### 1

#### The US commercial space industry is booming – private space companies are driving innovation.

**Lindzon 21** [(Jared Lindzon, A FREELANCE JOURNALIST AND PUBLIC SPEAKER BORN, RAISED AND BASED IN TORONTO, CANADA. LINDZON'S WRITING FOCUSES ON THE FUTURE OF WORK AND TALENT AS IT RELATES TO TECHNOLOGICAL INNOVATION) "How Jeff Bezos and Elon Musk are ushering in a new era of space startups," Fast Company, 2/23/21, https://www.fastcompany.com/90606811/jeff-bezos-blue-origin-elon-musk-spaces-space] TDI

In early February, Jeff Bezos, the founder of Amazon and one of the planet’s wealthiest entrepreneurs, dropped the bombshell announcement that he would be stepping down as CEO to free up more time for his other passions. Though Bezos listed a few targets for his creativity and energy—The Washington Post and philanthropy through the Bezos Earth Fund and Bezos Day One Fund—one of the highest-potential areas is his renewed commitment and focus on his suborbital spaceflight project, Blue Origin. Before space became a frontier for innovation and development for privately held companies, opportunities were limited to nation states and the private defense contractors who supported them. In recent years, however, billionaires such as Bezos, Elon Musk, and Richard Branson have lowered the barrier to entry. Since the launch of its first rocket, Falcon 1, in September of 2008, Musk’s commercial space transportation company SpaceX has gradually but significantly reduced the cost and complexity of innovation beyond the Earth’s atmosphere. With Bezos’s announcement, many in the space sector are excited by the prospect of those barriers being lowered even further, creating a new wave of innovation in its wake. “What I want to achieve with Blue Origin is to build the heavy-lifting infrastructure that allows for the kind of dynamic, entrepreneurial explosion of thousands of companies in space that I have witnessed over the last 21 years on the internet,” Bezos said during the Vanity Fair New Establishment Summit in 2016. During the event, Bezos explained how the creation of Amazon was only possible thanks to the billions of dollars spent on critical infrastructure—such as the postal service, electronic payment systems, and the internet itself—in the decades prior. “On the internet today, two kids in their dorm room can reinvent an industry, because the heavy-lifting infrastructure is in place for that,” he continued. “Two kids in their dorm room can’t do anything interesting in space. . . . I’m using my Amazon winnings to do a new piece of heavy-lifting infrastructure, which is low-cost access to space.” In the less than 20 years since the launch of SpaceX’s first rocket, space has gone from a domain reserved for nation states and the world’s wealthiest individuals to everyday innovators and entrepreneurs. Today, building a space startup isn’t rocket science. THE NEXT FRONTIER FOR ENTREPRENEURSHIP According to the latest Space Investment Quarterly report published by Space Capital, the fourth quarter of 2020 saw a record $5.7 billion invested into 80 space-related companies, bringing the year’s total capital investments in space innovation to more than $25 billion. Overall, more than $177 billion of equity investments have been made in 1,343 individual companies in the space economy over the past 10 years. “It’s kind of crazy how quickly things have picked up; 10 years ago when SpaceX launched their first customer they removed the barriers to entry, and we’ve seen all this innovation and capital flood in,” says Chad Anderson, the managing partner of Space Capital. “We’re on an exponential curve here. Every week that goes by we’re picking up the pace.”

#### The plan creates a restriction that encourages companies to move their operations to states with lower standards.

Albert 14 [(Caley Albert, J.D. Loyola Marymount University) “Liability in International Law and the Ramifications on Commercial Space Launches and Space Tourism,” Loyola of Los Angeles International and Comparative Law Review, 11/1/14, https://digitalcommons.lmu.edu/cgi/viewcontent.cgi?article=1708&context=ilr] TDI

A parallel can be drawn here between the commercial space industry and the maritime law concept of the Flag of Convenience. The term has evolved over time, but in this day and age, it is commonly used to mean the owner of a vessel does not want to create an obligation with a country with stricter standards for registry; hence, the owner will register strictly for economic reasons with a country that has a more convenient registry.133 By flying a Flag of Convenience, ship owners are able to avoid taxation on earnings of ships registered under these flags, and in some cases, they can also receive relief from stricter crew standards and corresponding operating costs.134 A Flag of Convenience is flown by a vessel that is registered in one state, which the vessel has little if any connection to, when in reality the vessel is owned and operated from another state.135 This way the vessel avoids any unfavorable economic requirements from its true home state.136 In this sense, “flag shopping” is similar to “launch forum shopping,” similar in that Flags of Convenience are utilized for economic reasons, such as to avoid high taxes and compliance with certain restrictive international conventions, commercial space companies will forum shop when choosing which country to launch from. As of today, there has yet to be a catastrophic commercial launch incident, so for now commercial space companies do not have an incentive to forum shop, but if there is, the indemnification policies described above may lead companies to seek out countries that provide more coverage so they pay less in the event something goes wrong. This comparison to Flags of Convenience brings up two separate yet equally important issues. First, launch companies may try to follow the Flags of Convenience model and soon catch on to the wisdom of their maritime predecessors by “registering” in countries with more favorable conditions. Of course, in this case the concern is not with registration so much as launching. If launch companies follow the Flags of Convenience model, they will seek out the most convenient state for launch, most likely the state that provides the most liability coverage and has the least safety precautions. Launching from states with low safety standards increases the potential for catastrophic launch events. This, in turn, will place states that are potentially incapable of paying for damages from launch disasters in a position they would not normally assume if these commercial companies had not been drawn to their shores with the promise of more favorable regulations. Second, launch customers may also seek out companies located in states with lower cost liability regimes (lower insurance policy limits) since those companies will presumably charge less to launch their payloads. In this scenario, instead of the launch companies seeking out states with lower liability caps and softer regulations, the launch customers themselves will seek companies located in states with lowcost liability regimes. Here, the effect will be the same as above. Under the Liability Convention, the launching state will be liable for any damage caused by a vehicle launched from within its borders; hence, if customers start engaging in “launch forum shopping,” states will be incentivized to put in place low-cost liability regimes, which in turn will increase the states’ potential payout in the event of a catastrophic launch incident. Looking at the indemnification program the United States has in place in comparison to other countries, it is possible to see how either launch companies or launch customers could engage in “launch forum shopping” when a catastrophic launch incident ever occur. It is also important to keep in mind that various factors go into where a company or customer decides to launch from. A state’s indemnification program is just one factor in this decision. With this in mind, it is clear that if a launch incident did occur in the United States, the commercial launch company would be liable for much more than it would in another country. For instance, why would a commercial space company launch in the United States, where it would be liable up to $500 million and the additional costs that the government would not cover? The argument can be made that a catastrophic space incident has yet to occur, and even if it did, it is unlikely to cost above the $2.7 billion covered by the United States government. **Other states like Russia or France, which has the two-tier liability system, would simply cover all claims above the initial insurance**, which is much lower than the $500 million mark required by the United States. In that case, the commercial company would never have to pay more than the initial liability insurance. If there ever is a catastrophic commercial space incident in the future, it is easy to see why commercial companies or launch customers might be drawn to “launch forum shop” outside the United States.

