## 2NR

Semantics don’t matter, they can’t spec. Regardless of if mining is appropriation or not, they specced a plan.

### OV

#### Our interpretation is that the aff should defend that the appropriation of outer space by private entities is unjust for all forms of appropriation

#### Limits o/w their pragmatic offense – preserving a vision of the topic that maximizes clash and equitable debate for the negative should be the nexus question of your decision. The only unique benefit to the activity is the neg’s ability to rigorously contest the claims of the aff. Every other impact: topic education, aff ground, and innovation are all secondary to the ability to preserve a reasonable expectation of neg prep by accepting a hard cap on the number of affs. Winning a small risk of a link to the limits disad is sufficient to vote negative because it makes debate fundamentally unfair.

#### They kill limits --- they can defend mining, space tourism, lunar control, etc.. which makes neg prep impossible cuz they make existing affs way narrower to get out of neg args which leads to less in-depth debates and arsenal of the week burner affs.

#### Here are a few weighing arguments that should make you err heavily negative on the limits claim:

#### 1] Negs are getting smacked on this topic—the topic is huge—the marginal benefit of allowing single, specific entities is very low, while the corresponding prep burden for a bunch of different private entitites is very high. This flips reasonability because it proves its try or die for a balanced version of the topic. Today it's the SpaceX aff, tomorrow is CASC aff. Any uncertainty means you should default to depth first.

#### 2] TVA solves their offense—reading mining as an advantage allows for their education but also forces the aff to strategically select their plan and advantages to respond to PICs and circumvention arguments. Hyper specificity allows them to bypass major topic generics and effectively fiat solvency.

### A2 Clash

#### 1. Prefer limited topics- they encourage large affirmatives like the global disarmament aff that have deep literature bases. The aff can innovate with new advantages or plan mechanisms while the neg always has something to say.

#### 3] Limits o/w

#### A] It hijacks internal link – debates are only educational if both debaters engage – a massive prep skew means the negative always has an incentive to uplayer and never engage which non-uniques their impact and proves the interp is better

#### B] Reversibility – you can get educational debates on other parts of the flow or from out of round, but the neg strat is not reversible since we get no basis to respond.

#### 4] TVA solves – you can cut advantages to a whole rez aff from different parts of the literature.

### A2 PICs

#### 1] Limits outweighs on probability – people don’t read PICs that often under nebel but people read a hyperspec aff every time under their interp – size of link determines size of impact so even if they’re winning PICs are way worse than plans, it’s not frequent enough to make up the link differential

#### 2] Turn – when the neg has no specific prep they’re incentivized to rely on silly backfile word pics, or random open evidence process pics that moot the 1AC and destroy core topic ed

#### 3] 1AR theory checks PICs—if they’re so abusive you should be able to win the theory debate.

#### 4] This is a non-sequitur—just because the neg could hypothetically be abusive doesn’t justify the aff pre-emptively being abusive to compensate—this creates an absurd norm where the aff can justify reading 40 a prioris because the neg could read 50 condo pics, which outweighs their offense on magnitude

#### 5] The abuse is inevitable – it stems from forcing a 1AR restart, but any strategic neg does that regardless with things like a K.

#### 6] Turn – forces better education since you learn to defend your aff vs specific PICs and that occurs thru deep research and strategic thinking

#### 7] Quality of ground – I’ll just be reading bad args that barely link which means you can just answer them – proves that your underlimiting of affs kills good ground

#### 8] Neg ground – the aff has infinite prep to craft an AC with strategic angles against PICs like perception advantages, perms, etc. and can always straight turn the net benefit, but the neg is inherently reactive so the skew is much harder when they have no ability to effectively prep the aff

### A2: Functional Limits

#### 1] Doesn’t check—you can find solvency advocates for basically any appropriation because of random bloggers and EVERYBODY works

#### 2] Doesn’t solve reciprocal prep burdens—it’s way easier for the aff to prep specific answers to a generic but much harder for the neg to have specifics to an aff. Any generic argument is destroyed by “they don’t have a piece of evidence specific to our aff” –

#### 3] this was the words “functional limits” not a real argument they haven’t explained how it solves our caselist

### A2 Overlimiting

#### 1] TVA solves – you could have read your aff with space debris as the advantage – we don’t prohibit you from new advantages, frameworks, or mechanisms – the aff can innovate with new arguments rather than new plans making sure the negative is never caught unprepared which better encourages clash and research cuz it provides topic stability

#### 2] Prep burdens are reciprocal – we prep all potential advantages, you prep all potential disads.

#### 3] Turn – overlimiting is better – stale engagement is better than no engagement at all

### A2 Caselist

1] Fringe affs can be made and the specification can be infinite. This causes infinite abuse, and justifies a bad model of debate

2] The TVA solves, reading it as an advantage just gives better clash and more access to DAs and CPs which solves all their offense

### A2 Reasonability

1] It’s arbitrary. They don’t provide a line of reasonability on the T, which justifies judge intervention. This causes abusive plans using the argument that it’s “reasonable enough”

2] Can’t be semi-topical or almost topical. It’s topical or it’s not.

### 1

#### Interpretation: The affirmative must defend that appropriation of outer space as a whole by private entities is unjust.

#### ‘The’ indicates reference to a noun as a whole

Merriam Webster’s 19 Online Dictionary, https://www.merriam-webster.com/dictionary/the

4 -- used as a function word before a noun or a substantivized adjective to indicate reference to a group as a whole <the elite>

#### “Appropriation” means to take as property

Leon 18 (Amanda M., Associate, Caplin & Drysdale, JD UVA Law) "Mining for Meaning: An Examination of the Legality of Property Rights in Space Resources." Virginia Law Review, vol. 104, no. 3, May 2018, p. 497-547. HeinOnline.

