Board confirmed that MH17 was destroyed by a missile fired from a Russian made BUK anti-aircraft battery. The Putin regime, in complete disregard for the safety of innocent international air travelers, had transferred missiles capable of shooting down planes flying at over 30,000 feet to a quickly assembled army fighting in an area traversed by one of the busiest commercial air corridors in the world. There was also an American victim, Sandy Booker of Oklahoma, in the 2002 Moscow theater siege in which the Russian authorities flooded a theater with lethal gas. In all cases, the Russian leaders will respect civilian lives, including those of Americans, only to the degree that they fear that they may be called to account. If an American leader like Trump responds to reports of Russian crimes by saying, “we kill plenty of people too,” he is removing what little restraint Russians are likely to exercise in military conflicts and increasing the risks to uninvolved Americans as well. COMMENTS Trump has expressed concern for Putin’s attitude for him. He said that he believes that Trump respects him and wonders if Putin likes him, as if this was in some way relevant. Carter Page, an adviser to Trump on Russia policy, blamed the tensions between the U.S. and Russia on the “often hypocritical focus on ideas such as democratization, inequality, corruption, and regime change.” In light of the dangers that the present Russian regime represents, however, what matters is deterrence, which always has a strong psychological element. Restraining the behavior of the Putin regime requires creating the impression in both word and deed that violations will meet with a serious response. If Trump becomes president, he will, of course, have access to intelligence information that may change some of his impressions. But if he persists in his shallow opinions, the consequences could be felt by everyone.

#### Baltic invasion goes nuclear and causes extinction

Drury 17 – journalist for VICE, citing Ian Shield, associate lecturer in international relations at Anglia Ruskin University, Vladimir Zhirinovsky who is a Russian lawmaker, Keri Giles, associate fellow with the UK foreign-policy think tank Chatham House, a RAND study (Colin, “What Would Happen if Russia and Europe Went to War?,” VICE, <https://www.vice.com/en_us/article/4xe5a3/what-would-happen-if-russia-and-europe-went-to-war>)