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

**Cahan and Sadat 21** [(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.

#### Space dominance solves nuclear war. Undermines fourth gen warfighting.

**Yoo 18** – Emanuel S. Heller Professor of Law at the University of California, Berkeley, and a visiting scholar at AEI since 2003. He served as a deputy assistant attorney general in the Office of the Legal Counsel of the U.S. Department of Justice from 2001 to 2003, where he worked on constitutional and national security matters, as General Counsel of the U.S. Senate Committee on the Judiciary from 1995-96, and as a law clerk to Justice Clarence Thomas of the U.S. Supreme Court (John, Winning the Space Race, October 15th, <http://www.aei.org/publication/winning-the-space-race/>) \*edited for offensive language

Control of space already **underlies the United States’ predominance in nuclear and conventional warfare.** Intercontinental and submarine launched ballistic missiles, the **heart of the US nuclear deterrent**, pass through space to reach their targets. Reconnaissance satellites monitor rival nations for missile launches, strategic deployments, and major troop movements. Communications satellites provide the high-speed data transfer that stitches the US Armed Forces together, from generals issuing commands to pilots controlling drones. With economic rivals such as China and India, and rogue states like Iran and North Korea developing space programs that pursue similar missions, the importance of space technology to US interests and international peace will only increase. Space not only enhances military operations, but also exposes new vulnerabilities. Anti-satellite missiles can make an opponent’s space-based communication networks easier to disable than purely ground-based systems. Losing reconnaissance satellites could ~~blind~~ gut the US’s strategic monitoring and disabling the GPS system would degrade its operational and tactical abilities. Space invites asymmetric warfare because anti-satellite attacks could even the technological odds against western powers that have become dependent on information-enhanced operations. As the nation most dependent on space-based networks, **the United States may have the most to lose.** Strategists divide competition in this emerging arena into four categories. First is space support, which refers to the launching and management of satellites in orbit. The second is force enhancement, which seeks to improve the effectiveness of terrestrial military operations. The importance of these basic missions is well-established. Indeed, the very first satellites performed a critical surveillance role in the strategic competition between the United States and the Soviet Union. Spy satellites replaced dangerous aerial reconnaissance flights in providing intelligence on rival nuclear missile arsenals. Later space-based systems provided the superpowers with early warnings of ballistic missile launches. These programs **bolstered stability and aided progress in nuclear arms reduction talks**. Satellites created “national technical means” of verification: the capability to detect compliance with arms control treaties without the need to intrude on territorial sovereignty. They **reduced the chances of human miscalculation** by increasing the information available to decision makers about the intentions of other nations. The US has made the most progress in the second mission, force enhancement, by using space to boost conventional military abilities. GPS enables the exact deployment of units, the synchronization of combat maneuvers, clearer identification of friend and foe, and precision targeting. In its recent wars, the US has used satellite information to find the enemy, even to the level of individual leaders, deploy on-station air or ground forces, and fire precision-guided munitions to destroy targets with decreased risk of collateral damage. American military leaders have argued that continued integration of space and conventional strike capabilities will allow the US to handle the twenty-first century threats—**terrorism, rogue nations, asymmetric warfare, and** regional challengers—more effectively with less resources.

#### Yes implementation – [a] if we win that the consequences of the general principle or unjust statement are bad and cause a nuclear war, then it takes out. [b] unjust means illegal.

**Free Dictionary No Date** (TheFreeDictionary, xx-xx-xxxx, "Unjust," <https://legal-dictionary.thefreedictionary.com/Unjust>) // Lex CH

**UNJUST**. That which is **done against the perfect rights** of another; that **which is against the established law**; that which is opposed to a law which is the test of right and wrong. 1 Toull. tit. prel. n. 5; Aust. Jur. 276, n.; Hein. Lec. El. Sec. 1080.

### 2

#### Space is an intrinsic part of India’s soft power expansion and they’re set to rapidly scale now.

Sarthak Kathayat, Sarthak Kathayat is a student at Jamia Millia Islamia, India., NIICE NEPAL, 11-1-2020, "Soft Power and India’s Space Diplomacy," https://niice.org.np/archives/6420 TDI