Appropriation. The term "appropriation" also remains ambiguous. Webster's defines the verb "appropriate" as "to take to oneself in exclusion of others; to claim or use as by an exclusive or pre-eminent right; as, let no man appropriate a common benefit."16 5 Similarly, Black's Law Dictionary describes "appropriate" as an act "[t]o make a thing one's own; to make a thing the subject of property; to exercise dominion over an object to the extent, and for the purpose, of making it subserve one's own proper use or pleasure."166 Oftentimes, appropriation refers to the setting aside of government funds, the taking of land for public purposes, or a tort of wrongfully taking another's property as one's own. The term appropriation is often used not only with respect to real property but also with water. According to U.S. case law, a person completes an appropriation of water by diversion of the water and an application of the water to beneficial use.167 This common use of the term "appropriation" with respect to water illustrates two key points: (1) the term applies to natural resources-e.g., water or minerals-not just real property, and (2) mining space resources and putting them to beneficial use-e.g., selling or manufacturing the mined resources could reasonably be interpreted as an "appropriation" of outer space. While the ordinary meaning of "appropriation" reasonably includes the taking of natural resources as well as land, whether the drafters and parties to the OST envisioned such a broad meaning of the term remains difficult to determine with any certainty. The prohibition against appropriation "by any other means" supports such a reading, though, by expanding the prohibition to other types not explicitly described.168

#### ‘Of’ implies we should consider appropriation as a whole

CJS 78 Corpus Juris Secundum, 67, p. 200

Of: The word "of" is a preposition. It is a word of different meanings, and susceptible of numerous different connotations. It may be used in its possessive sense to denote possession or ownership. It may also be used as a word of identification and relation, rather than as a word of proprietorship or possession. "Of" may denote source, origin, existence, descent, or location, or it may denote that from which something issues, proceeds, or is derived. The term may indicate the aggregate or whole of which the limited word or words denote a part, or of which a part is referred to, thought of, affected, etc.

#### Unjust means contrary to right and justice

**Black’s Law Dictionary** (Black's Law Dictionary. “What Is Unjust? Definition of Unjust (Black's Law Dictionary).” The Law Dictionary, The Law Dictionary, 7 Nov. 2011, thelawdictionary.org/unjust/.)

What is UNJUST? **Contrary to right and justice**, or to the enjoyment of his rights by another, or to the standards of conduct furnished by the laws.

#### Violation— the word “appropriation” is only qualified by the words “outer space” – no other specification is permitted

**Ellis 53** Judge Advocate in the United States Army, “United States. v. Private Frank Taylor, Jr.”, United States Army Board of Review, 11 C.M.R. 428; 1953 CMR LEXIS 1428, 7-31, Lexis

Appellate defense counsel argued orally that many facts indicated the United States was not at war, for example: there has been no declaration of war; the Coast Guard is still under the supervision of the Treasury Department instead of the Navy Department as it usually is during war; here in the United States, Armed Forces personnel are allowed to wear civilian clothes during off-duty hours; it is not the policy to try Department of the Army civilians serving with the Army in the field in the United States by courts-martial; the various Army posts throughout the United States are still open to public visitation; many reservists and National Guard units are not on active service; and the Table of Maximum Punishments had not been suspended for offenses committed in the United States. He contended that the ratio of the cases cited in support of the war status of the United States was limited to the locale of the hostilities, Korea and its adjacent [\*\*6]  waters, and was inoperative on offenses committed in the United States. Finally, he anchored his argument on the interpretation to be given the language in Article 43f(1) (post) of the Code. He conceded arguendo that the offense at bar fell within the purview of this language, being a fraud against a United States agency, the Army, but reasoned that the subject language contemplated and embraced only "hostilities as proclaimed by the President or by a Joint Resolution of Congress." With this interpretation the board of review cannot agree. The preposition "of" before the word "hostilities" shows plainly that the phrase "of hostilities" is adjectival, qualifying and limiting the word "termination". The phrase "termination of hostilities" is in turn modified by the participial phrase "as proclaimed." In our interpretation it is the "termination of hostilities" that must be proclaimed, and such proclamation provides the initial date of a three-year period in which the suspension of the statute of limitations continues to operate rather than determines the date of the beginning of the original suspension (emphasis supplied).

#### Vote Neg:

#### 1] Predictable Limits – there’s hundreds of ways in which the affirmative can restrict appropriation in outer space – they can make fines, penalize companies, or make CEOs do a notes app apology on twitter. Their model also lets them selectively restrict poor forms of appropriation and shift to better forms of appropriation which allows the aff to say appropriation good and creates a bidirectional topic that is impossible to negate.

#### 2] Topic ed – Bans are one of the most common and is most germane to the literature – increases the amount of ground and ability to have deep debates on the model which the majority of the literature is centered around as opposed to an irrelevant and vague model that kills critical thinking abilities.

#### TVA: Literally just defend the aff as whole res.

#### Vote neg – they’ve destroyed the round from the beginning and topicality’s key to set the correct model of debate which means it comes first.

#### Evaluate T through competing interps—it tells the negative what they do and do not have to prepare for. Reasonability is arbitrary and unpredictable

#### Precision o/w – anything else justifies the aff arbitrarily jettisoning words in the resolution at their whim

#### Voter:

#### Drop the debater to deter future abuse

#### Fairness is an impact and comes before substance – deciding any other argument in this debate cannot be disentangled from our inability to prepare for it – any argument you think they’re winning is a link, not a reason to vote for them, since it’s just as likely that they’re winning it because we weren’t able to effectively prepare to defeat it. This means they don’t get to weigh the aff.