But peace is not inevitable. If you think Europe can't descend into a bar fight like drunks at closing time again, know you're not the first to believe it. Some people dreamed something similar during the Concert of Europe—a system put in place to uphold the balance of power in the mid-19th century—and again in the four decades of calm that followed the 1870–71 Franco-Prussian conflict. The second period ended with WWI. So they misjudged that. Could we also have misjudged the proximity of mass conflict in the 21st century? Some say so. Security experts are increasingly investigating scenarios where a stronger Russia on one side and Europe's NATO allies on the other go from diplomatic tensions to full on slapping each other. This, they stress, is unlikely. But if global events have taught us anything, it's that unlikely doesn't mean impossible. In fact, the above could happen in three simple steps. One: Donald Trump makes good on his hints and pulls the US out of NATO. Two: An emboldened Vladimir Putin decides to help himself to the Baltic states—Lithuania, Latvia, Estonia—he has long believed should be part of Russia. Three: Given these states have been NATO members since 2004, the rest of the alliance—the UK, Germany, France, and others—go to their aid. The result? "Hiroshimas and Nagasakis everywhere," reckoned the Russian lawmaker Vladimir Zhirinovsky when discussing the possibility last year. So that's not ideal. But could Russia and Europe really go to war? And if they did, how would that work out? Be warned: As Keir Giles, associate fellow with the UK foreign-policy think tank Chatham House, that is a nonprofit, nongovernmental organization based in London tells me, "There's not much good news." WATCH: The Special Ops Olympics—War Games 1. Tensions Rise Tensions between Russia and Europe are always high. Even so, the present unease is ominous. On one hand, Russia has been holding major nuclear drills for 40 million citizens, sending submarines into the territorial waters of other nations and running mock bombing missions on the edge of British airspace. Forcibly annexing part of another country, This behavior isn't generally viewed as good neighborliness, either. Yet NATO isn't entirely averse to mucking things up. The alliance has almost 10,000 troops in countries that border Russia, while a two-week war game featuring thousands of personnel and 50 aircrafts is being held in Scotland right now. The enemy state in such rehearsals is often given a somewhat unambiguous name: the Reds. 2. The Flash Point It's not wildly anti-Russian to say the current administration favors the countries that border the Baltic Sea—Estonia, Latvia, and Lithuania. Putin believes these former Soviet states should never have become independent: Each has a large Russian population and strategically excellent sea ports. He's certainly not keen on them being NATO members and sees the alliance—not without rationale—as encircling Russia. "If you compress a spring," he warned in 2014, "eventually it will snap back." With America gone, that snap back could happen instantly. "They would move on the Baltic states more or less immediately," says Giles, who is also director of the Conflict Studies Research Center in Oxfordshire. "Putin believes Russian security requires the Baltic states under its domain. But you need to look further. It's hard to put a definitive border on how far ambitious Russians think the frontier should expand. But certainly you're looking at Poland and Finland too." 3. Internet Down! Shots Fired! Photo by Sean MacEntee via Flickr In 2015, a study by research institute the RAND Corporation concluded it would take just 60 hours for Russia to overrun Lithuania, Latvia, and Estonia. Giles, however, believes the signs would be there sometime in advance. "There would be a noticeable rise in Russian diplomacy and media focusing on issues that could give rationale for an armed intervention," he says. On some pretense, such as a peacekeeping mission, thousands of troops would gather on the border. In the days before any invasion or attack, the target's internet would be shut down or disrupted by specialist telecommunications soldiers. Power supplies would fail, and ATMs would stop functioning . Cellphones and TV signals would be jammed. Perhaps most ominously, personalized texts would be sent direct to opposition officials, soldiers, and citizens, creating confusion and panic. In some cases, these texts would appear to come from someone already in the recipient's phone book. "In the right circumstances, this could be enough," says Giles. "Russia doesn't need to roll tanks across a border. They can stage an attack without a military presence. Misinformation and civil disorder could lead to regime change with a client government of Moscow taking charge. That would meet Russia's security and economic objectives." And if no such regime change happened? Think hybrid warfare: all the above combined with the sudden movement of troops into the country. "We don't know how exactly an occupation would look, but Russia does practice this scenario," says Giles. "What we do know is it would be over pretty swiftly." 4. NATO: Fight or Fall Once diplomacy fails, the hard fact is that a US-less NATO almost certainly doesn't have the firepower to win a war with Russia. We'll ignore nuclear weapons for now and keep things conventional. Russia has more men (the reserves alone are 2.5 million strong) and hardware. As a single country, its chain of command is better streamlined. Soldiers are battle-hardened from Ukraine and Syria. After a decade of $40 billion-a-year military upgrades, its weaponry—such as the Pantsir-S1, a tank that can literally destroy cruise missiles—is superior too. It's also possible some NATO members would withdraw—in particular Turkey, given the warm relationship between President Putin and President Recep Erdoğan. That's 600,000 men—the second-biggest contingent after the US—gone. The result would be the last of NATO facing an existential decision: Fight and probably lose, or, in this scenario, cut the Baltic states loose. Or, as Ian Shield, associate lecturer in international relations at Anglia Ruskin University, puts it: "The choice would be between reneging on the treaty—which would certainly lead to the disintegration of NATO and probably, by extension, the whole European order—or participating in a cataclysmic war extending up to nuclear weapons." Rock and a hard place, basically. 5. War on the Ground Ballistic short range missiles. Photo via Wikimedia Let's carry on gaming, though, and say NATO engages Russia. How does that go? Not well for either side, says Shields: "On any battlefield, there would be annihilation—although these wouldn't be battlefields like we have previously known. Missiles and artillery have far greater range and precision, meaning enemy posts, infrastructure, armories, and even entire towns could be destroyed from within home territory. What you have is fewer individual battles but far greater destruction. If neither side backed down, entire swathes of Europe—it's impossible to know where—would be reduced to rubble. The death tolls would be unimaginable." Britain wouldn't be safe; the English Channel has become a hopelessly outdated moat. "Russian aircrafts wouldn't need to even enter British airspace," says Shields. "They could land precision strikes from well outside." Both sides would wrestle for control of the seas around Scandinavia. Cyber attacks, meanwhile, could shut down transport infrastructure, hospitals, media, and utilities. Russia's main advantage amid the carnage would be two-fold. First, because it has more weaponry and men, it can, essentially, keep blasting away longer. Second, its sheer landmass means it could better absorb the devastation: NATO could wipe out every single structure hundreds of miles into its adversary's territory, and Moscow wouldn't even be scratched. 6. Going Nuclear As any history student knows, it doesn't matter if you have 7,000 nuclear weapons (Russia) or 200 (Britain and France); their cataclysmic qualities level things up. The thought goes that the pressing of the red button means MAD: mutually assured destruction. If one side starts throwing warheads about, the other responds in kind. Both adversaries are wiped out. Right? Wrong. "What Russia has in its arsenal that the West doesn't is tactical nuclear weapons," explains Giles. "These are not big city-leveling nukes, but ones that can destroy battlefields or neighborhoods. The West had these weapons but got rid of them. So its only response to a tactical nuclear strike would be a full nuclear attack. Which is self-defeating because it would also ensure their own destruction. The West is missing several rungs on the escalation ladder that Russia has built into its strategy." Nonetheless, once things go nuclear, it all becomes unpredictable: cities wiped out, millions dead. At this point, even the most advanced strategists tend to stop plotting possible paths. 7. But Cheer Up If the US leaving NATO is a gateway to Armageddon, the good news is it seems increasingly unlikely. Trump probably won't ditch the alliance. That's because it doesn't only keep the US secure; it's also politically and economically advantageous. It gives Washington influence in Europe and protects a vast and prosperous continent that—and this is important—spends much of its wealth with American companies. That said, maybe it's still worth remembering peace here really does hang by threads. Maybe go out and play more.