In international relations, soft power is the ability of any country to persuade other countries to do what it wants without the use of force. According to Joseph Nye Jr., soft power is – getting others to want the outcomes that you want – co-opts people rather than coerces them. As compared to hard power, soft power takes relatively longer to built as its intangible resources develop over a long time. Soft power tends to change other party’s attitude to the end where she acts voluntarily in a way which is different to her usual behaviour. Several characteristics of the current world order like globalisation driven economic interdependence, rise of transnational actors, resurgence of nationalism in weak states, the spread of military technology and the changed nature of international political problems have significantly reduced the effectiveness of hard power strategies. The most noteworthy example of a foreign policy misadventure based solely on hard power strategies is the 2003 US invasion of Iraq. Soft power also has its own weakness. However, the ineffectiveness of soft power strategies is an exception. In longer-term, soft power strategies appear to be more effective in the contemporary world order than the hard power. One such tool of soft power is the space technology and space diplomacy. Space technology are increasingly viewed as a crucial instrument of soft power as states have now understood the direct relation between the technological feats and global prestige that follows. Expertise in rocket science puts a state on a higher pedestal than the countries who are still struggling in the domain. Moreover, expertise in rocket science ensues significant strategic implications. The output delivered has noteworthy social and economic relevance with a massive growth potential. In a broadening concept of security that encompasses other dimensions such as economic, environmental and political, Indian space programme has been distinctive and lucid in the way it simultaneously addresses the requirements of the Indian citizenry and the state collectively in all the dimensions. Despite being challenged by numerous embargoes and technology denial regimes during Cold War, Indian space programme has emerged as the most cost-effective and successful space programme in the world. India’s space programme has been a tremendous achievement for a developing country which despite being faced with many challenges used space as a crucial mechanism to lift its people out of poverty through education, social and economic programmes. With the course of time, India’s space policy has become an intrinsic part of India’s foreign policy to strengthen India’s position as a dominant power in South Asia. Indian Space Programme India’s space programme has been seen making efforts in projecting soft power which is especially evident through its new commitment to planetary exploration and human spaceflight. The Chandrayaan-1 and Mangalyaan-1 mission cleared the fact that India now looks at space as a standard of global standing. India’s soft power has witnessed a progression with an increasingly successful participation in global space economy through ISRO’s commercial arm, Antrix Corporation. India’s growing influence on the global space economy has been an indication of its changing stature in international arena. India has also been involved in capacity building initiatives. It has successfully established itself as a leader in terms of healthcare provisions through satellite-based telemedicine. India hosts the largest telemedicine network in South Asia which has also expanded to the African continent. A non-profit Indian organisation named Apollo Telemedicine Networking Foundation has been involved in telemedicine services with dedicated centres in Iraq, Yemen, Kazakhstan and Myanmar. India’s Space Diplomacy Further using space for diplomacy in order to project its soft power across the globe, India has assisted countries like Colombia in launching its satellite which boosted India-Colombia relations. Many Latin American countries are often dependent on the US for space and military matters. However, after the launch, many countries like Argentina, Bolivia, Brazil, Chile, Ecuador, Mexico, Nicaragua and Venezuela have reached out to ISRO for launching or developing satellites. Similarly, India’s PSLV also launched Israel’s TecSar satellite in 2008 for remote sensing purposes. The launch boosted the political and strategic relations with Israel. Once a recipient of space technology from developed countries, India has demonstrated the robustness of its own space programmes by setting up joint projects and even providing assistance at the time of disaster to a number of countries. ISRO’s Oceansat-2 satellite played a pertinent role in monitoring Hurricane Sandy and helping the authorities to implement timely disaster mitigation and rescue strategies. Adding more feathers to its hat, ISRO has also launched dozens of satellites for US, Europe and Britain based companies. The recent launches of British reconnaissance satellites, NovaSAR and S1-4 are a sign of what could come next. Britain is one of the EU’s biggest spender in space sector. After Brexit, the dispute over Britain’s continued access to the European Union’s Galileo satellite navigation project will inevitably lead Britain look for alternatives and India’s space ambitions could offer a tempting proposition within the ambit of wider bilateral cooperation. As a part of India’s efforts in space diplomacy, ISRO undertook another capacity building initiative ‘Unispace Nanosatellite Assembly and Training (UNNATI)’. Under UNNATI, ISRO planned to train 45 countries in making Nano-satellites. Closer to home, India proposed a SAARC satellite in 2014 for the overall development of the region. The proposal was welcomed by SAARC nations but unfortunately the proposal couldn’t materialise as envisioned initially due to Pakistan’s backing out from the project. However, three years later, in 2017, ISRO launched the South Asia satellite or GSAT-9 to help India’s neighbouring countries in space communication. The idea of South Asia satellite ensured no political impediment as with the case of SAARC satellite. The positive spill over effect of the satellite’s launch on India’s “neighbourhood first” diplomacy was well demonstrated by the warm responses given by the leaders of South Asian countries. India’s space diplomacy with neighbours also extends on a bilateral basis. For instance, in Afghanistan, India included remote sensing satellite transmitters for acquiring space-based data in a USD 1.2 billion aid package. It is evident that soft power strategies are more relevant than the hard power strategies, especially in the contemporary world order. The rise of China as an emerging superpower is backed with its economic and military might leave less avenues for other developing nations such as India to contest China. However, soft power strategies open up another dimension for the interaction of the nations. India has utilised space as a tool of its soft power effectively in order to expand its clout. That space being an intrinsic part of India’s foreign policy has brought numerous achievements to the country, and is expected to remain an essential element for future course of India’s foreign policy.

#### Private sector key to Indian space efforts.

Raghu Krishnan, Raghu Krishnan is the technology editor for the Economic Times. In the over two decades of reporting and managing teams, he has seen the Indian IT industry grow from $ 1 billion to nearly $ 191 billion. He has a deep understanding of the shifts the Indian IT industry has undergone over the years. He has also covered science and India's aerospace R&D industry., 12-7-2020, "New space policy may take local companies global: Sivan," Economic Times, https://economictimes.indiatimes.com/news/science/new-space-policy-may-take-local-companies-global-sivan/articleshow/79599874.cms?from=mdr TDI