#### Education is an impact – it’s the only reason schools fund debate

#### No RVIs—it’s your burden to be fair and T—same reason you don’t win for answering inherency or putting defense on a disad. 2] incentivizes baiting theory

#### Evaluate T before 1AR theory – a) norms – we only have a couple months to set T norms but can set 1AR theory norms anytime, b) magnitude – T affects a larger portion of the debate since the aff advocacy determines every speech after it

### 2

#### CP: Do the aff except for private entities registered within The Republic of India.

#### The Republic of India should limit the Indian Space Research Organization’s market share to 7.5%

#### Private appropriation for Indian private entities is key for investor confidence.

**Sen 20** [Nilanjan Sen, who is an experienced lawyer, specialising in International Law and Arbitration, 07-26-2020,Business Insider,https://www.businessinsider.in/science/space/news/the-fault-in-our-stars-indias-bid-at-privatizing-space/articleshow/77182064.cms, 12-7-2021 amrita]

With the creation of the Indian National Committee for Space Research (now ISRO) in 1962, India has been an active patron to mankind’s space efforts. From Aryabhata to Chandrayaan-2, India has launched 113 satellites, including the first privately built and funded satellite ExceedSat-1 which was launched from USA, as a part of Elon Musk’s Space X project Falcon-9. Up **until 2016, India’**s space activities **have been the exclusive domain of the State, however, the launch of the IRNSS-1H** in 2017 was the herald of a new era in India’s Space endeavours. The IRNSS-1H **marked the** beginning of **privatisation in this area** by being the first Indian satellite, to be designed in collaboration with the private parties. In the following year, the ExseedSat-1 was to become the first privately funded and built satellite launched in collaboration with the private Space X project. Interestingly, **up until now**, all **missions have been conducted for** purposes of research, reconnaissance as well as for augmenting communication systems since there wa**s a substantial State monopoly**. With the recent announcement ofthe creation of the Indian National Space Promotion and Authorization Centre or IN-SPACeby the Government of India as part of its atma nirbhar Bharat scheme, which aims at providing a “level playing field” and a supportive regulatory regime to allow Indian private enterprises to grow and carve their own niche in the so-called “fast-growing global space sector”**, India has** in fact **shown an inclination to capitalise** on the US strategy of opening up the avidly touted space “sector” to private participation. While the initiative **sounds exhilarating** and will definitely go a long way in defining India’s image as an emerging global technology powerhouse**, it is** extremely **difficult to fathom why private players, would** be willing to readily come forward and **invest billions,** by confining their activities for research purposes alone, **without any expectation of commercial gains** or simply, return on their investment. This is so because, matters concerning space and space exploration are subject of a special branch of customary international law, that are mainly centred around five treaties and eleven agreements. The most significant of these is the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies or the Outer Space Treaty (OST) which India ratified in 1967, and which specifically lays down under Article I that outer space and space exploration including that on the moon and other celestial bodies, are to be carried out solely for, and in the interest of all countries, and that they are the province of all mankind. **Article II restricts** claims of sovereignty and national **appropriation** by any means whatsoever, Article VI **places international responsibility on all activities carried on by** governmental or by **non-governmental entities**, as well as mandates authorization and continuing supervision by the appropriate State Party. While there is considerable debate surrounding the applicability of the OST especially Article VI to private parties, since the US Supreme Court ‘s ruling in Medellin v Texas (2008) which held that Article VI is not self-executing in nature, regard must be had to the fact that these are domestic Court rulings and the fact that Space law is part of Customary International law which is affirmed by decades of State practise, cannot be denied, and neither can the fact that it is settled principle of international law that a State cannot, under the excuse of changes in domestic law, including subsequent Court rulings, renege from treaty obligations once ratified. In effect, the OST places strict checks upon the objectives behind exploring this uncharted territory by State and Non-State actors, far less allowing the possibility of even claiming rights of any kind. Moreover, it is no secret that **private corporations operate predominantly with** the object of individual gains **and** unless driven by the zeal to serve mankind and share profits with all countries, **chances are** that the **investments** made by private parties **will have little** to nil **returns,** far less any substantive protection**.**

#### Investor confidence is necessary for strong Indian private space-tech—that spills over, boosts Indian military heg, and turns case.

**Prasad 16** [Narayan Prasad has a Master of Space & Telecommunications Law, May 2016, National Academy of Legal Studies and Research University of Law Hyderabad, https://www.researchgate.net/publication/305402089\_A\_POLICY\_REVIEW\_TOWARDS\_THE\_DEVELOPMENT\_OF\_A\_SPACE\_INDUSTRY\_ECOSYSTEM\_IN\_INDIA/link/578dbd2908ae5c86c9a65d05/download, 12-8-2021 amrita]

As India ramps up its space defence capabilities, **lack of a mature space industrial base will** potentially **hurt** its ambitions**.** **India** counts among the top nations in the world in terms of government space investment 4 , but **is far behind** when it comes to **creating successful private industry** that is globally reputed. India’s space budget has increased in size (Figure 2) and is one of the largest space budgets in the world; however, the lack of an active space industry at turnkey level might have an immense opportunity cost for India in manufacturing satellites and launch vehicles to service the global market.5 This in effect is also due to absence of a single Indian company among the top space companies in the world (which in itself is an alarming statistic) that needs to be addressed urgently through policy push under the several grand schemes announced by the current government, such as ‘Make in India’ and ‘Digital India’. Most of **the apprehensions** for private investment in space industry **come from** the **requirements** of high capital investment, **and** the long gestation periods of space projects to get substantial Return on Investment (RoI) for the investors. These trends have been put aside by a new breed of space companies calling themselves ‘NewSpace’, which thrive on new business models of low cost access to space by capitalising on the advancements made in recent years in small satellite technology, consumer electronics, and computing power. Tiny modular satellites called ‘CubeSats’, weighing 1-4 kgs and costing under $100,000 have revolutionised the way space products and services are delivered to end users. The movement began in Europe and US simultaneously as a by-product of university and space agency collaborated research, but it was the US which took the lead in successfully commercialising these technologies developed in laboratories. Figure 3 shows the forecast of nano satellites weighing between 1-50 kg, which are scheduled to be launched during 2014-16 globally.6The high number arises from the fact that such nano satellites have short development timelines, and provide the necessary agility for satellite operators to develop large constellations that can cater to a larger customer base with high service quality. These NewSpace companies have ushered in widespread changes in the traditional satellite manufacturing and launch services industry, with companies like RocketLabs and Firefly Systems building new launchers cheaply using innovative techniques like additive manufacturing, to reduce the cost to orbit for these satellites. The impact of these companies has been felt within the space industry, as practices from these ‘NewSpace’companies have been adopted to keep the costs low and have a factory type approach in building systems in order to cater to the increasing demand. The NewSpace revolution has now led to companies such as Google, Virgin, and Qualcomm investing in small satellite-based communication technologies. India, however, has remained shielded from the rapid changes that have happened in the global space industry over the past decade. **ISRO** has been **slow to respond on** both **commercial** and academic **fronts,** with only a handful of university-level small satellite missions being launched during the same period, none of which could transform into a full-fledged commercial opportunity for the people involved in these projects. Lack of clarity on space policy in India is to blame, and partly the lack of willingness of DoS to take up additional responsibility of creating an ecosystem that disrupts their own traditional one, without any visible incentives. In the following sections, the need and motivation to develop a strong private industry ecosystem is detailed with necessary arguments. 1.2 Motivations to Develop a Private Industry Ecosystem in India Presently, **India has inherent advantages** over other countries **due** the availability of **skilled workforce**, a stable and business friendly **government,** positive investor climate and low cost of operations**.** Because India was an early mover in space technology, it is **poised to become a major space power albeit** slight policy push towards **greater commercialisation** of the industry. Table 1 shows the PESTLE analysis of India, in lieu of the motivation to develop a strong private space industry. The PESTLE analysis shows high suitability for services-based business models to operate out of India. The government’s encouragement for private space industry within the country to develop capacity and capability in pursuing space activities should thereby be directed to both the spectrums across the industry value chain. A focused space policy mandate can have multiple direct and fringe benefits to the government, especially in the defence sector which has been the current government’s area of interest through its ‘Make in India’ initiative. Some of the direct and indirect benefits of space technology include: Civilian and Commercial **Space industry has the potential to emerge as the third** technological **success** front following the successes of the Information Technology (IT) and Biotechnology in the country. Space **has an important role in** the overall **economic development** of the country **and** in the success of the government initiatives such as Digital India and Make in India. The development of the private space industry shall **aid in rural connectivity, e-governance and** setting up of **manufacturing facilities** base for products of high technology in India, creating headways in the overall emergence of the country at the world stage. The success of the space industry will enhance capacities within the country and complement the government-driven programme, which has been historically proven in advanced space faring countries such as the US. Capacity building in the private industry at a turnkey level for both upstream and downstream shall assist theeconomic development of the country by keeping up to the pace of requirement of the marketplace (e.g. Direct-to-Home TV, Broadband Internet), while reducing the inherent dependence on foreign assets. For example, as per a recent Comptroller and Auditor General (CAG) report, only one among the seven DTH providers is leasing transponder from the INSAT system**. The** primary **reason for this disparity is** the **slow pace** at which **ISRO has added** satellite transponders **to the commercial market.** The net effect is that the DTH providers are incurring higher transponder costs on foreign satellites when INSAT could have been an equally reliable, and more cost efficient, alternative. Space has its bearings over the imagination of youth and a strong emerging local industry can revolutionise the mindset of the national talent pool and can potentially aid in reversal of brain drain from the country. Public outreach, awareness, and STEM education are some of the intangible impact that investment in space technology produces. The capacity built up within the industry shall foster Business-to-Business (B2B) collaborations within the country and with enterprises across the globe and create also a strong focus on Business-to-Customer (B2C) applications which moves from the traditional Government-to-Government (G2G) flow of development of capacity and application of technology. The B2B, B2C ecosystem in the space industry has immense potential of tapping the much successful IT infrastructure of the country and extending the IT knowledge base to core software based applications of spacebased information such as Geographical Information Systems (GIS).It shall create an environment of technological innovation which when supported and encouraged can sustain to create a secondary source of development of high-tech hardware, software and applications for the government. An ecosystem of technological innovation in space technology has the potential of creating the next generation Small and Medium Scale Enterprises (SMEs) in India which shall 17 leverage the frugal nature of engineering and can create products and services independently for local and global requirements. Military **In the development of space technology with several dual use capabilities, there exists a case for the building up a sustained indigenous industry ecosystem that shall support the safety and security apparatus of the country**. These range **from development of capabilities in upstream** such as satellite, launch vehicle development **to** creating specific downstream applicationssuch as Automatic Identification of Ships (AIS), Electronic Intelligence (ELINIT), Communication Intelligence (COMMINT) and other Command, Control, Communications, Computers, Intelligence, Information, Surveillance, and Reconnaissance (C4I2SR) applications. Space Situational Awareness (SSA) is **the ability to view, understand and predict the physical location of natural and man-made objects orbiting the Earth. SSA is a prominent concern for both military and commercial systems, mainly because of the increasing military reliance on space assets**. The debris created by the anti-satellite testing by China in 2007 and the Kosmos-Iridium collision in 2009 has raised additional concerns about the safety of space assets. India currently relies on NASA’s data, and will operationalise its own system of Multi Object Tracking Radar (MOTR) by 2017.7 Meanwhile in the US, commercial operators have established the Space Data Association (SDA) for providing satellite operators reliable and efficient data for increased safety of satellite operations; this is in addition to the Department of Defense’s (DoD) own surveillance network. **The changing space security environment and the rising international concerns over the rapid growth of military assets in space makes space security one of the most important issues to address.** The need to have a space security policy is being 7 increasingly debated in India **and** the IDSA Task force in 2009 produced a report which attempted to conceptualise such a policy. However, there is reluctance to talk about use of space for national security needs including its military applications. Though efforts are being made to synchronize the activities of ISRO which is responsible for India’s civilian space programme and the Defence Research and Development Organisation (DRDO) which works on the use of space for national security needs, **the lack of a strong private industry that can meet heightened needs for such sophisticated missions hampers the progress in this direction,** apart from the bureaucratic delay that is normally associated when two high security government agencies interact. Capacity building within the space industry shall not only drive commercial applications, but shall aid the government in situations of emergencies (e.g. natural disasters, intelligence gathering for fighting against terrorism) and can eventually develop into a foundation that could potentially contribute as a part of a strong foreign policy drive. Studying the impact of space technology on civilian life is a complicated task, especially when it comes to quantifying the tangible and intangible impact. **The spill-over of space technology is in sectors as varied as defence, agriculture and education.** There exist many ways to show the impact of investment in space technology; some of them illustrated above. **Thus, the technological and knowledge backbone for space technology creates opportunities in the marketplace to create and explore commercial applications on a global scale, which** traditionally might not be the fundamental focus a governmental space agency, as well as **create multiple intangible impacts** across various sectors such as defence, education, agriculture, energy, transportation and environment**.** India has made substantial investment in its government space programme over the years, but it is **a sustained policy push towards investments in the private space industry ecosystem that will create commercial space applications**, complementing the societal benefits motivation currently being pursued by the government.