Bengaluru: India will draft a new space policy aimed at increasing private investments in the country’s space sector to build companies that are global in scale, Indian Space Research Organisation (Isro) chairman K Sivan told ET. The proposed regulations will be in addition to specific policies planned for launch vehicles, satellite navigation, human space mission and deep space exploration. “We want to create competition and get multiple companies in the space sector that can grow as global leaders,” Sivan said. Over 23 Indian and overseas companies have approached Isro since August seeking to harness assets built over six decades including rockets, satellites, ground stations and satellite imagery. The nodal agency is looking to transfer critical technologies through its commercial arm — New Space India Ltd (NSIL NSE -0.45 %) — to these companies at lower costs. “Space technology is costly. We want to make it viable for Indian industries and help them commercialise these technologies,” said Sivan. “We want to make the technology transfer a very simple and low-cost affair.” Last week, NSIL signed a pact to share technology as well as to allow testing facilities with Chennai-based startup Aggnikul Cosmos to build a small rocket that can hurl 100 kg satellites to low-earth orbit. Bengaluru-based Pixxel, which is building India’s first private fleet of earth observation satellites, will launch its first satellite atop the homegrown polar satellite launch vehicle (PSLV) in 2021. So far, the department of space has released drafts of technology transfer policy, remote sensing and satellite communication policy for public comments. These draft policies state that Indian companies can now own and operate satellites, build rockets and launch them from Indian soil and offer satellite-based applications to consumers. The policies also define how sensitive dual-use technologies are to be utilised and stresses on the need for adherence to national and international laws. “The industry players are able to see the sea change (in our policies). They are asking for clarifications on some of them,” said Sivan. He added the policies will be notified after consultations. India is adopting the model of the US space agency National Aeronautics and Space Administration (NASA), which allowed private firms such as SpaceX to get access to its technology and facilities to build reusable rockets that have carried humans to space this year. NASA also allows startups to compete and build vehicles and solutions for its programmes, including deep space missions. The policies are also designed to make India a global hub for satellite manufacturing and launches and providing satellite-based services for global customers. Hyderabad-based Aerospace firm Ananth Technologies is setting up a joint venture with US satellite operator Saturn Satellites, through which it will first build two communication satellites and launch them locally on an Indian rocket. Ananth is the first Indian private company to tap the global market after India opened up its space sector, which allows private firms to build satellites and rockets and offer space services from the country. “Earlier, when IITs produced aero-space engineers, there was not a strong domestic industrial ecosystem to employ them. Today, with our historic reforms in the space sector, the last frontier before humanity has opened up to Indian talent,” Prime Minister Narendra Modi told a Pan IIT conference on Friday. India has nearly 50 space startups in the sector and over 1,000 companies — both small and medium enterprises (SMEs) and large enterprises such as Larsen & Toubro, Godrej Aerospace, Tata Advanced Systems and Hindustan Aeronautics, which have been vendors to Isro, building systems and subsystems for the space programme. After opening the space sector to private firms in August, the department of space formed Indian National Space Promotion and Authorisation Centre (IN-SPACe), a new body that will act as a regulator whose rulings would apply to the space agency as well as private firms in the country. Sivan said an independent board is being set up and an approval is expected from the government by the end of December.

#### India has led multiple non-proliferation movements and their benign perception is k2 maintaining US-China Relations

Pethiyagoda 14 [Kadira Pethiyagoda, a former diplomat whose PhD and upcoming book investigated Indian foreign policy. He was a visiting scholar at the University of Oxford, “India’s Soft Power Advantage,” The Diplomat, 9/17/14, <https://thediplomat.com/2014/09/indias-soft-power-advantage/>] TDI

During [Prime Minister Tony Abbott’s recent visit to India](https://thediplomat.com/2014/09/australian-pm-visits-india-signs-nuclear-deal/), he was asked to justify Australia’s signing of a deal to sell uranium to the country. In response, the [prime minister said](http://www.smh.com.au/federal-politics/political-news/australia-to-power-indias-energy-market-as-tony-abbott-settles-terms-for-uranium-trade-20140905-10cq6y.html), “India threatens no one” and “is the friend to many.” This was no mere diplomatic nicety, but a carefully chosen answer based on India’s international image. It is an image that is rare amongst great powers of India’s size and strength, and will give Delhi a unique soft power advantage in the future multipolar world. Much of the globe sees India as a relatively non-violent, tolerant and pluralistic democracy with a benign international influence. Its values are seen as largely positive. The U.S., with its Indo-U.S. nuclear deal, accorded India special treatment in nuclear cooperation. The deal provided benefits usually reserved for Non-Proliferation Treaty (NPT) signatories. Washington justified cooperation with India by highlighting Delhi’s impeccable non-proliferation record. This stance was replicated by other states, including the Nuclear Suppliers Group (NSG) member states who allowed India’s participation in international nuclear commerce and supported the Indo-U.S. deal. The NSG decided to re-engage with India following an India-specific safeguards agreement with the International Atomic Energy Agency (IAEA). The IAEA’s Board of Governors endorsed a nuclear safeguards agreement with India by consensus that would permit Delhi to add more nuclear facilities to be placed under the IAEA safeguards framework. India did not have to have an Additional Protocol like the non-nuclear weapons states who are NPT signatories. India also received favorable treatment from Canada (which agreed to supply “dual-use items” that can be used for civilian and military applications), Japan and South Korea. This cooperation was not merely driven by these states’ strategic relationships with the U.S. Russia has long cooperated with India on nuclear technology. Even China, as a member of the NSG, did not oppose the group’s decision on India. Today, India is the only known nuclear weapons state that is not part of the NPT but is still permitted to engage in nuclear commerce globally. India’s reputation extends beyond its nuclear posture. Since independence, the country has been viewed as a neutral and harmless power by most foreign audiences, particularly in Africa, the Middle East, South America and Southeast Asia. This is in part due to its prominent role in the Non-Aligned movement. Whilst Delhi’s reputation in its own neighborhood is quite different, South Asian states do not see India as a threat in the way that many of Russia or China’s neighbors view those powers. Even long-time nemesis Pakistan is unlikely to have been as adventurous in its dealings with its much larger and more powerful neighbor had it not had firsthand experience of Delhi’s restraint – even before Islamabad had nuclear capability. So what is behind India’s benign image? In part, it is self-created. For 60-plus years Delhi has favored cultivating the impression of a non-violent India. This is particularly clear in the realm of nuclear posture. Despite having tested weapons in 1974 and 1998 and being a non-signatory to the NPT and Comprehensive Test Ban Treaty, India has been one of the most vocal advocates for global disarmament. It has arguably been the most passionate anti-nuclear campaigner amongst the world’s nine known or suspected nuclear weapons states, with one of the world’s most notable pleas for global disarmament made by Prime Minister Rajiv Gandhi at the U.N. in 1988. The pursuit of this image continued a decade later, even after the Pokhran II nuclear tests. BJP Prime Minister Vajpayee stated that the tests were not a repudiation of the disarmament goal. In the Draft Report on Indian Nuclear Doctrine, the very first sentence of the first paragraph [describes](https://www.armscontrol.org/print/514) the use of nuclear weapons as the “gravest threat to humanity and to peace and stability.” The paragraph goes on to criticize the virtual abandonment by states of the goal of disarmament. Delhi sought to avoid labels of hypocrisy by positioning itself as the “[reluctant nuclear power](http://www.rediff.com/news/2004/mar/22ram.htm).” India argued that the bomb was a last resort in a world of threatening nuclear states who make no pledges to refrain from first strikes and the use of nukes against non-nuclear states. Somewhat legitimately, Indian leaders asserted that the country’s nuclear weapons could act as bargaining chips to support its global disarmament agenda. India was said to have more credibility as a nuclear weapons state with itself having something to sacrifice in order to usher in global disarmament. India declared that its security would be enhanced and not diminished in a nuclear free world. Delhi also sought to project an image of non-violence in other areas of foreign policy. In relation to the norm of “Responsibility to Protect,” India voiced support for those aspects of R2P that encouraged and supported states to protect their own populations, and expressed extreme caution at R2P’s coercive side. When some of the world’s greatest debates over intervention occurred at the U.N., Indian ambassadors drenched their speeches with the language of non-violence. This preciously guarded national image is not merely a strategic ploy to [increase India’s soft power](https://thediplomat.com/2011/09/indias-central-asia-soft-power/). Policymakers wish the country to be seen as non-violent, pluralistic and tolerant, because India genuinely holds these values. Within the nuclear realm the influence of non-violence is seen through the foot-dragging in relation to integrating nuclear weapons into military strategy and in relation to serial production of weapons. A further sign of this influence is the long public debate before going nuclear – a rarity amongst nuclear powers. We have seen repeatedly that India’s leaders find it morally inconceivable that nukes could ever be useable tools of war. Delhi’s disarmament pleas were not merely PR: they consumed valuable diplomatic resources including precious stage-time in international forums. More broadly, non-violence affected for India’s relatively restrained conduct in several conflicts with Pakistan. When it came to humanitarian intervention, over the last 25 years India’s opposition or support was directly related to the level of intrastate violence entailed in intervening. This was true regardless of who was intervening in whom, for what reason, and whether there were strategic gains in it for Delhi. This included interventions in Iraq, Libya and [Syria](https://thediplomat.com/2013/11/indias-syria-juggling-act/). India’s opposition to intervention was compounded by its pluralistic worldview, with acceptance of all regime types. It would seem that India’s values of non-violence, pluralism and tolerance stem from the independence era, when the country’s foreign policy and modern identity was crafted. Mahatma Gandhi made India’s independence movement synonymous with non-violence. First Prime Minister Jawaharlal Nehru imbued morals into his external relations. But if the values influencing India’s foreign policy took shape only then, they would have fizzled when Congress lost power. Instead the values have remained, as has the resultant global persona. This is because the values that help guide Indian foreign policy and underpin its image are rooted deep in the country’s cultural history. These values attained dominance during the formative stage of Indian civilization – the period between the Vedic era and medieval times when the greatest empires arose. India and China are the only modern great powers that have held a largely continuous culture for several millennia. Ancient India’s cultural connection to its present-day manifestation is far stronger than ancient Greek, Roman or Anglo-Celtic culture is to present-day Western states, or the ancient Middle Eastern civilizations are to today’s Arab world. It remains to be seen how India’s international reputation will fare as its strategic interests [expand throughout the Indo-Pacific](https://thediplomat.com/2013/09/india-and-the-rise-of-the-indo-pacific/) and beyond. With some diplomatic craftsmanship, Delhi can convert its somewhat ethereal values-based soft power advantage into hard strategic and economic gains. Modi’s government seems to have recognized this and is building on Congress’ initiatives to enhance India’s public diplomacy toolkit. India’s soft power has rare characteristics when compared with the other great powers of the emerging multipolar world: U.S., China, Russia, Japan and Europe (as a unified entity). Its relatively neutral, non-threatening image will make India a uniquely attractive great-power partner for countries looking to hedge against future fallout between the U.S. and China, and not wanting to antagonize either superpower. Australia has chosen a wise time to solidify ties with one of the world’s most dynamic rising powers.

#### Risk of US-China military confrontation in flashpoints inevitably go nuclear due to intermingled forces.

Talmadge 18 [Caitlin Talmadge, Associate Professor of Security Studies at the Edmund A. Walsh School of Foreign Service at Georgetown University, “Beijing’s Nuclear Option, Why a U.S.-Chinese War Could Spiral Out of Control,” Foreign Affairs, <https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option>, 10/15/18] TDI

As China’s power has grown in recent years, so, too, has the risk of war with the United States. Under President Xi Jinping, China has increased its political and economic pressure on Taiwan and built military installations on coral reefs in the South China Sea, fueling Washington’s fears that Chinese expansionism will threaten U.S. allies and influence in the region. U.S. destroyers have transited the Taiwan Strait, to loud protests from Beijing. American policymakers have wondered aloud whether they should send an aircraft carrier through the strait as well. Chinese fighter jets have intercepted U.S. aircraft in the skies above the South China Sea. Meanwhile, U.S. President Donald Trump has brought long-simmering economic disputes to a rolling boil.

A war between the two countries remains unlikely, but the prospect of a military confrontation—resulting, for example, from a Chinese campaign against Taiwan—no longer seems as implausible as it once did. And the odds of such a confrontation going nuclear are higher than most policymakers and analysts think.

Members of China’s strategic com­munity tend to dismiss such concerns. Likewise, U.S. studies of a potential war with China often exclude nuclear weapons from the analysis entirely, treating them as basically irrelevant to the course of a conflict. Asked about the issue in 2015, Dennis Blair, the former commander of U.S. forces in the Indo-Pacific, estimated the likelihood of a U.S.-Chinese nuclear crisis as “somewhere between nil and zero.”

This assurance is misguided. If deployed against China, the Pentagon’s preferred style of conventional warfare would be a potential recipe for nuclear escalation. Since the end of the Cold War, the United States’ signature approach to war has been simple: punch deep into enemy territory in order to rapidly knock out the opponent’s key military assets at minimal cost. But the Pentagon developed this formula in wars against Afghanistan, Iraq, Libya, and Serbia, none of which was a nuclear power.

China, by contrast, not only has nuclear weapons; it has also intermingled them with its conventional military forces, making it difficult to attack one without attacking the other. This means that a major U.S. military campaign targeting China’s conventional forces would likely also threaten its nuclear arsenal. Faced with such a threat, Chinese leaders could decide to use their nuclear weapons while they were still able to.