#### Indian space military heg checks and limits Chinese heg in the Indo-Pacific.

**Bommakanti 7-15-20**[Kartik Bommakanti is a Fellow with the Strategic Studies Programme. Kartik specialises in space military issues and his research is primarily centred on the Indo-Pacific region. He also works on emerging technologies as well as nuclear, conventional and sub-conventional coercion, particularly in the context of the Indian subcontinent and the role of great powers in the subcontinent’s strategic dynamics. He has published in peer reviewed journals., The enduring significance of space weapons for India, 7-15-2020,ORF,https://www.orfonline.org/expert-speak/the-enduring-significance-of-space-weapons-for-india/, 12-8-2021 amrita]

Regardless of the Americans protestations about the Russian test**, there are important underlying implications for India particularly in the context of Chinas’ growing space and counterspace capabilities as well as the repercussions that are likely to ensue if New Delhi were to pursue a weak response to Chinese space military power.** India will need a whole set of additional KEW tests. This author made the case for sea-launched and air launched KEWs in an extensive analysis. However, it was focused mostly on earth to space KEW systems and Directed Energy Weapons (DEWs). Confining India to the acquisition of KEWS and Directed Energy Weapons (DEWs) or cyber and electronic weapons can be expanded to include co-orbital KEWs. The Russian test also illustrates why co-orbital KEWs are also critical. Investment in additional KEW capabilities assumes considerable importance especially for India because of the long-term defence related challenges presented by the People’s Republic of China (PRC). **The ongoing boundary crisis should only lend greater urgency to India’s space weapons programme, simply because space assets in India’s inventory are vital to the prosecution of a potential military campaign whether on land, sea or air against the People’s Republic China (PRC).** The PRC is known to have developed the accoutrements necessary to conduct co-orbital test. For instance, in 2008 the Chinese BX-1 microsatellite while orbiting in close proximity to its mother satellite, executed a maneuver within 45 kilometers of the International Space Station (ISS). While BX-1 did not definitively establish a PRC co-orbital ASAT capability, it did indicate the PRC’s latent capability to conduct co-orbital kinetic tests and mount attacks against a potential adversary’ space assets. India must avoid what one leading Indian space analyst prior to India’s March 2019 KEW test observed: “To date, India’s interests in space have been restricted to using space assets for reconnaissance, navigation and communication. However, China’s ASAT test could influence India’s policies in the field of counter-space capabilities. To address the concerns raised at the regional and global level about this Chinese bravado, the best option for India could be to follow the disarmament and arms control route.” The statement is a non-sequitur, **while India has conducted only but one direct ascent KEW test, it has not matched China** in developing and executing non-destructive earth to space KEW tests, let alone fully match Chinese KEW, DEW, electronic and cyber weapon capabilities to target space assets. **Pursuing the arms control and disarmament route by India will be premature** in response to the PRC’s extensive development of space **and** counterspace capabilities**.** Reinforcing this point is that the PRC’s current and evolving space weapons programme deserve a sustained response. Bringing closure to the development of space and counterspace capabilities **would imply surrender that is completely unwarranted in light of Beijing’s recent and ongoing aggressiveness,** which India is evidently bearing the brunt. Very likely Beijing will be emboldened even more in deducing that India’s skittish response to its space weapons programme should be treated as weakness **and India subjected to further aggression, not just terrestrially, but equally in space.** The External Affairs Minister S. Jaishankar stated there is an imperative for India and China to achieve some “equilibrium”, although he never fully elaborated what exactly it would look like. However, if equilibrium or more precisely a stable balance of power is to be achieved in the Indo-Pacific, military power is crucial. **Space military power has grown in importance** from reconnaissance, navigation and communications to space weapons **and will be crucial to generating an equilibrium.** Ignoring the eventual deployment of weapons in space would be foolhardy for a state such as India when pitted against the PRC**. Consequently, space military power is a key constituent element in India’s capacity to contribute to the Asian balance of power**. Thus, **investing in a direct ascent and co-orbital KEWs as well as DEWS and cyber and electronic weapons geared for destroying or disabling spacecraft is crucial**. If India were to deprive itself of offensive space weapons to take Chinese or other enemy spacecraft, New Delhi would be putting itself at a considerable disadvantage by leaving it at the mercy of a wide variety of Chinese counterspace capabilities and measures against its Imagery Intelligence (IMINT), Communications (COMMINT), Electronic Intelligence (ELINT) and Synthetic Aperture Radar (SAR) satellites. Indeed, it is perplexing to see arguments that call for India to restrain itself, strive for disarmament and arms control when China makes no significant effort to do so beyond rhetorical commitments. The Russian co-orbital test has underlined the importance of space borne weapons despite entreaties for the non-weaponisation of space. The Modi government must see the emerging space military competition as an opportunity to bolster India’s counterspace capabilities. **It will help cement India as a major space military power and prevent Chinese hegemony over the Indo-Pacific.** Chinese hegemony on the other hand will become a certainty, if New Delhi lapses into self-doubt and remains unduly restrained in the testing, integration and deployment of space weapons.