As U.S. and Chinese leaders navigate a relationship fraught with mutual suspicion, they must come to grips with the fact that a conventional war could skid into a nuclear confrontation. Although this risk is not high in absolute terms, its consequences for the region and the world would be devastating. As long as the United States and China continue to pursue their current grand strategies, the risk is likely to endure. This means that leaders on both sides should dispense with the illusion that they can easily fight a limited war. They should focus instead on managing or resolving the political, economic, and military tensions that might lead to a conflict in the first place.

#### Nuclear war causes extinction.

**Starr 15** (Steven. “Nuclear War: An Unrecognized Mass Extinction Event Waiting To Happen.” Ratical. March 2015. <https://ratical.org/radiation/NuclearExtinction/StevenStarr022815.html> TG)

A war fought with 21st century strategic nuclear weapons would be more than just a great catastrophe in human history. If we allow it to happen, such a war would be a mass extinction event that [ends human history](https://ratical.org/radiation/NuclearExtinction/StarrNuclearWinterOct09.pdf). There is a profound difference between extinction and “an unprecedented disaster,” or even “the end of civilization,” because even after such an immense catastrophe, human life would go on. But extinction, by definition, is an event of utter finality, and a nuclear war that could cause human extinction should really be considered as the ultimate criminal act. It certainly would be the crime to end all crimes. The world’s leading climatologists now tell us that nuclear war threatens our continued existence as a species. Their studies predict that a large nuclear war, especially one fought with strategic nuclear weapons, would create a post-war environment in which for many years it would be too cold and dark to even grow food. Their findings make it clear that not only humans, but most large animals and many other forms of complex life would likely vanish forever in a nuclear darkness of our own making. The environmental consequences of nuclear war would attack the ecological support systems of life at every level. Radioactive fallout produced not only by nuclear bombs, but also by the destruction of nuclear power plants and their spent fuel pools, would poison the biosphere. Millions of tons of smoke would act to [destroy Earth’s protective ozone layer](https://www2.ucar.edu/atmosnews/just-published/3995/nuclear-war-and-ultraviolet-radiation) and block most sunlight from reaching Earth’s surface, creating Ice Age weather conditions that would last for decades. Yet the political and military leaders who control nuclear weapons strictly avoid any direct public discussion of the consequences of nuclear war. They do so by arguing that nuclear weapons are not intended to be used, but only to deter. Remarkably, the leaders of the Nuclear Weapon States have chosen to ignore the authoritative, long-standing scientific research done by the climatologists, research that predicts virtually any nuclear war, fought with even a fraction of the operational and deployed nuclear arsenals, will leave the Earth essentially uninhabitable.

## Case

### Overview

#### The role of the ballot is to evaluate consequences.

#### 1] Consequences first — anything else is irresponsible and escapes valuable discussions.

**Bracey 06** (Christopher A. Bracey 6, Associate Professor of Law, Associate Professor of African & African American Studies, Washington University in St. Louis, September, Southern California Law Review, 79 S. Cal. L. Rev. 1231, p. 1318)

Second, reducing conversation on race matters to an ideological contest allows opponents to elide inquiry into whether the results of a particular preference policy are desirable. Policy positions masquerading as principled ideological stances create the impression that a racial policy is not simply a choice among available alternatives, but the embodiment of some higher moral principle. Thus, the "principle" becomes an end in itself, without reference to outcomes. Consider the prevailing view of colorblindness in constitutional discourse. Colorblindness has come to be understood as the embodiment of what is morally just, independent of its actual effect upon the lives of racial minorities. This explains Justice Thomas's belief in the "moral and constitutional equivalence" between Jim Crow laws and race preferences, and his tragic assertion that "Government cannot make us equal [but] can only recognize, respect, and protect us as equal before the law." [281](http://web.lexis-nexis.com/universe/document?_m=cd9713b340d60abd42c2b34c36d8ef95&_docnum=9&wchp=dGLbVzz-zSkVA&_md5=9645fa92f5740655bdc1c9ae7c82b328) For Thomas, there is no meaningful difference between laws designed to entrench racial subordination and those designed to alleviate conditions of oppression. Critics may point out that colorblindness in practice has the effect of entrenching existing racial disparities in health, wealth, and society. But in framing the debate in purely ideological terms, opponents are able to avoid the contentious issue of outcomes and make viability determinations based exclusively on whether racially progressive measures exude fidelity to the ideological principle of colorblindness. Meaningful policy debate is replaced by ideological exchange, which further exacerbates hostilities and deepens the cycle of resentment.

#### 2] Util good – Existential threats outweigh.

**GPP 17** (Global Priorities Project, Future of Humanity Institute at the University of Oxford, Ministry for Foreign Affairs of Finland, “Existential Risk: Diplomacy and Governance,” Global Priorities Project, 2017, <https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf>