# Case

### Solvency

#### Outer Space Laws are unclear – private corporations are still capable of escaping due to loopholes in the plan.

Green and Stark 17 [Christopher and Eda, “Outer Space Treaty and Beyond: Do Existing Space Laws Put an Astronomical Barrier to Private IP Rights in Space?”, JDSUPRA. 8 September 2020 https://www.jdsupra.com/legalnews/outer-space-treaty-beyond-do-existing-44028/] //DebateDrills LC

Our limited body of space law provides little guidance. The first international treaty, the “Outer Space Treaty,” was signed by the U.S., Russia, and the U.K. in 1967, quickly followed by the Rescue Agreement. Over the next two decades, three other treaties—the Liability Convention, the Registration Convention, and the Moon Agreement—were also signed by these nations, with most countries following in their footsteps.[3] But after that rapid succession of international treaties, there have since been few others. These five documents form the basis of the international space law we have today, but none address the issue of [intellectual property rights in space](https://www.fr.com/fish-litigation/ip-rights-outer-space/). Rather, upon inspection, it appears that the stated purpose of these treaties may be antithetical to intellectual property protection.

The “Outer Space Treaty” espouses communal themes in characterizing space as the “province of all mankind,” the “common heritage of mankind” and to the “benefit of all countries.”[4] Unsurprisingly, Article II of the Outer Space Treaty prohibits any appropriation of areas in space, keeping in line with its principle of communal property.[5] On the other hand, patents are fundamentally territorial and grant monopoly rights for a period of time. Applied to space, it is unclear just what is open for patent protections.

For example, can private companies patent orbital patterns of satellites? Currently, companies may patent the technology or design of satellites that stay in a particular orbit, even if not the orbital pattern itself.[6] The practical implications of this are significant, especially with the advent of satellite constellations. If particular satellite technologies, and, indirectly, their orbital patterns, are patentable, then a significant portion of space may be occupied by one satellite constellation, i.e. one company alone.[7] Does this private apportionment of space run counter to our notions of sharing space? Some argue that the Outer Space Treaty only bans sovereign appropriation and does not limit private entities from exerting claims. Others counter that private property rights flow from sovereign property claims, so the former is meaningless without the latter.[8] So the question remains, can the stated goals of sharing outer space be reconciled with the proprietary nature of patents?

Our current corpus of space treaties comes from a period of history when space exploration was undertaken primarily by governments rather than private actors. The cooperative goals were likely a reaction to the time, as the world was coming out of a charged space race. The silence of these space treaties on intellectual property rights presents an opportunity for modern-day agreements to provide patent protections for private companies. Without robust international agreement on patents for space, we may even see less international cooperation as companies refuse to divulge their discoveries.[9] Now, as more and more private companies enter space exploration and carry the torch of innovation, it is more important than ever to strike a balance between sharing our “common heritage” and providing patent protections that incentivize invention.[10]

#### The affirmative has no enforcement mechanism – private corporations can just circumvent since they have the funding to launch rockets on their own.

Sheetz 21 [Michael, “Elon Musk’s SpaceX raised about $850 million, jumping valuation to about $74 billion”, CNBC. 16 February 2021. https://www.cnbc.com/2021/02/16/elon-musks-spacex-raised-850-million-at-419point99-a-share.html] //DebateDrills LC

SpaceX completed another monster equity funding round of $850 million last week, people familiar with the financing told CNBC, sending the company’s valuation skyrocketing to about $74 billion.

The company raised the new funds at $419.99 a share, those people said — or just 1 cent below the $420 price that [Elon Musk](https://www.cnbc.com/elon-musk/) [made infamous in 2018](https://www.cnbc.com/2018/09/28/sec-says-elon-musk-at-tesla-chose-420-price-as-pot-reference.html) when he declared he had “funding secured” to take [Tesla](https://www.cnbc.com/quotes/TSLA) private at that price.

The latest round also represents a jump of about 60% in the company’s valuation from its previous round in August, when [SpaceX raised near $2 billion at a $46 billion valuation](https://www.cnbc.com/2020/10/14/tesla-investor-ron-baron-spacex-has-a-chance-to-be-just-as-large.html).

SpaceX did not immediately respond to CNBC’s request for comment. In addition to SpaceX further building a war chest for its ambitious plans, company insiders and existing investors were able to sell $750 million in a secondary transaction, one of the people said.

The people spoke on condition of anonymity because SpaceX is not a publicly traded company and the fundraising talks were private. SpaceX raised only a portion of the funding available in the marketplace, with one person telling CNBC that the company received “insane demand” of about $6 billion in offers over the course of just three days.

### Space Wars

#### Space wars are impossible and can’t escalate --- debris, high monetary costs, and lack of lift capabilities

Handberg, 17 – Faculty and Research, School of Politics, Security, and International Affairs, UCF Roger Handberg, “Is space war imminent? Exploring the possibility,” Comparative Strategy. 2017. <https://www.tandfonline.com/doi/pdf/10.1080/01495933.2017.1379832?needAccess=true>

--Space wars were discounted in 1960s – things haven’t changed now – environment still hostile – moreso now bc debris is worse

--Costs a ton to send stuff up there

--Lift capabilities are weak which means war can’t be sustained

--Replacements are slow so war has to be ended

Why now?

Recently, there has been an ongoing resurgence of interest in the possibilities for actual combat in outer space, effectively war in a new domain. Why this would become plausible now is interesting, since the physical realities present in the early days of space activity have not changed. Spacecraft remain vulnerable to attack from the ground by anti-satellite (ASAT) weapons, while the debris issue grows exponentially worse now, given the proliferation of such objects in space as part of the normal operations in outer space: used boosters, dead satellites, pieces of broken spacecraft and satellites, and small particles with deadly impact on other spacecraft. The space shuttles routinely returned to Earth with dings and scars from space debris, while the International Space Station (ISS) several times has been lifted out of harm’s way due to oncoming debris. More critically for assessing space-war possibilities, the sheer cost of conducting such operations remains extremely high, while the possibilities for sustaining combat in space are suspect due to lack of lift capability. The difficulty in orbiting replacement satellites to restore functionality remains, assuming the environment is not too hostile due to expanding debris fields. Replacement satellites or other space hardware are still slow-production items, although that in principle could be placed on more of an assembly-line basis, as was done with the Iridium satellite flotilla of 66 comsats plus multiple spares.19 Or, smaller cube satellites with more limited functionality could be orbited as gap fillers while larger, more functional satellites are built and flown if time exists to do so.

#### Kinetic space targeting requires huge resources that make it infeasible, but cyber attacks are an alt cause they don’t solve

Handberg, 17 – Faculty and Research, School of Politics, Security, and International Affairs, UCF Roger Handberg, “Is space war imminent? Exploring the possibility,” Comparative Strategy. 2017. <https://www.tandfonline.com/doi/pdf/10.1080/01495933.2017.1379832?needAccess=true>

Third, the most obvious initial attack of space-based assets will most likely come from cyber attacks, given that such actions do not necessarily require the scale of resources necessary for other modalities such as kinetic weapons, or even lasers or other energy-type weapons. One will have to position the weapons plus the infrastructure to permit rapid recycling of the weapons for the next attack. Firing off interceptors will likely be a one-off, meaning extremely precise targeting will be required if the attack is to be successful. Note that none of these systems require that individuals be placed in Earth orbit, despite the imagery describing such operations in fictional universes.

#### Deterrence in space solves even if we’re more vulnerable ---

#### 1] No shot of a disarming strike --- we’d maintain BMD and be able to retaliate --- that makes our threats credible

Harrison, 9 – Director, Eisenhower Center for Space and Defense Studies Ambassador Roger G. Harrison, “Space Deterrence: The Delicate Balance of Risk,” Space and Defense, Volume 3, No. 1. Summer 2009. <http://www.usafa.edu/app/uploads/Space_and_Defense_3_1.pdf>

The second mitigating factor is that even in the absence of dedicated ASAT systems, a potential attacker is not likely to perceive the U.S. lacks capability to retaliate against the space assets of an adversary. Many nations perceive existing U.S. ballistic missile defense systems as having a dual-use nature, including potential anti-satellite capability. The U.S. reportedly has an active and acknowledged program of “negation” designed to deny an adversary the use of his space assets as force multipliers in the case of hostilities within the atmosphere. We may safely assume that other nations are pursuing similar programs. In our judgment, the most likely scenario for future space conflict is a “war of negation,” i.e. an attempt by each side to preserve the product of its space assets while denying those space services to the opponent. To win such a contest requires technological superiority, which the U.S. should make every effort to maintain and which, in this area as in others, is a vital element in maintaining space deterrence.

We conclude that the threat of retaliation can remain a credible element of our overall space deterrence. The attribution of attack is not an insuperable obstacle, and that questions of resolve will ultimately depend on the perceptions of a potential attacker in the circumstances existing when his decision to attack is being considered. A credible threat of retaliation may require willingness to escalate into other domains. It could include fielding ASAT systems if such systems are deployed by others, but the resulting arms race would not be in the interests of the United States. The U.S. should not be the first to deploy such systems and the U.S. use the full extent of its influence internationally to avoid that outcome. Ultimately, a threat of retaliation is never more credible than the leader and the government that issues it. No declaratory policy can compensate for an irresolute commander in chief, one who is misinformed or badly served by his subordinates. An opponent will tend to judge the likelihood of retaliation not according to proclamations made months or years earlier, but according to the situation pertaining at the time – as Hitler did in Europe and Saddam did in the Middle East. What a President does in the run up to and conduct of a crisis will have far more to do with an adversaries decisions than libraries full of ultimatums and guarantees. Subordinates who doubt the resolution of a commander will try to limit his or her flexibility to respond other than in ways the subordinates think appropriate. A wise commander in chief, on the other hand, will strive to maintain flexibility, to approach a particular conflict in the context of wider responsibilities, to take account of factors which were unforeseen when the doctrine or battle plan was devised – in short, to balance one risk off against others. No bureaucratic arrangement, declaratory doctrine or weapon capability will compensate when such leadership is not present.

## Collisions

Their Scoles ev doesn’t talk about dust collisions being bad. It only references big asteroids which NASA can track and avoid.