1.2. THE ETHICS OF EXISTENTIAL RISK In his book Reasons and Persons, Oxford philosopher Derek Parfit advanced an influential argument about the importance of avoiding extinction: I believe that if we destroy mankind, as we now can, this outcome will be much worse than most people think. Compare three outcomes: (1) Peace. (2) A nuclear war that kills 99% of the world’s existing population. (3) A nuclear war that kills 100%. (2) would be worse than (1), and (3) would be worse than (2). Which is the greater of these two differences? Most people believe that the greater difference is between (1) and (2). I believe that the difference between (2) and (3) is very much greater**. ...** The Earth will remain habitable for at least another billion years. Civilization began only a few thousand years ago. If we do not destroy mankind, these few thousand years may be only a tiny fraction of the whole of civilized human history. The difference between (2) and (3) may thus be the difference between this tiny fraction and all of the rest of this history. If we compare this possible history to a day, what has occurred so far is only a fraction of a second.65 In this argument, it seems that Parfit is assuming that the survivors of a nuclear war that kills 99% of the population would eventually be able to recover civilisation without long-term effect. As we have seen, this may not be a safe assumption – but for the purposes of this thought experiment, the point stands. What makes existential catastrophes especially bad is that they would “destroy the future,” as another Oxford philosopher, Nick Bostrom, puts it.66 This future could potentially be extremely long and full of flourishing, and would therefore have extremely large value. In standard risk analysis, when working out how to respond to risk, we work out the expected value of risk reduction, by weighing the probability that an action will prevent an adverse event against the severity of the event. Because the value of preventing existential catastrophe is so vast, even a tiny probability of prevention has huge expected value.67 Of course, there is persisting reasonable disagreement about ethics and there are a number of ways one might resist this conclusion.68 Therefore, it would be unjustified to be overconfident in Parfit and Bostrom’s argument. In some areas, government policy does give significant weight to future generations. For example, in assessing the risks of nuclear waste storage, governments have considered timeframes of thousands, hundreds of thousands, and even a million years.69 Justifications for this policy usually appeal to principles of intergenerational equity according to which future generations ought to get as much protection as current generations.70 Similarly, widely accepted norms of sustainable development require development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs.71 However, when it comes to existential risk, it would seem that we fail to live up to principles of intergenerational equity. Existential catastrophe would not only give future generations less than the current generations; it would give them nothing. Indeed, reducing existential risk plausibly has a quite low cost for us in comparison with the huge expected value it has for future generations. In spite of this, relatively little is done to reduce existential risk. Unless we give up on norms of intergenerational equity, they give us a strong case for significantly increasing our efforts to reduce existential risks. 1.3. WHY EXISTENTIAL RISKS MAY BE SYSTEMATICALLY UNDERINVESTED IN, AND THE ROLE OF THE INTERNATIONAL COMMUNITY In spite of the importance of existential risk reduction, it probably receives less attention than is warranted. As a result, concerted international cooperation is required if we are to receive adequate protection from existential risks. 1.3.1. Why existential risks are likely to be underinvested in There are several reasons why existential risk reduction is likely to be underinvested in.Firstly, it is a global public good. Economic theory predicts that such goods tend to be underprovided.The benefits of existential risk reduction are widely and indivisibly dispersed around the globe from the countries responsible for taking action. Consequently, a country which reduces existential risk gains only a small portion of the benefits but bears the full brunt of the costs. Countries thus have strong incentives to free ride, receiving the benefits of risk reduction without contributing. As a result, too few do what is in the common interest. Secondly, as already suggested above, existential risk reduction is an intergenerational public good: most of the benefits are enjoyed by future generations who have no say in the political process. For these goods, the problem is temporal free riding: the current generation enjoys the benefits of inaction while future generations bear the costs. Thirdly, many existential risks, such as machine superintelligence, engineered pandemics, and solar geoengineering, pose an unprecedented and uncertain future threat. Consequently, it is hard to develop a satisfactory governance regime for them: there are few existing governance instruments which can be applied to these risks, and it is unclear what shape new instruments should take. In this way, our position with regard to these emerging risks is comparable to the one we faced when nuclear weapons first became available. Cognitive biases also lead people to underestimate existential risks.Since there have not been any catastrophes of this magnitude, these risks are not salient to politicians and the public.72 This is an example of the misapplication of the availability heuristic, a mental shortcut which assumes that something is important only if it can be readily recalled. Another cognitive bias affecting perceptions of existential risk is scope neglect. In a seminal 1992 study, three groups were asked how much they would be willing to pay to save 2,000, 20,000 or 200,000 birds from drowning in uncovered oil ponds. The groups answered $80, $78, and $88, respectively.73 In this case, the size of the benefits had little effect on the scale of the preferred response. People become numbed to the effect of saving lives when the numbers get too large. **74** Scope neglect is a particularly acute problem for existential risk because the numbers at stake are so large.Due to scope neglect, decision-makers are prone to treat existential risks in a similar way to problems which are less severe by many orders of magnitude.A wide range of other cognitive biases

#### 3] We access their role of the ballot—nuclear war and warming causes massive suffering and disproportionately affects minorities. Proves even if they win their framing nuke war and warming are still a tiebreaker.

#### 4] Don’t let them weigh the sum total of capitalism —they only get to weigh the unique amount solved by the affirmative. Filter the debate through scope of solvency—there’s no impact to root cause if they don’t solve it.

### Advantage

#### 1] Huge alt cause to capitalist working conditions that perpetuate the forms of human capital that the affirmative critics via sweat shops in South Asian nations to differences in wages etc. means the impacts are inevitable.

#### 2] Space privatization is good—it prevents war and ensures sustainably-sourced space projects for public good.

Frankowski 17 [(Paweł, assistant Professor at the Chair of International Relations and Foreign Policy, Institute of Political Science and International Relations, Jagiellonian University) “Outer Space and Private Companies: Consequences for Global Security,” 2017, pg. 144-145] TDI

In the terms of privatization and space security, space remains relatively untapped, but commercial and military benefits from space exploration/exploitation could even lead to ‘privatization of space’. Such privatization will result from growing pressure on spacefaring countries to defect from cooperation, since is less viable with good number of multiple actors who entered the space.36 However, space policy and space research are characterized by very high costs, which are rather impossible to bear by private companies, limited by economic calculation. As pointed out earlier, under-investment in technological development by private companies it is related to the fact that these actors are not focused on profits of a social nature, such as improving the quality of life of the recipient of the product.37 This makes some technology, potentially beneficial to society, not developed or introduced into use, because the profit margin is too small to make this viable for commercial players.

To conclude, privatization of space security can develop in unexpected way, but in today’s space environment private actors would rather play the role of security regulators than security providers. When investment in space technologies is less profitable than other areas of economy, private actors would focus on soft law and conflict prevention in space, and new private initiatives will appear. For example, apart from important space companies, as SpaceX or Blue Origin active in outer space, other private actors as Secure World Foundation (SWF), who focus on space sustainability, will play more important role in crafting international guidelines for space activities.38 This path the way for future solutions and projects, as cleaning the space debris, extracting resources from asteroids and planetoids, refuelling satellites, providing payload capabili-ties for governmental entities on market-based logic, will be based on activity non-state actors, providing soft law and regulatory solutions, where space faring states are unable to find any compromise. Therefore private companies will be in fact global (or space) regulators, as part of UNCOPUS, being involved in space activities.39

The last argument for private involvement in space security comes from an approach based on common good and resilience of space assets, emphasized by the Project Ploughshares, as an important part of space security. As of 2017 there are more than 700,000 man-made objects on the Earth’s orbit bigger than 1 cm, while 17,000 of them are bigger than 10 cm.40 Some of them are traced by SSA systems, both American and European, but these systems are public-military owned, and private operators are not granted any access to this data. Any collision of space object with space debris, even with small particles, might result in a chain reaction, called Kessler’s syndrome, and not only private but public, and military assets will be destroyed or impaired. In such conditions, a reluctant cooperation between the public and private sector, and unwillingness to share vulnerable data by public actors seem to confirm that private space activity is more than necessary. This is an apparent case when logic of mistrust between state powers must be overcome by private actors, perhaps by suggesting common preferences for debris mitigation, and space situational awareness. In the case of space debris, Space Data Association, an initiative supported by private sector, with its main aim to enhance data sharing between commercial satellite operators, could be an example of nascent public good provided by private actors for the sake of global security.