#### 1] The real danger is from NASA’s mission to transplant rocks --- plan doesn’t affect, and there’s other methods of mining

Sarah Scoles 15, “Dust from asteroid mining spells danger for satellites,” New Scientist, 5-27-2015, https://www.newscientist.com/article/mg22630235-100-dust-from-asteroid-mining-spells-danger-for-satellites/

NASA chose the second option for its Asteroid Redirect Mission, which aims to pluck a boulder from an asteroid’s surface and relocate it to a stable orbit around the moon. But an asteroid’s gravity is so weak that it’s not hard for surface particles to escape into space. Now a new model warns that debris shed by such transplanted rocks could intrude where many defence and communication satellites live – in geosynchronous orbit. According to Casey Handmer of the California Institute of Technology in Pasadena and Javier Roa of the Technical University of Madrid in Spain, 5 per cent of the escaped debris will end up in regions traversed by satellites. Over 10 years, it would cross geosynchronous orbit 63 times on average. A satellite in the wrong spot at the wrong time will suffer a damaging high-speed collision with that dust. The study also looks at the “catastrophic disruption” of an asteroid 5 metres across or bigger. Its total break-up into a pile of rubble would increase the risk to satellites by more than 30 per cent (arxiv.org/abs/1505.03800). That may not have immediate consequences. But as Earth orbits get more crowded with spent rocket stages and satellites, we will have to worry about cascades of collisions like the one depicted in the movie Gravity. Handmer and Roa want to point out the problem now so that we can find a solution before any satellites get dinged. “It is possible to quantify and manage the risk,” says Handmer. “A few basic precautions will prevent harm due to stray asteroid material.”

#### 2] Collision risk is infinitesimally small

Fange 17 Daniel Von Fange 17, Web Application Engineer, Founder and Owner of LeanCoder, Full Stack, Polyglot Web Developer, “Kessler Syndrome is Over Hyped”, 5/21/2017, http://braino.org/essays/kessler\_syndrome\_is\_over\_hyped/

The orbital area around earth can be broken down into four regions. Low LEO - Up to about 400km. Things that orbit here burn up in the earth’s atmosphere quickly - between a few months to two years. The space station operates at the high end of this range. It loses about a kilometer of altitude a month and if not pushed higher every few months, would soon burn up. For all practical purposes, Low LEO doesn’t matter for Kessler Syndrome. If Low LEO was ever full of space junk, we’d just wait a year and a half, and the problem would be over. High LEO - 400km to 2000km. This where most heavy satellites and most space junk orbits. The air is thin enough here that satellites only go down slowly, and they have a much farther distance to fall. It can take 50 years for stuff here to get down. This is where Kessler Syndrome could be an issue. Mid Orbit - GPS satellites and other navigation satellites travel here in lonely, long lives. The volume of space is so huge, and the number of satellites so few, that we don’t need to worry about Kessler here. GEO - If you put a satellite far enough out from earth, the speed that the satellite travels around the earth will match the speed of the surface of the earth rotating under it. From the ground, the satellite will appear to hang motionless. Usually the geostationary orbit is used by big weather satellites and big TV broadcasting satellites. (This apparent motionlessness is why satellite TV dishes can be mounted pointing in a fixed direction. You can find approximate south just by looking around at the dishes in your northern hemisphere neighborhood.) For Kessler purposes, GEO orbit is roughly a ring 384,400 km around. However, all the satellites here are moving the same direction at the same speed - debris doesn’t get free velocity from the speed of the satellites. Also, it’s quite expensive to get a satellite here, and so there aren’t many, only about one satellite per 1000km of the ring. Kessler is not a problem here. How bad could Kessler Syndrome in High LEO be? Let’s imagine a worst case scenario. An evil alien intelligence chops up everything in High LEO, turning it into 1cm cubes of death orbiting at 1000km, spread as evenly across the surface of this sphere as orbital mechanics would allow. Is humanity cut off from space? I’m guessing the world has launched about 10,000 tons of satellites total. For guessing purposes, I’ll assume 2,500 tons of satellites and junk currently in High LEO. If satellites are made of aluminum, with a density of 2.70 g/cm3, then that’s 839,985,870 1cm cubes. A sphere for an orbit of 1,000km has a surface area of 682,752,000 square KM. So there would be one cube of junk per .81 square KM. If a rocket traveled through that, its odds of hitting that cube are tiny - less than 1 in 10,000.

#### 3] D/B – either Squo Debris Thumps or disproves the I/L – past Debris didn’t trigger escalations.

#### Either the asteroids are small and not existential OR we’d have forever to prepare.

Martin Rees 18. Astronomer Royal, founded the Centre for the Study of Existential Risk, Fellow of Trinity College and Emeritus Professor of Cosmology and Astrophysics at the University of Cambridge. 10/16/2018. On the Future: Prospects for Humanity. Princeton University Press.

You may guess that, being an astronomer, anxiety about asteroid collisions keeps me awake at night. Not so. Indeed, this is one of the few threats that we can quantify— and be confident is unlikely. Every ten million years or so, a body a few kilometres across will hit the Earth, causing global catastrophe— so there are a few chances in a million that such an impact occurs within a human lifetime. There are larger numbers of smaller asteroids that could cause regional or local devastation. The 1908 Tunguska event, which flattened hundreds of square kilometres of (fortunately unpopulated) forests in Siberia, released energy equivalent to several hundred Hiroshima bombs. Can we be forewarned of these crash landings? The answer is yes. Plans are afoot to create a data set of the one million potential Earth- crossing asteroids larger than 50 metres and track their orbits precisely enough to identify those that might come dangerously close. With the forewarning of an impact, the most vulnerable areas could be evacuated. Even better news is that we could feasibly develop spacecraft that could protect us. A ‘nudge’, imparted in space several years before the threatened impact, would only need to change an asteroid’s velocity by a few centimetres per second to deflect it from a collision course with the Earth.