#### 3] Cap solves climate change and alternatives only accelerate it.

---dismantling systems isn’t easy takes time, means warming accelerates in the interim

---causes wars because it forces political upheaval and people will fight to keep capitalism which is both offense and means alt fails

---US has decreased emissions now, sustainable energy like wind, solar, and hydro solve, our ev cites a report that looked at over 7000 cases says sustainable is competitive and will be adopted universally in 10 years

---during transition in order to beat the system, the movement would have to massively ramp up emissions to build weapons which locks in warming

**Smith 19** [Noah Smith Noah Smith is a Bloomberg Opinion columnist. He was an assistant professor of finance at Stony Brook University, and he blogs at Noahpinion, “Dumping Capitalism Won’t Save the Planet”, April 5, 2019, https://www.bloomberg.com/opinion/articles/2019-04-05/capitalism-is-more-likely-to-limit-climate-change-than-socialism, DOA: 8/20/19] Ian M

public-private cooperation will do more to limit climate change than eco-socialism. It has become fashionable on social media and in certain publications to argue that capitalism is killing the planet. Even renowned investor Jeremy Grantham, hardly a radical, made that assertion last year. The basic idea is that the profit motive drives the private sector to spew carbon into the air with reckless abandon. Though many economists and some climate activists believe that the problem is best addressed by modifying market incentives with a carbon tax, many activists believe that the problem can’t be addressed without rebuilding the economy along centrally planned lines. The climate threat is certainly dire, and carbon taxes are unlikely to be enough to solve the problem. But eco-socialism is probably not going to be an effective method of addressing that threat. Dismantling an entire economic system is never easy, and probably would touch off armed conflict and major political upheaval. In the scramble to win those battles, even the socialists would almost certainly abandon their limitation on fossil-fuel use — either to support military efforts, or to keep the population from turning against them. The precedent here is the Soviet Union, whose multidecade effort to reshape its economy by force amid confrontation with the West led to profound environmental degradation. The world's climate does not have several decades to spare. Even without international conflict, there’s little guarantee that moving away from capitalism would mitigate our impact on the environment. Since socialist leader Evo Morales took power in Bolivia, living standards have improved substantially for the average Bolivian, which is great. But this has come at the cost of higher emissions. Meanwhile, the capitalist U.S managed to decrease its per capita emissions a bit during this same period (though since the U.S. is a rich country, its absolute level of emissions is much higher). **Doubting the Carbon-Capitalism Equation** In other words, in terms of economic growth and carbon emissions, Bolivia looks similar to more capitalist developing countries. That suggests that faced with a choice of enriching their people or helping to save the climate, even socialist leaders will often choose the former. And that same political calculus will probably hold in China and the U.S., the world’s top carbon emitters — leaders who demand draconian cuts in living standards in pursuit of environmental goals will have trouble staying in power. The best hope for the climate therefore lies in reducing the tradeoff between material prosperity and carbon emissions. That requires technology — solar, wind and nuclear power, energy storage, electric cars and other vehicles, carbon-free cement production and so on. The best [climate](https://techcrunch.com/2019/02/15/how-to-decarbonize-america-and-the-world/) policy [plans](https://www.dataforprogress.org/green-new-deal) all involve technological improvement as a key feature. Recent developments show that the technology-centered approach can work. A recent report by Bloomberg New Energy Finance analyzed about 7000 projects in 46 countries, and found that large drops in the cost of solar power from photovoltaic systems, wind power and lithium-ion batteries have made utility-scale renewable electricity competitive with fossil fuels. A 76 percent decline in the cost of energy for short-term battery storage since 2012 is especially important. In a blog post, futurist and energy writer Ramez Naam underscores the significance of these developments. Naam notes the important difference between renewables being cheap enough to outprice new fossil-fuel plants, and being inexpensive enough to undercut existing plants. The former is already the case across much of the world, which is among the reasons for an 84 percent decrease in the number of new coal-fired plants worldwide since 2015. But when it becomes cheaper to scrap existing fossil-fuel plants and build renewables in their place, it will allow renewables to start replacing coal and gas much more quickly. Naam cites examples from Florida and Indiana where this is already being done. He cites industry predictions that replacing existing fossil-fuel plants with renewables will be economically efficient almost everywhere at some point in the next decade. Electricity is far from the only source of carbon emissions — there’s also transportation, manufacturing (especially of steel and cement), home and office heating, and agriculture to worry about. But the rapid advance of solar technology is a huge victory in the struggle against climate change, because it will allow people all over the world to have electricity without cooking the planet. And how was this victory achieved? A combination of smart government policy and private industry. Massachusetts Institute of Technology researchers Goksin Kavlak, James McNerney and Jessika Trancik in a recent paper evaluated the factors behind the solar-price decline from 1980 to 2012. They concluded that from 1980 to 2001, government-funded research and development was the main factor in bringing down costs, but from 2001 to 2012, the biggest factor was economies of scale. These economies of scale were driven by private industry increasing output, but with government subsidies helping to increase the incentive to ramp up production. It’s apparent, therefore, that both government and profit-seeking enterprises have their roles to play. Government funds the development of early-stage technology and then helps push the private sector toward adopting those technologies, while private companies compete to find ever-cheaper methods of implementation. Instead of eco-socialism, it’s eco-industrialism. If there’s any system that can beat climate change, this looks like it.

#### 4] The plan assumes developing states will be able to launch assets into space but their economies have been devastated by Covid, and their own uniqueness evidence indicates that they won’t be able to for a long time—means the aff can’t solve it’s disease impacts for a long time. No reason why developed nations would give space.